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Migration, Ethnicity, and Labor Force Activity

Marta Tienda and Franklin D. Wilson

5.1 Introduction

In this paper, we investigate how internal geographic mobility and the ethnic segmentation of jobs influence the employment and earnings of black, Mexican, Puerto Rican, Cuban, and American Indian men. Many of the men in our sample from the 1980 Census of Population are foreign immigrants, and the migration of minority men has parallels with the immigration of foreigners. Specific questions that guide our analysis are, (1) Do the labor force participation and unemployment of minority workers depend on whether they move between or within high- or low-ethnic-density labor markets? (2) Do ethnic job queues influence labor force behavior and unemployment risks? (3) Does migration within or between high- and low-ethnic-density markets and ethnic job queues also influence remuneration patterns? Evidence that hiring queues and remuneration depend either on spatial concentration of minority groups or on preferential hiring according to race and national origin is crucial for establishing direct links between the declining labor market status of Puerto Ricans (Bean and Tienda 1987; Tienda 1989); the economic bifurcation of the black (Wilson 1987), Puerto Rican (Tienda and Jensen 1988), and Native American (Sandefur 1986) populations; the slow economic progress of

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Mexican men (Portes and Bach 1985; Bean and Tienda 1987); and the rapid economic progress of Cuban men (Portes and Bach 1985).

We focus on the relation between the economic outcomes of migration and two new variables, *area ethnic density*, which indexes the concentration and distribution of an ethnic group in a particular labor market, and the *ethnic type* of an individual's industry and occupation. We find no evidence that spatial assimilation will necessarily promote socioeconomic integration and thereby reduce ethnic labor market inequities, and we find some indication that migration is associated with lower labor force activity, possibly because of the disruptive effects of the migration process per se.

5.1.1 Migration Types

Depending on their direction, composition, and social underpinnings, migrant streams can promote ethnic consolidation or disintegration. For example, migration may strengthen ethnic solidarity in work and school domains by changing the racial/ethnic density of communities or institutional settings. Such outcomes also depend on the existence of ethnic labor market niches, the extent of school and neighborhood segregation, and the existence of ethnic power bases. Thus, it is conceivable that the benefits accruing to migrants who participate in flows leading to greater ethnic spatial concentration differ from those that produce ethnic spatial dispersion.

Geographic moves involving dispersion could improve the employment and earnings prospects of migrants if market factors (i.e., the demand for migrants' skills) rather than cultural and social factors (i.e., ethnic markers) dominate decisions to move and also influence choice of destination. Conversely, concentrated migration flows, which frequently are motivated by non-economic considerations (such as the desire to reside in closer proximity to relatives and friends of like ethnicity), may render migrants less satisfactory employment outcomes, at least over the short run. This would follow especially if the reinforcement of cultural and ethnic bonds through concentrated flows involves a trade-off between psychic and economic rewards. However, if proximity to friends and relatives enables migrants to secure employment, then the gains from participation in concentrated flows might be greater than the economic penalties associated with ethnic crowding. Similarly, if the ability of dispersed migrants to secure a better-paying job is jeopardized by the absence of social networks in low-ethnic-density markets, then the potential economic gains from dispersed migration flows will be reduced.

5.1.2 Ethnic Hiring Queues

The significance of geographic mobility for the labor market stratification of minority workers depends not only on the employment opportunities afforded movers but also on how individual ethnic traits circumscribe choices, are evaluated in the market place, and are used to organize the labor market. Specifically, if national origin is used as a criterion to define and maintain job

queues—as demonstrated by previous research (Lieberson 1980; Hechter 1978)—then the economic costs and benefits of migration will derive not only from opportunities to interact with members of like ethnicity but also from the role of national origin in channeling minority workers to particular categories of jobs.¹

The viability of ethnic hiring queues, however, is related to ethnic spatial concentration patterns. Lieberson (1980, chap. 10) argues that the connection between the ethnic composition of labor markets and ethnic job queues reflects differences in opportunities over time and the force of history in stratifying the U.S. labor force according to race and national origin. He claims, furthermore, that a discriminatory hiring queue results when, given the existence of a queue, employers preferentially hire workers on the basis of ethnic traits rather than market skills. Two aspects of Lieberson's queuing premises have implications for our concerns. First, he argues that the job configuration of groups will vary in accordance with its share of the labor force in a given market.² Second, he claims that, because of the existence of ethnic hiring queues, shifts in unemployment would be highest for the group(s) at the bottom of the queue during periods of rising unemployment.³ Applying these arguments about ethnic residential and ethnic occupational segmentation to the relation between migration and employment, we hypothesize that the market experiences of Mexican, Puerto Rican, Cuban, black, and American Indian men are influenced by their differential participation in concentrated versus dispersed migration streams and by their unequal placement in a job queue.

5.2 Data and Methods

Our statistical analysis uses the 5% Public Use Microdata Samples (PUMS) of the 1980 Census. We limited our sample to men aged 25–64 who had valid responses to the migration questions and who self-reported their race or national origin as Mexican, Puerto Rican, Cuban, black, or American Indian.⁴ Restricting the lower end of the age distribution to 25 rather than 16 ensures that our sample of respondents was eligible to participate in the labor force prior to the beginning of the migration interval (1975). Additional sample restrictions purged our results from status changes that are systematically associated with migration probabilities. For this purpose, we excluded individuals who (1) never worked or were out of the labor force continuously during the migration interval, (2) were enrolled in school or in the military in either 1975 or 1980, or (3) resided outside the United States in 1975.⁵

Combined, these restrictions and additional random sampling of the Mexican and black populations (for computational efficiency) yielded the following subsample *N*'s: 6,076 Mexicans, 6,630 Puerto Ricans, 4,134 Cubans, 5,827 blacks, and 5,810 American Indians.⁶ As can be seen in table 5.1, sizable proportions of our samples are foreign born: 36 percent of Mexicans, 93

Table 5.1 Means and Standard Deviations of Selected Variables Included in Regression Analysis (standard deviations in parentheses)

	Mexican	Puerto Rican	Cuban	Black	American Indian
Individual characteristics:					
Education:					
% Finishing high school	32.5 (46.9)	34.2 (47.5)	40.7 (49.1)	45.4 (49.8)	51.2 (50.0)
% Finishing less than high school	63.3 (48.2)	62.0 (48.5)	42.1 (49.4)	47.8 (50.0)	41.4 (49.3)
Experience (years)	24.8 (12.5)	24.3 (11.7)	29.2 (11.6)	25.1 (12.9)	23.1 (11.9)
% Good English ability	78.0 (41.5)	81.3 (39.0)	62.6 (48.4)	99.8 (4.3)	97.1 (16.8)
% Foreign born	36.0 (48.0)	77.5 (41.8)	93.2 (25.1)	3.6 (18.7)	2.5 (15.5)
% Work disabled	6.8 (25.1)	8.7 (28.1)	5.2 (22.2)	10.7 (30.9)	14.5 (35.2)
Weeks worked ^a	46.2 (11.0)	46.7 (10.8)	48.0 (9.2)	45.6 (11.9)	43.2 (14.0)
Average hours ^a	41.7 (10.2)	40.0 (10.0)	42.6 (11.1)	40.0 (11.0)	42.0 (12.1)
Family status:					
% Household head	85.2 (35.5)	79.6 (40.3)	89.6 (30.6)	77.8 (41.5)	81.6 (38.7)
% Children under 6	34.3 (47.5)	26.9 (44.4)	14.7 (35.4)	20.0 (40.0)	25.1 (43.4)
% Married	81.3 (39.0)	71.7 (45.0)	81.8 (38.6)	64.5 (47.9)	72.0 (44.9)
Labor market characteristics:					
Region:					
% North Central	10.6 (30.8)	10.8 (31.0)	4.1 (19.8)	20.8 (40.6)	16.9 (37.5)
% South	35.0 (47.7)	8.2 (27.4)	61.8 (48.6)	52.3 (50.0)	29.1 (45.4)
% West	53.6 (49.9)	6.6 (24.9)	8.5 (27.8)	7.9 (27.0)	47.7 (50.0)
% Metro residence	86.0 (34.7)	97.0 (16.9)	98.2 (13.3)	82.4 (38.1)	55.9 (49.7)
Area wage rate (\$)	7.22 (.97)	7.88 (.72)	7.38 (.61)	7.29 (1.01)	7.14 (1.39)
Area unemployment rate	6.19 (1.98)	6.69 (1.23)	5.66 (1.30)	6.53 (1.92)	7.02 (2.51)

Source: 1980 5% A Sample Public Use Micro-data Samples, migrant subsample.

