© *International Regional Science Review*, Vol. 9, No. 1, pp. 43-58, 1984

Labor Force Mobility in the United States: Migration, Unemployment, and Remigration

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ABSTRACT This study examines the relationships between pre- and post-move unemployment and interstate migration of the United States labor force for the period 1965 to 1970. Multivariate analyses are conducted for several large occupation groups. The results indicate a strong link between unemployment and migration. Unemployment increases migration possibilities for each large occupation group considered. Substantial post-move unemployment exists, but there is a significant link between migration and such unemployment only for blue-collar workers who are repeat migrants.

I. INTRODUCTION

The extent to which employment triggers migration to another labor market and the success of post-migration job search are central questions in assessing labor market adjustment mechanisms. Empirical studies of this relationship have, in general, been severely limited by data.[1] This paper examines the relationship with the aid of 1970 Census microdata for the U.S. labor force. The research population and data upon which the empirical work is based are described in Section II, and tabulations of pre- and post-move employment rates are presented for several large occupation groups. A multivariate analysis of the individual migration decision in each of these groups is developed and described in Section III. Migration response to unemployment is also examined. In Section IV, pre- and post-move unemployment of blue-collar workers is considered, and the varying incidence of post-

An early version of this paper was presented at the International Conference on Forecasting Regional Population Change and Its Economic Determinants and Consequences, held in Airlie, Virginia, May, 1982, sponsored by the American Statistical Association, U.S. Bureau of the Census, and National Science Foundation.

[1] In this respect, see the survey articles by Greenwood (1975), Ritchey (1976) and Shaw (1975). Recent evaluations of U.S. migration data are found in Bilsborrow and Akin (1982) and Isserman, Plane, and McMillen (1982).

move unemployment by migrant type is examined. Also, the degree to which migration affects the employment status of these workers is considered using multivariate analysis.

II. UNEMPLOYMENT AND MIGRATION

THE RESEARCH POPULATION

An examination of the relationships between pre- and post-move unemployment and migration of the labor force is generally precluded because of the unavailability of migration microdata containing employment-unemployment information for individuals on both a pre- and post-move basis. However, information for such an examination can be obtained through special tabulations of Census data, such as the 5 percent, one-in-a-thousand Public Use Sample of the 1970 Census (1972) used here. The labor force, as defined below, was extracted from the 280,000 records of this sample and forms the basis for the analyses that follow. These data, consisting of individual records, make possible the bifurcation of the 1970 labor force by unemployment status in 1965.[2]

Central to our research method is the desire to recognize several problems that significantly affect any investigation of the relationship between unemployment and migration.[3] The most important of these problems concerns the general use of population migration as a proxy for labor force migration. Inferences drawn from econometric models of the former are often employed, due to data limitations, to consider policy issues specific to labor force migration. The analyses in this and the following sections of the paper are confined to the white-male labor force, aged 19 to 70 in 1965. Another problem involves the general inclusion of "autonomous" population movements between regions, namely those associated with either military service or college attendance. Long (1983) has demonstrated that the magnitude of these flows is significant, and because the magnitude and geographic allocation of these migrants are not related, in general, to regional economic conditions, they should be excluded from economic models of labor

[2] As discussed in Schlottmann and Herzog (1981), information was collected for the first time in the 1970 Census (where applicable) on whether individuals were working at a job either full or part-time five years previous to the Census (in 1965). However, labor force status in 1965 is not available as such, which has unfortunately resulted in interpretations of the data as directly measuring unemployment. Based on tabulations by the authors, approximately 25 percent of individuals "not working" appear to be high school students aged 14 to 17. Thus, a minimum age requirement of nineteen was imposed for individuals in the sample analyzed here. Other restrictions, designed to maximize labor force participation in 1965 (of the 1970 labor force), relate to the college and armed forces exclusions cited in the text.