^a Based on subsample with positive annual earnings in 1979.

percent of Cubans, and 78 percent of Puerto Ricans (where by “foreign born” we mean born on the island). Thus, for these minority groups, we analyze secondary choice of location of large numbers of immigrants. Restricting these samples to individuals with some wage and salary income in 1979 for the earnings analyses further reduced the population samples from 6 (Mexicans and Cubans) to 11 percent (Puerto Ricans).

5.2.1 Variables

Our analyses focus on the relation among three variables: *migration type* (i.e., whether moves took place within or between high- and low-ethnic-density types); *ethnic job segmentation* (i.e., whether jobs were ethnic typed, Anglo typed, or not ethnically differentiated); and *labor market outcomes* (specifically, whether respondents were in the labor force or unemployed in 1980 and their 1979 [logged] annual earnings).

Migrants are defined as persons who changed residence during the five years prior to the census. We chose standard metropolitan statistical areas (SMSAs) and nonmetropolitan county groups (rather than states) to define migration status. Our distinction between high- and low-ethnic-density labor markets is derived from an analysis of both the ethnic composition of labor markets and the distribution of each ethnic group among them. Procedures used to classify labor markets ($N = 414$) into high- and low-ethnic-density areas are detailed in Appendix A. Briefly, a labor market area was defined as high ethnic density for a given reference group if the group was overrepresented relative to its share of the total population based on standardized (z) scores.

Our hypotheses about the influence of geographic movement in altering the social environments and economic opportunities of migrants emphasize the direction of the flows. Ethnic residential *dispersion* involves moves from high- to low-ethnic-density labor market areas; flows from low to high ethnic density produce *concentration*; and flows within low- or high-ethnic-density areas, labeled *intradensity* moves, involve no changes in the ethnic composition of labor markets from the perspective of individual migrants.⁷ However, these moves usually alter economic opportunities. Since previous research (Tienda and Lii 1987) has shown that ethnic spatial concentration directly influences socioeconomic outcomes above and beyond productivity characteristics, we differentiate between moves within high- and low-concentration areas to detect the effects of concentration among intradensity movers. All totaled, we classified individuals into five categories according to whether they migrated and subsequently distinguished among those who participate in dispersed, concentrated, and intradensity moves within high- and/or within low-ethnic-concentration areas.

Operationalizing our notion of ethnic job segmentation was more complicated than the coding of migration types. Because the statistical procedures we used are detailed in Appendix B, we only highlight the logic used in distin-

guishing among workers classified in *ethnic-typed*, *Anglo-typed*, and *non-typed* jobs. We began with a thirty-cell-matrix representing a two-way classification of six industry sectors by five occupation groups using 1970 Census data.⁸ Sector-by-occupation matrices were computed for each of the five ethnic groups and non-Hispanic whites. Based on the results of a log-linear analysis, we classified job cells according to whether each ethnic group was over-represented (ethnic typed), underrepresented (Anglo typed), or approximately equally represented (nontyped) relative to non-Hispanic whites and net of group differences in education and age composition. These results, summarized in Appendix tables 5B.1 and 5B.2 below, are substantively informative, but we do not dwell on them in the interest of brevity.

5.2.2 Modeling

Our conceptualization of the employment experiences of minority men integrates two structural attributes of labor markets—the ethnic segmentation of jobs and the ethnic composition of markets—and assesses their influence on labor force participation, unemployment, and (logged) annual earnings. The segmentation of jobs along ethnic lines requires a critical mass of minority workers; hence, we hypothesize that labor market experiences of minority men may differ in high- and low-density labor markets. Accordingly, our empirical model, which assumes that both geographic mobility and the ethnic labeling of jobs influence the labor force participation and unemployment prospects of minority men, takes the form:⁹

$$(1) \quad \text{PR(LF)}_i = \alpha + \beta_j M_j + \gamma_k P_k + Z_i + e_i,$$

where

LF_i = labor force status of individual i ; 1 = in, 0 = out for the participation equation; 1 = unemployed, 0 = employed for the unemployment equation.

M_j = migration type, and $k = 4, 3, 2, 1,$ and 0 represent whether individuals participated in dispersed, concentrated, intradensity low, or intradensity high flows, or were nonmigrants, respectively;

P_k = ethnic job segments, and $k = 2, 1,$ and 0 for ethnic-typed, Anglo-typed, and nontyped segments, respectively;

Z_i = a vector of controls;

e_i = random disturbances.

The predicted effects of ethnic job segmentation are informed by economic logic as well as sociological insights about the significance of race and ethnicity in demarcating boundaries for social interaction. If the existence of ethnic hiring queues “reserves” jobs for minority workers (as in ethnic niches or enclaves), then $\gamma_2 > 0$ in the participation equation, and $\gamma_2 < 0$ in the unemployment equation. This result would show the influence of social (ethnicity) forces in defining paths of labor market activity for minority workers (Portes

and Bach 1985).¹⁰ However, if workers destined for Anglo-typed jobs are more likely to be in the labor force than their (statistical) counterparts identified with nondifferentiated job categories, the $\gamma_1 > 0$ in the participation equation, and the $\gamma_1 < 0$ in the unemployment equation. In this instance, factors other than ethnicity will govern the employment prospects of minority men.

Our predictions about the influence of migration types on employment outcomes are informed theoretically by research and writing on the socioeconomic significance of ethnic spatial concentration (Tienda and Lii 1987). Extending ideas about ethnic density to geographic movement, we expect nonzero effects associated with participation in concentrated ($\beta_3 \neq 0$) and dispersed ($\beta_4 \neq 0$) migration flows, but the direction of these effects is an empirical question. For example, if $\beta_4 > 0$ in the participation equation ($\beta_4 < 0$ in the unemployment equation), then dispersed migration would appear to promote the labor market assimilation of minority men. A negative value of β_4 in the participation equation (positive in the unemployment model) would indicate that the investment properties of the migration decision either require a long time to mature or else may depend on the ethnic hiring queues at destination. Alternatively, a positive coefficient for β_3 in the participation equation (negative in the unemployment equation) would indicate that concentrated labor flows promote socioeconomic assimilation in the context of increasing ethnic pluralism. While not denying the importance of supply factors in determining minority labor market outcomes, this result is consistent with the premises of queuing and overflow perspectives of labor market dynamics (see nn. 3, 4). Negative returns to concentrated migration ($\beta_3 < 0$ in the participation equation and $\beta_3 > 0$ in the unemployment equation) suggest that, over the period considered, the disruptive aspects of the investment decision offset the investment gains from the decision. Intradensity moves presumably represent investment decisions in response to better employment prospects; hence, we expect β_1 and $\beta_2 > 0$. Our assessment of the earnings consequences of migration in the context of ethnic residential concentration and ethnic job segmentation assumes the following form:

$$(2) \quad Y_i = \alpha + \beta_j M_j + \gamma_k P_k + Z_i + e_i.$$

This model is analogous to our participation and unemployment equations, although the vector, Z_i is not identical (see the definitions following eq. [1]).

Interpretations of the ethnic queuing effects reflect our hypotheses about the underlying stratifying mechanisms. If minority workers destined for ethnically typed jobs gain financially compared to those destined for nondifferentiated jobs, then $\gamma_2 > 0$. This result is highly plausible in contexts where minorities are overrepresented among the self-employed (Liebersohn 1980; Portes and Bach 1985). However, if minority workers destined for Anglo-typed jobs earn more than their (statistical) counterparts holding nontyped jobs, then $\gamma_1 > 0$. These findings would indicate that the more desirable jobs,

usually dominated by whites, hold the key to reducing wage disparities between minority and nonminority men. Our interpretation of migration effects will be similar to those discussed above.

We introduce in all models a set of controls for individual and labor market characteristics known to influence labor market outcomes. Appendix C summarizes all variables included in the vector Z_i , providing a brief operational description of the controls as well as the key dependent and independent variables.¹¹ It also indicates whether the control variables were included in the labor supply equations, the earnings equations, or both.

5.2.3 Techniques

Because the dependent variables in the labor supply equation, labor force participation and unemployment, are dichotomous, we use a maximum likelihood logistic regression to estimate the models. For ease of interpretation, we report only the partial derivatives of the probabilities using the procedure derived by Petersen (1985). The (log) earnings equations are estimated using OLS regression.

5.2.4 Evidence

Before presenting results from the regressions, table 5.1 provides background information about our samples of minority men. The disadvantaged labor market status of Mexican and Puerto Rican men reflects their low stocks of human capital. Fully two-thirds of mature Mexican and Puerto Rican men had not completed high school, compared to 48 percent of black men and 41 and 42 percent of Indian and Cuban men, respectively. At the other extreme, 17 percent of mature Cuban men and approximately 7 percent of black and American Indian men were college graduates, compared to roughly 4 percent of Mexican and Puerto Rican men.

Lack of proficiency in English is a problem confined largely to Hispanics. That only 63 percent of Cubans reported good to excellent proficiency in English reflects the predominantly foreign origins of our sample of mature men. Although roughly three-fourths of Puerto Rican men were born on the island of Puerto Rico, where Spanish is the predominant language, English is taught in the schools, and bilingualism is quite pervasive. Only 78 percent of Mexican men reported good to excellent proficiency in English, yet only 36 percent were immigrants. This results partly because of the higher rates of Spanish retention among the native born (Nelson and Tienda 1985) and partly because of the lower levels of schooling completed by mature Mexican men.

The incidence of work limiting disability is highest among black and American Indian men and lowest for Cuban and Mexican men. Poor health is a corollary of the high poverty rates characteristic of these groups, particularly those isolated on remote reservations (Sandefur 1986) and inner-city ghettos (Wilson 1987). Not surprisingly, average weeks worked in 1979 were lowest

for these two groups. Cuban men reported the highest average weeks worked in 1979 and the longest average work week.

Our samples are further differentiated by family and household characteristics. Nearly four-fifths of Mexican and Cuban men were married, compared to less than 65 percent of black men and only 72 percent of Puerto Rican and American Indian men. Cuban and Mexican men were most likely, and black and Puerto Rican men least likely, to identify as households heads. Reflecting their younger age composition and higher fertility, approximately one-third of our Mexican sample had young children at home, compared to one-fourth of Puerto Rican and black men and less than 15 percent of Cuban men.

Finally, minority men are differentiated by geographic characteristics. In 1980, less than 1 percent of mature Mexican men and 6 percent of American Indian men resided in the Northeast, compared to nearly three-fourths of mature Puerto Rican men. Mexicans were disproportionately concentrated in the South and West, Cubans in the South (Florida) and Northeast, while blacks were underrepresented in the West. Hispanics (Cubans and Puerto Ricans in particular) were largely a metropolitan population; in contrast, less than 60 percent of American Indian men reported living in metropolitan areas in 1980.

These residential profiles have direct implications for employment and income opportunities. American Indians resided in labor markets characterized by the highest unemployment rates, followed by Puerto Rican men, while Cuban men confronted the lowest average unemployment rates in 1980. American Indian men faced the lowest average wage rates, largely because they were disproportionately located in nonmetropolitan and reservation areas, while the highest wages corresponded to labor markets where Puerto Ricans live. That high unemployment also characterized these high-wage markets is a key piece of information for decoding the declining economic status of Puerto Ricans.

Table 5.2 shows that American Indians were the most mobile minority group during the late 1970s, as nearly one in five reported having changed county groups between 1975 and 1980. At the other extreme, only 8 percent of mature black men migrated between 1975 and 1980. Among Hispanics, Cubans were the most mobile, and Puerto Ricans were slightly less mobile than Mexicans, with 10–12 percent changing labor markets during the time period. More interesting are the differences in the direction of the migrant flows. Geographic movement between high-ethnic-concentration labor markets was the modal migration type for all groups, accounting for 50–65 percent of intermarket moves by Hispanic men and 35 and 43 percent of moves by American Indian and black men, respectively. Flows between labor markets with low levels of ethnic concentration were prominent only among American Indians. In the main, these moves capture the residential mobility of the nonreservation Indian population.

Although the numbers of migrants engaged in dispersed and concentrated

Table 5.2 Descriptive Statistics for Migration Type and Ethnic Job Segmentation

	Mexican	Puerto Rican	Cuban	Black	American Indian
Migration type:					
Intradensity high	6.5	4.9	6.8	3.4	6.7
Intradensity low	1.2	1.4	1.3	1.2	5.8
Concentrated	1.2	1.0	2.3	1.5	3.3
Dispersed	1.7	2.7	1.8	1.8	3.0
Migrants (totals)	10.6	10.0	12.3	7.9	18.8
Ethnic job segmentation: ^a					
Ethnic typed	13.0	18.6	13.1	36.6	19.9
Anglo typed	4.1	6.4	14.1	5.6	15.0
Nontyped	82.9	75.0	72.8	57.8	65.1
<i>N</i>	6,076	6,630	4,134	5,827	5,810

Source: 1980 5% A Sample Public Use Micro-data Samples, migrant subsample.

Note: All tabulations exclude recent immigrants.

^a Compares each group to Anglos. See App. B.

migration flows did not differ greatly *within* groups (Puerto Ricans being a notable exception), concentrated moves were more pervasive among Cubans and American Indians, while Mexicans and blacks became slightly more dispersed. Puerto Ricans experienced the greatest residential dispersion during the late 1970s as a result of internal migration. Having always been a metropolitan population on the U.S. mainland, for them dispersion involved moves out of New York and the Northeast in general (Bean and Tienda 1987).

The last three rows of table 5.2 support the view that blacks were especially likely to be in ethnic-typed jobs. Over one-third of all mature black men in the experienced civilian labor force identified with jobs where blacks were disproportionately concentrated. Appendix table 5B.1 below shows that in 1970 blacks were uniformly overrepresented in the lower nonmanual and in upper manual jobs in the producer, social, and personal services sector. Auxiliary tabulations (available from the authors) reveal that these patterns persisted until 1980. Based on their disproportionate concentration in manual jobs, roughly 20 percent of Puerto Rican and American Indian men identified with ethnic-typed jobs. Finally, Mexican and Cuban men were least likely to be ghettoized in "ethnic jobs" in 1980. For Mexicans, ethnic job typing largely involved agricultural activities but also included lower manual jobs in the distribution and personal service sectors. Cubans, on the other hand, were overrepresented in some nonmanual as well as manual activities, but principally in the producer and personal services sectors.¹²

At the other extreme, Cubans and American Indians were the only groups for whom the share engaged in "Anglo-typed" jobs exceeded 10 percent. For both groups, these jobs involved nonmanual activities in the transformative

and distributive services sectors. Clearly, employment in nontyped jobs was the model form of labor market insertion for the overwhelming share of minority men, with blacks least likely and Mexicans most likely to be so situated as of 1980. However, these are very conservative measures of ethnic job segmentation (see App. B). Had our method to establish over- and under-representation not included statistical adjustments for age and educational differentials between the groups, the proportion of workers allocated to "ethnic-typed" jobs would have been considerably greater. Also, had we used more liberal cut points for stipulating the "tolerable" limits of ethnic job segmentation, the numbers of industry-occupation cells designated as ethnic typed and the share of workers so-allocated would have been higher.