[3] An examination of the relationships between these problems and the Lowry hypothesis is provided in Schlottmann and Herzog (1982). Our discussion is based, in part, upon that paper.

force migration. Therefore, these migrants, and those at risk to such migration, were deleted from the labor force population here. Recent studies of population and labor force migration have demonstrated in this respect that prior mobility (or lack thereof) significantly affects the manner in which individuals respond to economic and other determinants of migration. Migrants with previous migration experience tend to move again, so prior mobility of the labor force is explicitly recognized in this study. Personal characteristics (such as age or education) of either migrants or their at-risk populations are, in most instances, not available for empirical analyses. Therefore, a frequently employed procedure is to attribute place averages for such characteristics to migrants and the populations from which they are drawn. The extent to which actual age and education of migrants differ from these average values may be of particular importance when considering the relationship between unemployment and migration, a relationship often identified as either insignificant or of unexpected sign when place averages are used. Thus, in this study, individual characteristics of the labor force population (rather than averages for these characteristics drown from the origin region) are employed within our empirical analyses.

The likelihood of migration is, in general, related to an individual's occupation. In this respect, both Bogue (1969) and Lansing and Mueller (1967) found that the rate of migration of white-collar workers significantly exceeds that of blue-collar workers. In addition, Ladinsky's (1967) analysis suggests that, among white collar occupations, professional and technical workers demonstrate the highest migration rates. Thus, the analyses presented in this paper explicitly recognize occupational status. Separate analyses are conducted for professional and technical workers, other white-collar workers, and blue-collar workers.[4]

PRE- AND POST-MOVE UNEMPLOYMENT

Table 1 presents information on the incidence of pre- and post-move unemployment among labor force migrants and nonmigrants, each group disaggregated by occupation. These data relate directly to two topics of interest: (1) the relative incidence of 1965 (pre-move) unemployment among migrants and nonmigrants, and (2) the relative incidence of 1970 (post-move) unemployment by mobility and employment-unemployment status in 1965. Each will be discussed in turn.

As indicated in Table 1 (first column), the unemployment rate in 1965 of labor force migrants appears high relative to nonmigrants. Statistically significant differences for *each* occupation occur between

[4] White-collar occupations are disaggregated into professional and technical workers, and other white-collar workers. As defined by the Census, the other white-collar cohort consists of managers and administrators, and clerical and kindred workers. Blue-collar workers consist of craftsmen and kindred workers; operatives, except transport; transport equipment operatives; and laborers, except farm.

the 1965 (pre-move) unemployment rate of migrants and nonmigrants.[5] Also note that the pre-move unemployment rate for blue-collar migrants is relatively high, indicating, perhaps, a significant impact of unemployment on blue-collar migration. The relatively high pre-move unemployment rates for all migrants in Table 1 are consistent with surveys on the motivations for migration, such as those provided by Long and Hansen (1979), Lansing and Mueller (1967), Saben (1964), and the U.S. Bureau of the Census (1966). Although occupation is not, in general, explicitly recognized in these surveys, major economic factors leading to geographic mobility include unemployment, the desire for more or steadier work, and job-search. In this respect, the motivation to escape unemployment was particularly important among blue-collar migrants in Lansing and Mueller's (1967) study.

Information is also presented in Table 1 on 1970 (post-move) unemployment for both migrants and nonmigrants, disaggregated by employment-unemployment status in 1965. As shown in the last col-

TABLE 1

UNEMPLOYMENT RATES BY OCCUPATION AND MOBILITY STATUS, 1965 AND 1970[a]

Occupation and Mobility Status[b]	Unemployment Rates (Percent)			
	1965	1970		
		Employed in 1965	Unemployed in 1965	Total
White-Collar				
Professional and Technical				
Migrants	5.0	1.6	4.4	1.7
Nonmigrants	1.6	1.2	7.6	1.3
Other White-Collar				
Migrants	4.1	2.8	6.5	2.9
Nonmigrants	1.6	1.1	6.7	1.0
Blue-Collar				
Migrants	7.2	7.3	14.1	7.8
Nonmigrants	2.4	3.2	8.2	3.3

[a] The members of the labor force extracted from the 5 percent Public Use Sample of 1970 meet the following criteria: (a) white males in labor force in 1970, aged 19-70 in 1965, (b) not in military or college in 1965 and/or 1970, and (c) not an inmate of an institution in 1970.
[b] The number of observations for each occupation (by migrants and nonmigrants) are: (460, 3362) for professional and technical (759, 7384) for other white-collar, and (986, 13,115) for blue-collar.