The three dependent variables analyzed are summarized in table 5.3. Even though our sample is limited to men aged 25 to 64, the labor participation rates range from a high of 96 percent for Cubans to a low of 86 percent for American Indians. The labor force participation rate for blacks was slightly higher than that of American Indians, but this does not necessarily mean that the latter group is situated at the bottom of the employment hierarchy. Rather, this reflects the extremely limited employment opportunities on reservations (Sandefur 1986; Snipp and Sandefur 1988). Auxiliary tabulations revealed that American Indian labor force participation was significantly lower and unemployment significantly higher in areas of high ethnic concentration, while the reverse was true for blacks. Differential participation and unemployment rates among groups reflect variation in employment opportunities by residence and differential placement of groups in the hiring queue. Among Hispanics, Puerto Ricans have especially low average participation rates and high unemployment (see also Tienda 1989).

The ranking of minority groups based on 1979 annual earnings reaffirms the placement of black men at the bottom, where they are accompanied by Puerto Ricans rather than American Indians. At the opposite extreme stand

Table 5.3 1980 Labor Force Participation and Unemployment Rates and 1979 Average Annual Earnings of Minority Men Aged Twenty-Five to Sixty-Four (standard deviation in parentheses)

	Mexican	Puerto Rican	Cuban	Black	American Indian
Labor force participation	93.6 (24.4)	91.4 (28.0)	95.6 (20.6)	88.9 (31.4)	86.3 (34.4)
Unemployment	6.6 (24.3)	7.5 (26.3)	3.8 (19.2)	8.6 (28.1)	10.9 (31.2)
Logged annual earnings	9.22 (.89)	9.18 (.87)	9.43 (.82)	9.14 (.97)	9.16 (1.06)
Average annual earnings (\$)	13,342 (9,414)	12,587 (8,647)	16,368 (13,068)	12,585 (8,485)	13,938 (11,269)

Source: 1980 5% A Sample Public Use Micro-data Samples, migrant subsample.

Cubans, with average annual earnings of \$16,400 in 1979. Mexican and American Indian men are situated in an intermediate position relative to blacks and Cubans. Although the average annual earnings of American Indians may seem high, recall that this figure is based on the subset with positive earnings in 1979. Since a lower share of this group participates in the labor market, the subset with earnings is a highly selected segment of this population.

Overall these descriptive statistics provide useful background information for interpreting our multivariate results, which analyze, in sequence, the probability of being in the labor force or unemployed and logged annual earnings as a function of migration type, ethnic job typing, and a vector of control variables.

5.2.5 Labor Force Participation and Unemployment

The transformed logit coefficients in table 5.4 reinforce a picture of diversity in the determination of participation decisions and unemployment risks among minority men. Considering first the results for labor force participation, one general inference is that minority men who migrated during the latter part of the 1970s were consistently less likely, or no more likely than their nonmigrant counterparts to be in the labor force. Although only nine of the twenty estimated coefficients attained statistical significance, the reliable coefficients were uniformly negative. These results appear to contradict conventional wisdom about the investment properties of migration decisions. However, it is conceivable that, for minority men, migration may require a substantial period of adjustment before the returns accrue. There is no way for us to control for the exact timing of migration during the five-year interval; hence, it is not possible to ascertain to what extent our results may be capturing the initial disorganization following migration.¹³

The diverse effects on labor force decisions of migration type warrant more extensive discussion. At one extreme stand Native Americans, whose labor force behavior was relatively unaffected by geographic movement. These findings are consistent with those of Sandefur (1986), who found no significant differences in the effects of interstate migration on the labor force participation of American Indians.¹⁴ Although Sandefur did not speculate why this result emerged, it is conceivable that the resettlement assistance provided movers does not stipulate that recipients secure employment prior to moving. Nonmigrants chose to stay either because they have employment or because, in its absence, they can rely on other forms of income maintenance and informal social supports to subsist.

For blacks and Mexicans, the pattern of migration effects on labor force behavior is roughly similar. Moves within high-density labor markets lowered the probability of participation by 10 percent for mature black men and by approximately 5 percent for mature Mexican men. That dispersed migration substantially lowered rather than increased the probability of labor force par-

ticipation for these groups illustrates both the disruptive aspect of moves and the employment difficulties experienced by men of color in sociocultural environments where members of like ethnicity are less available.

The results for Cubans and Puerto Ricans were surprising for different reasons. Because the vast majority of concentrated flows of Cubans involve individuals moving to Miami, Florida (Bean and Tienda 1987), where a thriving enclave economy shields workers from general competition (Portes and Bach 1985), we expected that participation in concentrated flows would increase the probability of labor force participation for Cubans. Instead, the estimated effect is strongly negative, indicating participation probabilities 8.6 points below those of nonmigrants, on average. This result may indicate that the Miami labor market is already saturated with Cuban workers or that these migrants can afford to spend longer periods in job search precisely because the availability of ethnic compatriots (usually relatives) provides necessary supports during the interim period.

The results for Puerto Rican men are cause for concern because of the sharp decline in the participation of mature men experienced during the 1960s and through the 1970s—a pattern less pronounced for other Hispanic populations (Tienda 1989). For Puerto Ricans, internal migration consistently lowered the employment prospects from 7 percent (for intradensity high moves) to 15 percent (for dispersed moves). This finding is all the more disturbing because Puerto Ricans have become more residentially dispersed than other Hispanic populations. Thus, the declining participation rates of mature Puerto Rican men result from many sources, including the disruptive aspects of moves in general but dispersed moves in particular, the greater prevalence of dispersed compared to concentrated flows, and the sharply declining employment opportunities in labor markets where Puerto Ricans traditionally have concentrated.

The unemployment effects of migration were generally weaker than those on labor force participation in several senses. First, only three of the twenty estimated coefficients (for migration types) attained statistical significance; second, these coefficients were confined to Mexican and Native American men. Stated differently, migration does not appear to influence the unemployment prospects of Puerto Rican, Cuban, or black men, irrespective of the ethnic density of origin and destination labor markets. This is not the case for Mexican and American Indians, for whom migration *increased* the probability of unemployment.

For Mexicans, the statistically significant effects corresponded to the migration types that generated reliable coefficients in the participation equation, except that the coefficients were oppositely signed (as predicted). Specifically, Mexicans who participated in dispersed migration flows experienced unemployment rates almost 10 percent higher than (statistically) equivalent nonmigrants. In contrast, migrants who participated in moves designated as concentrated were as likely as nonmigrants to be unemployed in 1980. Mexican

Table 5.4 Effects of Geographic Mobility and Ethnic Job Segmentation on Labor Force Participation and Unemployment
(transformed logit coefficients)

	Mexican		Puerto Rican		Cuban		Black		American Indian	
	LFP	UNEM	LFP	UNEM	LFP	UNEM	LFP	UNEM	LFP	UNEM
Migration type:										
Intradensity high	-.047**	.029	-.068**	.009	-.013	-.012	-.103***	.045	-.008	.058**
Intradensity low	-.014	.029	-.091*	.003	.005	.010	-.040	.025	-.011	.039
Concentrated	-.011	-.035	-.118*	-.014	-.086**	-.001	-.042	.028	-.019	.053
Dispersed	-.068*	.097***	-.152***	.023	.006	-.025	-.143***	.020	-.063	.060*
Ethnic job segmentation:										
Ethnic typed	...	-.024**	.007	-.010	-.008	-.008	-.021*	.016	-.040**	.016
Anglo typed	.015	-.050**	.011	-.010	-.003	.003	.020	-.050**	.037*	-.051***
Human capital/family status:										
If < high school complete	-.027	.216***	-.199***	.100**	-.028	.102***	-.045	.147***	-.123***	.309***
If high school complete	.001	.115*	-.097*	.050	-.014	.029	-.036	.072*	-.094**	.240***
Experience	.003*	-.002	.005**	-.002	.003	-.001	.008***	-.003	.006***	-.005**
Experience squared	...	...	...	...	-.001	...	...	...	...	...
If English good	-.008	-.020**	.011	-.020**	.009	.004	.051	-.029	-.043	-.027
If foreign born	.016*	-.009	.005	-.017*	.015	.004	.048	.009	-.034	.025
If work disability	-.404***	.037*	-.446***	.070***	-.408***	.069***	-.429***	.041*	-.352***	.050**
If married	.007	-.025**	.019*	-.022**	.014	-.014*	.025*	-.025**	.033**	-.034***

If household head	.045***	-.024**	.049***	-.015	.024***	-.015*	.069***	-.037***	.088***	-.036***
If children < 6	.020*	.018	.024*	.002	.017	-.011	.057***	-.006	-.009	-.002
Labor market:										
If region = Northcentral	.019	-.013	.025	-.003	-.003	.019	.020	.031	-.030	.029
If region = South	.015	-.025	.035*	-.041	-.094*	-.022	.038**	-.002	.007	-.029
If region = West	...	-.011	.038**	-.001	.015	.015	.013	.045*	-.005	-.017
Area unemployment rate	-.002	.011	-.012	.009**	-.005	-.006	-.009**	-.015***	-.003	.010***
Area wage rate	.004	-.002	.008	-.013	-.025	-.009	.015*	.011	-.013**	.006
If metro residence	.001	.016	.026	.074*	.039***	-.026*	.025	-.016	.033**	-.019
% Durable manufacturing	.000	...	.001	...	-.001	-.002*	.001	.001	.005***	...
% Nondurable manufact-										
uring	-.001	-.001	.007***	-.001	-.001	.001	.003**	.001	.002	...
χ^2	2,265	2,576	3,056	3,081	1,152	1,205	3,159	2,765	3,744	3,179
df	6,051	5,663	6,605	6,035	4,109	3,925	5,802	5,157	5,785	4,989
N	6,076	5,688	6,630	6,060	4,134	3,950	5,827	5,182	5,810	5,014

Note: Evaluated at the following means: Mexicans, LFP = .936, UNEM = .066; Puerto Ricans, LFP = .914, UNEM = .075; Cubans, LFP = .956, UNEM = .038; American Indians, LFP = .863, UNEM = .109; blacks, LFP = .889, UNEM = .086.

- * Coefficient less than .001.
- * $p \leq .10$ (two-tailed test).
- ** $p \leq .05$ (two-tailed test).
- *** $p \leq .01$ (two-tailed test).
- *** $p \leq .001$ (two-tailed test).

migrants who moved between labor markets where Mexicans were disproportionately represented experienced unemployment rates only 3 percent higher than nonmigrants, on average, but this effect was statistically trivial. American Indian unemployment rates were most affected by residential mobility, as all migrants except those who moved between low-Indian-density labor markets and from low- to high-density labor markets experienced higher unemployment than their nonmigrant counterparts. The risks of unemployment for these American Indian migrants averaged approximately 6 percent more than those of (statistically) comparable nonmigrants.

The influence of job segmentation on labor force participation and unemployment probabilities revealed very limited evidence that the ethnic typing of jobs operated to reserve positions for minority men or to shield them from unemployment. Only for blacks and American Indians, two groups identified as occupying the lower rungs of the hiring queue, did statistically reliable effects emerge in the participation equation. These results indicate that mature black and American Indian men destined for ethnic-typed jobs have *lower* rates of labor force participation than their (statistical) counterparts destined for nontyped jobs.¹⁵ However, Native Americans associated with Anglo-typed jobs participated in the labor force at a rate 4 percent higher than their similarly skilled counterparts associated with nontyped jobs. This finding, coupled with evidence that American Indian men associated with Anglo-typed jobs experience significantly lower unemployment than their counterparts destined for nontyped jobs, possibly reflects the results of affirmative hiring of American Indians within the Bureau of Indian Affairs and in other nonmanual government jobs.

The only shred of evidence that ethnic segmentation of jobs “reserves” slots for minority men emerges from the Mexican unemployment equation, which shows that adult men destined for “Mexican jobs” were slightly less likely to be unemployed in 1980 than their counterparts associated with nontyped jobs. But, as the results for Mexicans, blacks, and American Indians show, the lowest unemployment risks are associated with Anglo-typed jobs—predominantly nonmanual and skilled manual jobs. Apparently, the desirability of jobs rather than the ethnicity of incumbents influences the unemployment risks of minority men. Moreover, because the dominant group generally occupies the more desirable jobs, ethnic-typed jobs exhibit greater employment instability and hence expose their incumbents to greater risks of unemployment.

With respect to labor market characteristics, none emerged as significant predictors of Mexican men’s labor supply, in contrast to results for the remaining groups. Participation rates of Puerto Ricans were lowest in the Northeast, the region where this group is disproportionately concentrated and where the dislocation effects of industrial restructuring have been particularly severe. That Puerto Rican unemployment risks were not responsive to our regional dummies reveals that the massive numbers of Puerto Rican workers displaced

from jobs in the Northeast have not been absorbed by other regions. The sharp impoverishment of the population during the 1970s and 1980s (Tienda and Jensen 1988) can largely be understood in these terms. Further evidence for this argument is found in the higher unemployment probabilities associated with residence in metropolitan areas and high-unemployment areas. Cubans residing in the South had lower participation rates than their counterparts residing elsewhere, but they also had lower unemployment rates. Black men residing in the South and in high-wage areas participated more in the labor force than other black men, and highest unemployment risks were associated with residence in the West, where blacks are less concentrated. Finally, participation rates of American Indians were slightly higher and unemployment rates lower in metropolitan areas.

Among the set of human capital and family status variables included in our models, work disability produced consistently strong negative effects on labor force participation and strong positive effects on unemployment risks. English proficiency lowered unemployment probabilities only for Mexican and Puerto Rican men. The influence on the labor force participation and unemployment of minority men's educational credentials was as expected for Mexicans and Puerto Ricans, but, surprisingly, we detected no schooling effects on the participation decisions of black and Cuban men. This result is all the more puzzling since, according to our previous discussion, these men occupy the top and bottom of the hiring queue and educational credentials presumably should not function identically for both. That they do highlights the importance of ascription over achievement (i.e., race over skill) in differentiating labor market experiences.

To summarize, the evidence from our analyses of labor force participation challenges the widespread assertion that dispersed migration streams potentially can promote socioeconomic assimilation along with spatial assimilation. In fact, for three of the five groups analyzed (Mexicans, Puerto Ricans, and blacks), the effects on labor force participation of dispersed migration flows were negative rather than positive; for the remaining two groups (Cubans and American Indians), dispersed migrants were neither more nor less likely to participate in the labor force than nonmigrants. Also, identification with ethnic- or Anglo-typed jobs differentiated the participation decisions of American Indian men and to a lesser extent black men, but it had little to do with the participation decisions of Hispanic men. However, Mexican, black, and American Indian men associated with Anglo-typed jobs experienced lower unemployment risks compared to those associated with nontyped jobs.

5.2.6 Annual Earnings

By and large, and in contradistinction to the results reported for the labor supply models, the earnings consequences of migration types are generally weak (see table 5.5). For Cubans and Puerto Ricans, the economic returns to

Table 5.5 **Effects of Geographic Mobility and Ethnic Job Segmentation on 1979**
(logged) Annual Earnings: Migrant and Nonmigrant Men Aged Twenty-Five
to Sixty-Four (standard errors in parentheses)