[5] Standard errors of these unemployment rates were computed using the method discussed in the technical documentation of the Public Use Sample of the 1970 Census (1972). For migrants, standard errors are less than .89 percent. For nonmigrants, standard errors are less than .37 percent.

umn, with the exception of professional and technical workers, 1970 unemployment rates for migrants are significantly higher than for nonmigrants, particularly for blue-collar workers.[6] In addition, the unemployment rate of other white-collar migrants fell between 1965 (pre-move) and 1970 (post-move), while the post-move unemployment rate of blue-collar migrants increased slightly relative to the equivalent pre-move rate.

Any assessment of the effectiveness, or efficiency, of migration is a complex issue (Hoover 1975). However, the high post-move unemployment rate of blue-collar migrants is perplexing.[7] Notice in this respect that both the pre-move employed (column two) and the unemployed (column three) appear to "lose" through interstate migration. Of particular significance for these blue-collar workers is the high (14.1 percent) incidence of post-move unemployment among the pre-move unemployed.

The relationships between personal characteristics and mobility status often observed in empirical studies of labor mobility also hold within our sample. For instance, both the age and education selectivity of migration are observed for blue-collar workers.[8] Thus, blue-collar migrants are both younger than nonmigrants (with average ages in 1970 of 36 and 44 respectively) and better educated (with 12.8 years of school compared to a high school education for nonmigrants). In addition, blue-collar migrants have a significantly higher incidence of marital stress (being widowed, divorced or separated) in 1970 than do nonmigrants (12 and 5 percent, respectively).[9] Also, the education

[6] Statistically significant differences in the 1970 (post-move) unemployment rates between migrants and nonmigrants occur for both other white-collar workers (10 percent significance level) and blue-collar workers (5 percent significance level).

[7] There is, in general, little information on the incidence of pre- and post-move unemployment among migrants in the literature on labor force mobility. An exception is the study by Saben (1964), which indicated that the unemployment rate for migrants did decline between 1962 and 1963, at least among the unemployed. However, occupation was not explicitly recognized in the study. In general, unemployment rates in Saben's study were approximately twice as high for migrants as for nonmigrants after controlling for race and family head status. However, information from the U.S. Bureau of the Census (1973) on 1970 unemployment rates by 1965-70 mobility status is less supportive of a decline in unemployment rates among migrants. For example, unemployment rates of interstate male migrants are, in general, higher than the equivalent rates for nonmovers. This is particularly true for migrants to noncontiguous states.

[8] The age and education selectivities of migration also hold for white-collar occupations. However. as expected, there is little difference in education between migrants and nonmigrants among professional and technical workers.

[9] As discussed by Ritchey (1976), findings on this relationship between migration and marital status are not uniform across studies, perhaps due to the measurement of marital status at the end of the migration interval in this and many other studies. However, the sociological literature does suggest that being widowed, divorced, or separated may increase the likelihood of migration relative to that of a single or never married individual.

selectivity of migration appears to hold for blue-collar migrants. One interpretation of this selectivity is that the awareness of individuals to alternative employment opportunities in other areas most likely increases with educational attainment.[10] If so, the high post-move unemployment rate of blue-collar migrants shown is all the more perplexing.

The information in Table 1 suggests not only an important impact of unemployment on migration, but also a possible, and more complex, influence of pre-move unemployment and migration on the likelihood of post-move unemployment. These latter relationships appear to be particularly important for blue-collar workers. In order to explicitly recognize both personal characteristics of the labor force "at-risk" to migration and state economic conditions, the relationships among pre-move unemployment, migration, and post-move unemployment will be examined in a multivariate context. The multivariate analyses in Section III and Section IV investigate: (1) the impact of 1965 (pre-move) unemployment on the likelihood of 1965-1970 interstate migration, for each occupation considered in Table 1; and (2) the impacts of 1965 (pre-move) unemployment and 1965-1970 migration on 1970 (post-move) unemployment among blue-collar workers. Personal characteristics and state economic conditions will be included in both analyses to isolate the specific impacts under consideration and thus to impart "ceteris paribus" conditions to each study.[11]

III. THE MIGRATION DECISION

This section will examine impacts of personal characteristics and regional economic conditions on the labor force migration decision. To address any variation in migration response attributable to occupational status, three equations will be estimated, one each for professional and technical workers, other white-collar workers, and blue-collar workers.