	Mexican	Puerto Rican	Cuban	Black	American Indian
Migration type:					
Intradensity high	-.078* (.039)	.036 (.045)	.036 (.045)	.081 (.064)	-.057 (.046)
Intradensity low	.001 (.087)	-.061 (.081)	.071 (.098)	-.184 + (.101)	.056 (.048)
Concentrated	-.102 (.092)	-.120 (.094)	.020 (.073)	.145 (.091)	-.060 (.063)
Dispersed	.027 (.073)	-.118 + (.063)	-.150 + (.082)	-.022 (.085)	-.138* (.067)
Ethnic job segmentation:					
Ethnic typed	-.110*** (.029)	-.145*** (.025)	-.249*** (.033)	-.185*** (.023)	-.017 (.029)
Anglo typed	.195*** (.048)	.077* (.039)	.117*** (.031)	.001 (.047)	.097** (.032)
Human capital/family status:					
If < high school complete	-.361*** (.105)	-.287*** (.069)	-.268*** (.039)	-.243*** (.061)	-.298*** (.044)
If high school complete	-.637*** (.114)	-.456*** (.077)	-.331*** (.045)	-.373*** (.078)	-.518*** (.054)
Experience	.025 (.004)	.015 (.004)	.010* (.004)	-.020*** (.004)	.022*** (.004)
Experience squared	-.0004*** (.0001)	-.0002** (.0001)	-.0002* (.0001)	-.0003*** (.0001)	-.0004*** (.0001)
If English good	.176*** (.028)	.116*** (.026)	.167*** (.028)	-.182 (.272)	.316*** (.071)
If foreign born	-.071** (.024)	-.111*** (.024)	-.083 + (.045)	-.036 (.059)	-.028 (.074)
If work disability	-.120** (.046)	-.154*** (.042)	-.159** (.061)	-.205*** (.049)	-.234*** (.042)
If married	.152*** (.030)	.142*** (.025)	.140*** (.032)	.119*** (.027)	.186*** (.034)
Weeks worked	.033*** (.001)	.035*** (.001)	.034*** (.001)	.034*** (.001)	.036*** (.001)
Usual hours	.007*** (.001)	.007*** (.001)	.007*** (.001)	.009*** (.001)	.011*** (.001)
λ	.0001 (.004)	.011* (.005)	.019*** (.006)	.057* (.023)	-.004 (.017)
Constant	6.489	6.448	6.656	6.566	5.590
R ²	.342	.315	.340	.376	.428
N	5,726	5,908	3,895	5,235	5,324

Source: 1980 5% A Sample Public Use Micro-data Samples, migrant subsample.

Note: Net of vector of labor market characteristics: region; area wage rate; metropolitan residence.

+ + $p \leq .10$ (two-tailed test).

* $p \leq .05$ (two-tailed test).

** $p \leq .01$ (two-tailed test).

*** $p \leq .001$ (two-tailed test).

different migratory destination are statistically trivial ($\beta_1 - \beta_4 = 0$; see eq. [2]), although the income-depressing effects of dispersed streams border on statistical significance.¹⁶ However, for each of the remaining groups, at least one migrant type emerged as a significant determinant of annual earnings. Participation in dispersed migration streams rendered American Indians a loss of 15 percent.¹⁷ Apparently, spatial dispersion does not automatically translate into economic gains for American Indian men. This questions the wisdom underlying efforts to relocate Native Americans as a strategy promoting social integration. For Cubans and Puerto Ricans, it appears that spatial dispersion is not associated with economic success, but other types of movers earn the same as equivalent nonmigrants. The (logged) annual earnings of migrant and nonmigrant black men were approximately equal, and our disaggregated migrant typology yields no further insights into the economic consequences of specific flows. However, Mexicans who participate in intradensity streams received negative returns on the migration decision.

In contrast to our previous results, the regressions of (logged) annual earnings show large negative returns from incumbency in ethnic-typed jobs (with the exception of American Indians) and substantial positive returns from incumbency in Anglo-typed jobs (with the sole exception of blacks). Specifically, the earnings penalty from incumbency in ethnic-typed jobs ranged from a low of 11 percent for Mexicans to a high of 25 percent for Cubans, while the bonus from incumbency in Anglo-typed jobs ranged from a low of 8 and 10 percent for Puerto Rican and American Indian men, respectively, to a high of 20 percent for Mexican men. That blacks did not benefit financially from incumbency in Anglo-typed jobs reflects the legacy of discrimination in excluding them from these jobs and denying them equal returns for equal work.

In sum, our findings on earnings challenge arguments about the economic benefits of ethnic segmentation for minority workers. Because the jobs in which minority men are concentrated disproportionately involve manual work in extractive, manufacturing, and personal services, their remuneration is lower, on average, compared to that of nonmanual jobs, particularly professional and managerial positions in the producer and social services sectors. The few minority men who do manage to enter Anglo-dominated jobs do remarkably well, financially. Nevertheless, as long as ethnicity continues to have exchange value in the labor market, not only will the earnings of minority men remain highly unequal, but so also will the financial rewards associated with ethnically segmented jobs.

5.3 Conclusion

On balance, our results provide some evidence about how and why the paths of labor market insertion differ among mature minority men, but our

story about the role of migration and ethnic job segmentation in stratifying the minority work force is complex. First, when significant effects of migration on labor force participation emerged, they were uniformly negative (positive in the unemployment equation). This implies that the higher unemployment experiences and lower labor force activity rates of migrants may reflect the disruptive effects of the migration process per se. These effects, if they are associated with the process of movement per se, might disappear as migrants acquire experience and familiarity with their destination labor markets.

Unfortunately, our cross-sectional Census data did not permit us to investigate whether migrants who had moved earlier were more likely to participate in the labor force than later migrants. This certainly is an important research priority for additional work on the economic consequences of residential mobility for minority populations.

That the effects of migration were most pronounced for labor force behavior but not economic returns further challenges the premises of microeconomic theory, which presumes that decisions to move represent rational choices geared to improve economic well-being. But whether ethnic alliances are involved in explaining the prevalence of concentrated flows, and those within areas of high ethnic concentration, or in ameliorating the disruptive aspects of residential mobility is not clearly evident from our results. On the basis of the theoretical arguments presented at the outset, evidence for such claims should derive from the nature of ethnic segmentation and the existence of ethnic hiring queues. Although our ethnic segmentation effects on labor force decisions and unemployment risks were trivial at best, their effects were far more pronounced on (logged) annual earnings.

One general implication from our results is that there is no evidence that spatial assimilation will necessarily promote socioeconomic integration and thereby reduce ethnic labor market inequities. Only Cuban men benefited from dispersed migration streams, while American Indians sustained substantial losses from disrupting their social ties and participating in dispersed migration streams. Certainly, this does not justify mandatory relocation programs as a strategy for promoting social equity.

Appendix A

Analytical Procedures to Determine High-Density Labor Market Areas

To determine which labor market areas contain an above-average concentration of a particular racial or ethnic group, we examined two relevant variables, the racial/ethnic *composition* of each labor market area and the *distribution* of each group across the 414 labor market areas. These labor market areas were

derived from the Census-defined county groups and consist of SMSAs or groups of nonmetropolitan counties within states.¹⁸ Population counts from the 1980 1/100 PUMSA were used to calculate these variables for the following groups: blacks, American Indians, Mexicans, Puerto Ricans, Cubans, and other Hispanics. The total population was divided in mutually exclusive categories as follows: anyone identifying himself or herself as "American Indian" on the race question was considered American Indian; non-Indian Hispanics were identified on the "Spanish origin" question, which contained separate spaces for Mexican, Puerto Rican, Cuban, and other; the remainder were placed into either the white, Asian, or black categories on the basis of their answer to the race question.

A labor market area was defined as high density if the reference group was overrepresented in terms of both composition and distribution. Overrepresentation was determined by calculating a set of standardized scores for the two variables. For the compositional z-score, the group's percentage for the country as a whole (the weighted mean across areas, e.g., 11.58 percent for blacks) was used to represent the value expected if that group was evenly distributed across labor market areas relative to all other groups. The simple mean, which is the same for all groups (.24 percent, or $\frac{1}{414}$), was used for the distributional z-score. A labor market area was classified as concentrated if both these standardized scores were greater than zero. Therefore, a concentrated black labor market area would be one containing more blacks than the total U.S. average and a higher than average share of blacks. If only one of these conditions were met, the labor market area was not classified as high black density. Details about the classification of specific labor market areas are available from the authors.

The results of this analytical procedure are available from the authors. Blacks are the most dispersed groups, with seventy-three concentrated labor market areas containing 75 percent of all blacks, and Cubans are the least dispersed, with 83 percent living in just seventeen areas. The percentage of each group living in concentrated labor market areas is fairly similar, ranging from a low of 68 percent for American Indians (sixty-two areas) to 85 percent for Mexicans (forty-nine areas). There were thirty-five concentrated labor market areas with 82 percent of the Puerto Ricans and forty areas with 72 percent of the other Hispanics.