The major issue considered in this section is the impact of unemployment on an individual's decision to either leave or stay in the current location. For each occupation, the dependent variable for an

[10] See the discussion in Ritchey (1976), particularly pp. 382-89, on the education-migration relationship.

[11] It is important to recognize the separate influences of personal characteristics and regional economic conditions in analyses of the topics above rather than simply examining aggregate data. For example, as noted above, we observe the age selectivity of migration among the blue-collar work-force at-risk to migration. In addition, the unemployed, in general, are disproportionately distributed among younger members of the labor force. Given this, is the high post-move unemployment rate of migrants unemployed in 1965 (14.1 percent in Table 1) significantly affected by migration and/or pre-move unemployment, or does the post-move unemployment rate simply reflect an age phenomenon? Similarly, does the relatively high rate of pre-move unemployment among migrants indicate a positive impact of unemployment on the likelihood of migration, or simply a result related to the age selectivity of migration?

individual "at-risk" to migration is set equal to one if an interstate move occurred between 1965 and 1970, and zero otherwise. All parameters were estimated by maximum likelihood procedures in a binary logit model. For econometric analysis, a one-in-five random subsample was drawn from the labor force microdata examined in Table 1[12] — yielding 749 individuals at-risk to migration who were professional and technical workers, 1,639 other white-collar workers at-risk to migration, and 2,835 blue-collar workers at-risk to migration.

Determinants of the migration decision include both personal characteristics of potential migrants and characteristics of the origin state. Our preceding analysis suggests that relevant individual characteristics for the empirical analysis should include age, education, unemployment status, marital status, and prior mobility status. The latter three personal characteristics are entered in the analysis as dichotomous variables. For example, a dichotomous variable was set equal to one if an individual was classified as unemployed in 1965, and equal to zero otherwise. In addition, the marital status variable, and that representing prior geographic mobility, were set to one, respectively, if an individual was widowed, divorced or separated in 1970 or had moved at least once prior to 1965.[13]

Also included in the analysis were two economic characteristics of the origin state (relative to the U.S. average), namely the unemployment rate and average earnings per worker. In addition, eight regional terms (intercept shifts) were included. These represent the nine divisions defined by the U.S. Census (with New England excluded). The Census divisions were entered in the analysis as indicators of regional preference and environmental factors that may influence the migration decision.

For each of three occupations, Table 2 presents the estimated impacts of personal characteristics and state economic conditions on the migration decision. Personal characteristics of individuals at-risk to migration are shown to be significant determinants of migration. In this respect, the age selectivity of migration is confirmed for all occupations. Thus, the significance of the age-migration relationship is not affected by the occupational composition of a state's labor force.[14] On the other hand, the education selectivity of migration, often observed in empirical studies of labor mobility (in which occupation is not explicitly recognized), appears to represent, in part, an occupational status phenomenon. For example, as noted in Section II, white-collar

[12] As discussed in Section II, the analyses focus on white males in the labor force in 1970, aged 19-70 in 1965, who were not in the military or college in 1965 and/or 1970 and not an inmate of an institution in 1970.

[13] An individual with prior mobility is a worker not living in his birth state in 1965, indicating that at least one interstate move prior to 1965 had occurred.

[14] In addition, the magnitude of the age selectivity of migration does not appear to significantly differ among occupations (based upon 95 percent confidence intervals for the age coefficients in the three equations which intersect).

workers, particularly professional and technical workers, exhibit high rates of migration relative to blue-collar workers. Note, however, that the education selectivity for blue-collar workers in Table 2 is statistically significant. In this respect, Long (1973) has suggested that the rela-