Appendix B

Estimation of Ethnic Job Queues

For the estimation of the ethnic job typology, we used a sample from the 1970 Public Use Microdata Files of Hispanic, black, American Indian, and non-

Hispanic white men aged sixteen to twenty-four who worked within the last five years preceding the Census and had nonmissing industry and occupation in 1970. First, we arrayed the data into a $6 \times 6 \times 5 \times 3 \times 3$ matrix representing six ethnic groups, six industry sectors, five occupational groups, three education groups, and three age groups. Table 5B.2 presents the industry by occupation distribution for the five minority groups.

To establish whether nonwhites are over- or underrepresented relative to non-Hispanic whites, we computed a log-linear analysis that establishes the associations among ethnicity, occupation, industry, education, and age groups. We estimated a saturated log-linear model of the form:

$$F_{ijklm} = \eta \tau_i^A \tau_j^B \tau_k^C \tau_l^D \tau_m^E \dots \tau_{ijklm}^{ABCDE}$$

where

- A = ethnicity ($i = 1, \dots, 6$);
- B = industry sector ($j = 1, \dots, 6$);
- C = occupation group ($k = 1, \dots, 5$);
- D = education ($l = 1, \dots, 3$);
- E = age group ($m = 1, \dots, 3$).

In its abbreviated notation, the hierarchical model is:

$$[ABCDE].$$

From the 154 estimated parameters,¹⁹ we computed the ethnic typing parameters for twenty-five occupation \times industry cells for Mexicans, Puerto Ricans, Cubans, blacks, American Indians, and non-Hispanic whites using the following formula:

$$(\tau_j^B \tau_k^C \tau_{jk}^{BC}) (\tau_{ij}^{AB} \tau_{ik}^{AC} \tau_{ijk}^{ABC}),$$

for $i = 1, \dots, 6$.

The first three tau's indicate the net effects of occupation by industry, and the second three tau's denote the interaction effects of occupation by industry with ethnicity. All these parameters have been purged of the main and interaction effects of age and education. Ethnic-job-typing effects were calculated as the ratio of the total effects of occupation by industry for each ethnic minority group relative to that of non-Hispanic whites. Since the net effects of occupation by industry are uniform for all ethnic groups, our ethnic-typing effects represent the ratio of interaction effects of occupation \times industry \times ethnicity.

The results of these computations, reported in table 5B.1, provided the ba-

Table 5B.1 Ethnic Job Typing Effects by Ethnicity

Occupational Groups	Extractive	Transformative	Distributive Services	Producer Services	Social Services	Personal Services
Mexican:						
Upper nonmanual	.971	.432	.552	.627	.626	.722
Lower nonmanual	2.040	.615	.550	.430	.772	1.282
Upper manual	2.143	.706	1.117	1.817	1.433	1.379
Lower manual	2.158	1.255	1.500	1.135	1.061	1.528
Farmer	1.146	... ^a	... ^a	... ^a	... ^a	... ^a
Puerto Rican:						
Upper nonmanual	.930	.217	.361	.588	.513	.801
Lower nonmanual	3.442	.649	.725	.722	1.092	2.728
Upper manual	.932	.618	.595	2.734	.983	1.785
Lower manual	1.946	1.021	1.524	3.571	1.173	2.173
Farmer	.359	... ^a	... ^a	... ^a	... ^a	... ^a
Cuban:						
Upper nonmanual	1.118	.456	.488	.771	.513	1.034
Lower nonmanual	4.137	.600	.693	.848	.676	3.068
Upper manual	.992	.657	.697	1.883	1.030	1.618
Lower manual	2.367	.883	1.264	1.812	.694	2.080
Farmer	.329	... ^a	... ^a	... ^a	... ^a	... ^a
Black:						
Upper nonmanual	.399	.324	.289	.449	1.080	.823
Lower nonmanual	.738	.717	.529	.525	1.794	.890
Upper manual	.938	1.191	1.146	1.676	1.506	1.622
Lower manual	1.636	2.408	2.494	2.729	1.940	1.931
Farmer	.542	... ^a	... ^a	... ^a	... ^a	... ^a
American Indian:						
Upper nonmanual	2.202	.245	.334	.393	.626	.613
Lower nonmanual	5.170	.405	.307	.388	.903	1.667
Upper manual	3.219	.565	.554	2.353	1.438	1.646
Lower manual	3.847	1.585	1.490	2.210	1.068	.884
Farmer	.920	... ^a	... ^a	... ^a	... ^a	... ^a

Source: 1970 PUMS Files. All men who worked between 1965 and 1970 and had valid industry and occupation codes.

Note: Effects are ratios of Tau (τ) parameters for each ethnic group relative to whites, as described in App. B. Cut points for over, under, or equally represented are established at .5 and 1.5.

^aThese cells are structurally impossible because farm laborers occur only in the extractive sector.

sis for the trichotomous representation of ethnic job queues analyzed in the text. Specifically, ethnic-typed jobs included those with tau ratios less than or equal to 1.5; Anglo-typed jobs included those with tau ratios less than or equal to .5; and nondifferentially preferred jobs categories obtained scores between .5 and 1.5 exclusive. These cut points provide very conservative profiles of ethnic job queues. A more liberal definition of the tolerable limits of ethnic job typing would use .33 and 1.67 as the relative cut points. However, we used the more conservative measures in our analysis.

Table 5B.2 1980 Employment Classification of Men Aged Twenty-Five to Sixty-Four

Sector and Occupation	National Origin				
	Mexican	Puerto Rican	Cuban	Black	American Indian
Extractive	12.6	2.3	2.0	3.8	9.2
Upper nonmanual	.4	.2	.2	.2	.6
Lower nonmanual	.0	.0	.0	.1	.1
Upper manual	2.8	.3	.2	.5	2.8
Lower manual	2.0	.8	.8	.9	2.0
Farmer	7.4	1.1	.6	2.0	3.6
Transformative	44.8	42.4	38.0	44.3	41.9
Upper nonmanual	3.2	2.4	6.7	2.4	5.0
Lower nonmanual	1.5	2.6	2.5	2.4	1.4
Upper manual	32.5	32.5	25.0	30.3	28.1
Lower manual	7.6	4.8	3.8	9.3	7.5
Farmer	NA	NA	NA	NA	NA
Distributive services	18.2	20.2	26.3	20.1	17.0
Upper nonmanual	2.0	2.9	6.7	1.8	2.8
Lower nonmanual	2.9	4.2	7.1	3.6	2.9
Upper manual	10.0	9.6	9.9	10.6	8.7
Lower manual	3.2	3.5	2.6	4.2	2.7
Farmer	NA	NA	NA	NA	NA
Producer services	3.8	9.7	10.6	5.8	4.9
Upper nonmanual	1.0	2.7	4.8	1.2	1.8
Lower nonmanual	.9	1.8	2.9	1.4	1.0
Upper manual	.7	1.2	.7	.8	.8
Lower manual	1.1	3.9	2.2	2.5	1.3
Farmer	NA	NA	NA	NA	NA
Social services	11.9	15.0	11.5	19.1	21.2
Upper nonmanual	3.6	3.5	6.0	5.7	7.0
Lower nonmanual	1.6	2.9	1.4	3.2	2.3
Upper manual	2.5	1.7	1.1	2.8	4.3
Lower manual	4.3	6.9	3.0	7.4	7.6
Farmer	NA	NA	NA	NA	NA
Personal services	8.8	10.4	11.5	6.9	5.8
Upper nonmanual	1.1	1.3	2.3	1.0	1.0
Lower nonmanual	.1	.5	.6	.2	.2
Upper manual	3.2	2.9	3.4	2.2	2.0
Lower manual	4.3	5.7	5.2	3.4	2.5
Farmer	NA	NA	NA	NA	NA
Totals	100.0	100.0	100.0	100.0	100.0

Source: 1980 5% A Sample Public Use Micro-data Samples, migrant subsample.

Note: Upper nonmanual includes professionals, semiprofessionals, and managers. Lower nonmanual includes clericals and sales. Upper manual includes crafts and operatives. Lower manual includes service workers and laborers. Farmer includes farmers and farm laborers.