TABLE 2

BINARY LOGIT ESTIMATES OF IMPACTS ON THE LABOR FORCE MIGRATION DECISION BY OCCUPATION, 1965-1970

Variable	Occupation		
	Professional and Technical	Other White-Collar	Blue-Collar
Constant	1.134 (.559)[a]	1.284 (.946)	−2.053*** (−1.739)
Personal Characteristics			
Age	−.079*** (−5.178)	−.067*** (−7.138)	−.074*** (−8.982)
Years of Education	.019 (.360)	.037 (.911)	.061* (1.698)
Widowed, Divorced, Separated	.738 (1.107)	.273 (.658)	.861*** (2.825)
Unemployed in 1965	1.273** (2.142)	1.148*** (2.921)	1.430*** (4.802)
Prior Mobility	1.335*** (4.621)	1.277*** (6.452)	.981*** (5.705)
Economic Conditions[b]			
Unemployment Rate[c]	.374* (1.851)	.337** (2.469)	.201* (1.790)
Average Earnings[c]	−.545** (−2.058)	−.535*** (−2.778)	−.169 (−1.104)
Average Probability of Migration:	.108	.092	.067
Increase in Average Probability of Migration Due to Unemployment:[d]	.148	.093	.119

[a] The asymptotic t-value for each coefficient is given in parentheses. All significance tests are for the hypothesis that the coefficient is different from zero. ***, **, and * indicate signfiicance at the .01. .05, and .10 levels, respectively.

[b] Eight intercept shift terms were included in the analysis but are omitted from Table 2. These represent the nine Census divisions (New England excluded).

[c] Entered relative to the U.S. average.

[d] The average probability of migration for each occupation was computed from the estimated equations using mean values of the respective samples. The increase in the average probability of migration due to unemployment was computed by setting the value of the dichotomous variable representing unemployment equal to one (with all other variables equal to their mean values) and subtracting from this probability the respective average probability.

tionship between migration and education can be stronger than the relationship between migration and occupation. Only among white-collar workers, the most highly educated members of the labor force, is there no further impact of education on the likelihood of migration, given an adjustment for occupation.

Where significant, other personal characteristics impact the likelihood of migration in the expected manner. Table 2 indicates that prior mobility significantly increases the likelihood of migration for all occupations. Individuals with previous migration experience do move again, irrespective of occupation.[15] For blue-collar workers, the migration decision is influenced by the widowed, divorced, or separated variable, which is significant for this occupation only.

The average probability of migration and the estimated increase in this probability due to unemployment are indicated at the bottom of Table 2 for each of the three occupational groups. The incremental probabilities, listed on the last line, show that personal unemployment significantly increases the likelihood of migration for all occupations, and more than doubles the average likelihood of migration. Furthermore, occupational differentials in the average likelihood of migration decrease substantially if this likelihood is examined solely for the unemployed. For example, the average probability of migration for a blue-collar worker is lower than that for another white-collar worker (.067 versus .092 in Table 2). Yet, with blue-collar workers more responsive to unemployment than other white-collar workers (an increase in the probability of migration of .119 versus .093), the likelihood of migration for unemployed individuals is similar in both occupations (approximately .19).

In general, these results are consistent with other microdata-based studies such as DaVanzo (1978), Navratil and Doyle (1977), and Schlottmann and Herzog (1982), each of which attributes significant migration response to (pre-move) unemployment. On the other hand, Lansing and Mueller (1967) found only limited statistical significance between unemployment and migration in their 1962-63 survey data.[16]

As shown in Table 2, economic conditions at the origin significantly impact the likelihood of migration for all occupations. High rates of unemployment significantly increase the likelihood of labor force migration, irrespective of occupation. For white-collar workers, migration is reduced in states with high average earnings per worker. Finally, where significant, regional variables (not shown) representing Census divisions tend to impact the likelihood of migration in the expected manner. For example, blue-collar migration from the divisions of the Northeast and North Central regions is higher than from New England.

[15] For a comprehensive examination of the remigration decision and the impact of prior mobility, see DaVanzo (1981) and DaVanzo and Morrison (1978).

[16] Results of Lansing and Mueller's (1967) statistical analysis stand in marked contrast to their survey data, which indicated unemployment as a major economic determinant of migration.

By contrast, other white-collar migration is reduced in the divisions of the North Central region relative to New England.

The analyses in this section indicate that the likelihood of migration of blue-collar (as well as other) workers is significantly affected by unemployment, and that an education selectivity holds for the blue-collar migration decision. In addition, the likelihood of migration among blue-collar workers is further increased by high unemployment rates in states of 1965 (pre-move) residence. The information presented in Table 1 for blue-collar migrants also suggests that these same individuals may be subjected to protracted post-migration job-search. Thus, the following section of the paper examines determinants of blue-collar unemployment (in 1970), specifically the impact of both prior (pre-move) unemployment and 1965-1970 migration.

IV. MIGRATION OF BLUE-COLLAR WORKERS

PRE- AND POST-MOVE UNEMPLOYMENT

Before investigating the determinants of unemployment for blue-collar workers, it will be instructive to examine how the incidence of unemployment varies among migrants classified by mobility type (and on a pre- and post-move basis). For this analysis, 1965-70 interstate migrants have been classified into three types: *primary* migrants are individuals living in their birth state in 1965 and in a second state in 1970; *repeat* migrants live in two different states in 1965 and 1970 (but not their birth states); and *return* migrants live in a state other than their birth state in 1965, but live in their birth state in 1970.

Table 3, which is similar to Table 1, indicates pre- and post-move unemployment rates for 1965-70 blue-collar migrants disaggregated by migrant type. Also provided in this table are comparable unemployment rates for nonmigrant blue-collar workers (from Table 1).

As can be observed in Table 3, primary migrants are the most likely to be unemployed in 1965 (prior to the move), while repeat migrants demonstrate the highest incidence of post-move unemployment (see columns 1 and 4 respectively). Of particular interest to the question of migration efficiency is the degree to which migration leads to employment for the pre-move unemployed. Notice in Table 3 (column 3) the large variation in this effectiveness among blue-collar migrants, the success of job search being highest for primary migrants and lowest for return migrants.[17] Of the pre-move unemployed, one-fifth and one-third, respectively, of all non-return repeat and return migrants are unemployed at the end of the migration interval.

[17] Standard errors of the percentages shown in Table 3 were computed using the method discussed in the technical documentation of the Public Use Samples (1972). Based upon 95 percent confidence intervals, the likelihood of post-move unemployment (among the pre-move unemployed) is significantly higher for both repeat and return migrants than for blue-collar primary migrants.

TABLE 3

PRE- AND POST-MOVE UNEMPLOYMENT RATES OF 1965-70 BLUE-COLLAR MIGRANTS BY MIGRANT TYPE[a]

Migrant Type[b]	Unemployment Rates (Percent)			
	1965	1970		
		Employed in 1965	Unemployed in 1965	Total
Primary Migrants	9.7	6.2	11.1	6.6
Non-return Repeat Migrants	4.9	10.6	21.4	11.1
Return Migrants	2.1	5.0	33.3	5.6
All Blue-Collar Migrants	7.2	7.3	14.1	7.8
Blue-Collar Nonmigrants	2.4	3.2	8.2	3.3

[a] Based on the 5 percent Public Use Sample, 1970. The members of the labor force extracted from this data meet the following criteria: (a) white males in labor force in 1970, aged 19-70 in 1965, (b) not in military or college in 1965 and/or 1970, (c) not an inmate of an institution in 1970, and (d) blue-collar occupation in 1970.

[b] The number of observations on which the unemployment rates are based are: 556 for primary migrants, 288 for repeat migrants, and 142 for return migrants.

These results contradict traditional job-search theory (and its recent extension to post-migration search behavior), which postulates an inverse relationship between search duration (and unemployment) and knowledge of a region's wage distribution.[18] Following this theory, it would be expected that migrants with first hand knowledge of labor market opportunities in the destination state, i.e., return migrants, should experience minimal post-migration unemployment. On the other hand, primary migrants, with little or no prior mobility or first-hand information on labor market opportunities, should experience extended post-migration job search (and unemployment). The tabulations for blue-collar workers presented in Table 3 contradict these expectations.

It was noted above that blue-collar migration is selective of both the young and better educated. That this educational selectivity does not augment the employment opportunities of blue-collar migrants relative to those of nonmovers is also puzzling.

[18] See Allen (1979), Herzog and Schlottmann (1982), and Yezer and Thurston (1976). On the other hand, to the extent that blue-collar workers are better informed of labor market opportunities in their current (1965) states of residence than in other states (migration destinations), the job-search theory may help explain the move/no move differential in 1970 unemployment rates observed in Table 3.