Appendix C

Variables Included in Logit, Probit and OLG Regressions

Migration Type

Categorical variables coded as dummies for four types of density:

Intradensity High	Moves within high-ethnic-density SMSAs or nonmetropolitan county groups
Intradensity Low	Moves within low-ethnic-density SMSAs or nonmetropolitan county groups
Concentrated	Moves from low- to high-ethnic-density SMSAs or nonmetropolitan county groups
Dispersed	Moves from high- to low-ethnic-density SMSAs or nonmetropolitan groups
Nonmigrants	No residence changes across SMSA boundaries

Ethnic Job Typing

Categorical variables coded as dummies for two preferential statuses; measures calculated separately for each national origin group (see App. B):

Ethnic Typed	Denotes job cells in which ethnic workers were overrepresented relative to non-Hispanic whites in 1970, unique for each group
Anglo Typed	Denotes job cells in which ethnic workers were underrepresented relative to non-Hispanic whites in 1970, unique for each group
Nontyped	Denotes job cells in which ethnic workers were approximately equally represented relative to whites in 1970, unique for each group

Density

Categorical variables coded as dummies for two levels of ethnic concentration:

High	If 1980 labor market areas meet criteria for high concentration of Mexican, Puerto Rican, Cuban, black, or American Indian groups (see App. A)
Low	Remaining labor market areas

Human Capital/Family Status

Household Head and Young Children for labor supply equations only;
Weeks and Hours for earnings model only:

Education	Dummy variables designating completion of college, high school or some college or less than high school
Experience	Labor market experience proxy derived as (age-education-6)
Experience Squared	Square of experience
English Ability	Dummy variable denoting good or excellent proficiency in English
Foreign Birth	Dummy variable denoting foreign birth
Married	Dummy variable denoting if respondent was married
Household Head	Dummy variable denoting if respondent was household head
Young Children	Dummy variable denoting presence of children less than 6 years old
Weeks	Weeks worked last year
Hours	Usual hours worked

Labor Market

Definition of labor market in Appendix A; Area Unemployment Rate and Industry for earnings model only:

Region	Dummy variable designating four regions of residence: West, South, Northeast, and North Central
Area Unemployment Rate	Unemployment rate for SMSAs or nonmetropolitan county groups
Area Wage Rate	Mean wage rate for SMSAs or nonmetropolitan county groups
Metro	Dummy variable coded 1 if metropolitan residence
Industry	Share of area labor force engaged in durable and nondurable manufacturing

Notes

1. Affirmative action hiring on the basis of race, gender, and national origin is one mechanism through which minority populations may be designated as preferred hires for a specific set of jobs. The changes in minority employment patterns as a result of

affirmative action laws and their enforcement are documented by Leonard (1984) and Smith and Welch (1984).

2. As an example, Lieberman explains that, if the most favored group is 10 percent of the population in one city and 20 percent in another city, the second-ranked group can begin to fill jobs ranked at the ninetieth percentile in the first city and the eightieth percentile in the second city. In other words, if the lowest-ranked group is large, then members of this group will find jobs higher in the occupational queue because the higher-ranked groups do not push as far down.

3. Alternatively, during periods of labor shortage, groups at the bottom would experience broadened employment opportunities because the preferred groups would not fill all the traditional employment opportunities. Thus, employment shifts usually will be most radical for groups at the bottom of the employment queue.

4. To save money, migration variables were coded for roughly half of all persons aged 5 and over. Because the A file is based on a 5 percent sample of the total population, we did not encounter sample size restrictions with the minority populations.

5. Restrictions pertaining to work status ensure that all individuals in the sample had valid occupation and industry codes, which are needed to derive our ethnic job categories. The restriction on U.S. residence in 1975 was necessary for computing the migration types. Although the ethnic concentration of origin countries of recent immigrants is uniformly high, it was not pertinent for the comparisons in our migration typology, which focuses on *internal* moves. Finally, men in the military or enrolled in college either in 1975 or 1980 were excluded because the groups have higher migration propensities *de facto*, independent of the social and economic motivations underlying these decisions.

6. The stringency of our sample restrictions prompted additional diagnostics of the social and demographic characteristics of the excluded population. These analyses revealed that men who never worked or who were in the military or enrolled in college in 1980 tended to be younger and were more apt to be unmarried than their respective subpopulations. Individuals who were not in the labor force in 1980 and who had last worked before 1975 were older, on average, than their source subpopulation. Also, since recent immigrants tend to be younger and less often married, the final Mexican and Puerto Rican samples contained fewer men under age 30 and fewer unmarried men than would be true if recent immigrants were not excluded from the analysis. This was less true of Cuban immigrants, who tend to be older than all immigrants (on average).

7. Whether migration streams alter the ethnic composition of specific labor markets depends on the differential net migration of minority and nonminority groups. Thus, the ethnic density of a particular labor market may increase either because of net out-migration of non-Hispanic whites or net in-migration of minorities. Ethnic density may similarly decrease because of a net out-migration of minorities or net in-migration of whites. Our focus, however, is not on the changing residential configuration *per se* but rather on the significance of ethnic concentration for stratification processes or, more specifically, the direction of migrant streams relative to the ethnic density of origin and destination areas.

8. Our analysis of preference status categories was based on 1970—prior to the migration interval studied—rather than 1980 industry by occupation classifications to avoid endogeneity problems from confounding the causal ordering or migration and resulting ethnic job queues. However, the actual classification of individuals among the three categories is based on industry and occupation categories reported as of 1980, at the end of the migration interval.

9. Since the models used to predict unemployment probabilities are identical, we do not repeat them; we expect the effects of our key independent variables to be opposite those produced for the labor force participation models.

10. This implies that demand for workers can be ethnicity specific, especially in

contexts where recruitment is governed by an ethnic job queue or where the assumptions of homogeneous labor and perfect competition do not hold.

11. For the earnings models, we corrected for selection bias resulting from differences in the probability of being in the wage sample. Results are available on request.

12. This overrepresentation in producer and personal services reflects the large numbers of Cubans involved in the banking industry in Miami as well as the large share of Cuban-owned and -operated enterprises employing a highly ethnic (Cuban) labor force. See the discussion in Portes and Bach (1985).

13. A competing explanation is that the selection process governing the joint migration and employment decisions has not been adequately modeled. Elsewhere, we have modeled employment and migration outcomes using a bivariate probit specification that takes account of the selection processes and reached essentially the same conclusions.

14. Sandefur analyzed the effects of migration on labor force participation separately for endogamous, exogamous, and intermarried American Indian couples and found uniformly nonsignificant effects for all three groups. This finding obtained despite the very different rates of interstate migration for each of these three groups.

15. Although the result is not statistically reliable, association with ethnic-typed jobs appears to increase unemployment for these two groups. These results are consistent with evidence presented in Appendix table 5B.1 showing that blacks and American Indians were differentially concentrated in nonmanual jobs even after adjusting for differences in their age and education composition. The alternative of not working may be more attractive than holding such low-status jobs, but this conclusion cannot be confirmed from these results.

16. To verify the robustness of these results, we substituted a single dichotomous variable indicating nonmigrant status in the earnings equation and confirmed that the logged annual earnings of migrants and nonmigrants did not differ significantly for any of the minority groups analyzed. However, by differentiating among migration types, we were able to detect some significant ethnic differences in the influence of migration on earnings.

17. For American Indians, dispersed flows were about as pervasive as concentrated flows and amounted to about 16 percent of all moves.

18. Determining boundaries of labor markets was a complicated process. The basic unit is the SMSA, which we reconstructed from county group codes. Then nonmetropolitan areas within states were divided up into two or three areas. The result was 414 labor market areas: 310 SMSAs and 104 nonmetropolitan areas. Individual area codes were determined not by the SMSA code but by a combination of the state and county group codes. This caused problems when county groups spread across two or more SMSAs or when SMSAs crossed state boundaries. The decision rules used to allocate county groups are available from the authors.

19. Because farm occupations are found only in the extractive sector, the industry occupation interaction yields twenty five rather than thirty cells. By deleting the five structurally impossible cells for all groups, we estimated thirty fewer parameters than model 1 implies.

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