Additional tabulations of personal characteristics for blue-collar migrants indicate insignificant differences among migrant types in educational attainment. On the other hand, repeat blue-collar migrants, with an average age in 1970 of 39.2, are older than both primary and return migrants (34.9 and 36.5 years, respectively). In addition, both primary and repeat blue-collar migrants are more likely to be widowed, divorced or separated in 1970 than are return migrants. Further, tabulations of distances traveled by these 1965-70 blue-collar migrants (between states of origin and destination) indicate that repeat migrants traveled, an average, 16 and 41 percent farther than primary and return migrants respectively. An attempt to relate the high post-migration unemployment rates of repeat and return migrants to blue-collar trades with high unemployment in 1970 proved unsuccessful.

For blue-collar workers unemployed in 1965, variation in the characteristics discussed above provides little information as to why migrants are less successful than nonmigrants in securing post migration employment, and why non-return repeat and return migrants are, in turn, less successful than primary migrants in post-migration job search. These issues are now addressed through a multivariate analysis of 1970 unemployment incidence among blue-collar migrants and nonmigrants.

DETERMINANTS OF BLUE-COLLAR UNEMPLOYMENT

The likelihood of unemployment (employment) in 1970 among blue-collar workers is related here to: (1) personal characteristics, including employment status in 1965, (2) specific blue-collar occupations, (3) regional labor market conditions, and (4) migrant/nonmigrant status. The personal characteristics are age and education (each measured in 1970), and two dichotomous variables that take the value of one if, in the first instance, an individual is widowed, divorced or separated in 1970 and, in the second instance, if the individual was unemployed in 1965. It is expected that both age and education will reduce the likelihood of 1970 unemployment, whereas marital stress and prior unemployment will increase this likelihood.[19]

Because the incidence of unemployment in 1970 is likely to vary among blue-collar occupations, three dichotomous variables representing non-transport operatives, transport equipment operatives, and non-farm laborers were incorporated to be considered relative to craftsmen and kindred workers.[20] The theory of job-search suggests that the

[19] The negative relationships between unemployment and both age and education (independent of migration) were recently considered by Schlottmann and Herzog (1981).

[20] Tabulations from our research population of occupation-specific unemployment rates in 1970 (migrants, nonmigrants) indicate the following: craftsmen and kindred workers (7.0 and 3.1 percent), non-transport operatives (10.1 and 2.8 percent), transport equipment operatives (6.0 percent and 3.3 percent), and nonfarm laborers (6.8 and 6.0 percent).

particular wage distribution searched within one's state of 1970 residence depends on both these blue-collar occupations and past earnings, the latter represented in the multivariate analysis by age, education and past unemployment.[21] In addition, the shape of this wage distribution should be related to the growth, breadth, and relative scarcity of employment opportunities in the state residence in 1970. These state labor market conditions are represented by the 1965-70 growth rate of employment, total 1970 nonagricultural employment, and the 1970 unemployment rate, respectively. Although the likelihood that an individual worker will be unemployed in 1970 should increase with the unemployment rate in the state of residence, the job-search model provides little insight into the effects of either employment growth or breadth on search duration and unemployment incidence. Intuitively, one would expect this duration, and the likelihood of unemployment, to decrease, ceteris paribus, with increased breadth, or scale, of the employed labor force.

Of particular importance to the analysis is a set of three dichotomous variables set to one for primary, repeat, and return migrants. Estimated coefficients for these variables provide useful information about the comparative efficiency of blue-collar job-search between migrants and nonmigrants and for migrants by type.

A one-in-two sample (7,185 observations) of the white-male blue-collar migrants and nonmigrants considered in Table 3 was selected at random for the analysis of 1970 unemployment incidence. The dependent variable for each observation in this analysis was set to one if either a migrant or nonmigrant was unemployed during the Census reference week in 1970. Binary logit estimates of the determinants of 1970 blue-collar unemployment are listed in Table 4.

The likelihood of 1970 unemployment among white-male blue-collar workers is higher given marital stress, prior unemployment in 1965, a non-farm labor occupation, and a higher unemployment rate in the state of 1970 residence. On the other hand, unemployment incidence in 1970 among these workers is decreased significantly by educational achievement.

Of particular interest in Table 4 is the lack of significance of both the primary and return migration variables; only repeat migrants demonstrate significantly higher 1970 unemployment rates than nonmigrants after adjusting for personal characteristics, blue-collar occupation and state labor market conditions. Repeat migration more than triples the likelihood of 1970 unemployment among white-male blue-collar workers.[22]

[21] For a comprehensive examination of the earnings function, and in particular a discussion of the roles played by age, education, and experience, see Blinder (1976).

[22] The average likelihood of 1970 unemployment for a nonmigrant (3.0 percent) was determined from the logit estimates in Table 4 and mean values for the

TABLE 4

DETERMINANTS OF 1970 UNEMPLOYMENT OF BLUE-COLLAR MIGRANTS AND NONMIGRANTS, BINARY LOGIT ESTIMATES

Variable	Estimate	(Asymptotic t-value)[a]
Constant	−3.453	(−6.39)***
Personal Characteristics:		
Age	.507[b]	(.09)
Years of Education	− .105	(−4.27)***
Widowed, Divorced, Separated	.563	(2.48)**
Unemployed in 1965	.725	(2.65)***
Blue-Collar Occupations:		
Non-Transport Operatives	− .072	(− .45)
Transport Equipment Operatives	.082	(.42)
Non-Farm Laborers	.580	(3.09)***
Labor Market Conditions — State of Residence in 1970:		
Growth Rate of Employment (1965-70)	− .744[c]	(− .10)
Total Nonagricultural Employment	− .016[b]	(− .52)
Unemployment Rate	.260	(5.06)***
Migrant Type (if 1965-70 migrant):		
Primary	.331	(1.12)
Repeat	1.379	(4.93)***
Return	.538	(1.03)

[a] Significance tests are for the hypothesis that the coefficient is different than zero. *** and ** indicate significance at the .01 and .05 levels, respectively.
[b] times 10^{-3}.
[c] times 10^{-2}.

These results indicate, in general, that blue-collar migrants are hardly losers when compared to their nonmigrant counterparts with respect to securing employment. That this is so for primary, or first time, migrants comes as a greater surprise than the results for return migrants, individuals with firsthand knowledge of labor market opportunities in the destination (birth) state. Also interesting is the difference in coefficients between primary and repeat migrants (vis-à-vis nonmigrants). Experienced migrants should possess both superior job-search skills and better information on spatially diffused labor markets than primary, or first time, migrants, but the results do not show more labor market success.

independent variables (with migrant type variables excluded). The equivalent likelihood for repeat migrants (11.0 percent) was then determined by repeating the calculations above with the dichotomous variable for this migrant type set equal to one. Notice that these percentages vary little from those presented in the last column of Table 3.

IMPLICATIONS FOR REMIGRATION

The average probability of blue-collar migration is roughly doubled by unemployment (see Table 2). Given that repeat blue-collar mobility often leads to post-migration unemployment, significant remigration of these workers will probably occur.

The distance of the previous move has been employed, on occasion, as a measure of information on destination labor markets in studies of both post-move unemployment and remigration behavior.[23] Herzog and Schlottmann (1982) found that post-move unemployment rates of repeat blue-collar workers increased with the distance of an interstate move, ceteris paribus.[24] To the extent that information flow from migration destinations to origins decreases with distances between these places, post-migration unemployment and subsequent remigration of blue-collar workers may, at least partially, be based on information.

V. CONCLUSIONS

This paper has addressed the extent to which unemployment triggers migration, and the success of post-migration job search. Tabulations of 1970 Census microdata for the white-male labor force indicate that pre-move unemployment rates for migrants exceed those for nonmigrants, post-move unemployment rates of migrants exceed those of nonmigrants (except for professional and technical occupations), and, for blue-collar workers, migration tends to increase the likelihood of post-migration unemployment.

The multivariate analyses indicate, after controlling for regional labor market tightness, that personal unemployment doubles the likelihood of interstate labor force migration for each of the occupation groups considered. Also, a significant link exists between migration and *post*-move unemployment for blue-collar workers who are repeat migrants.

These results have implications for population and migration forecasting. Because unemployment doubles the likelihood of interstate migration after controlling for regional economic conditions, migration forecasting methods should incorporate, to as great an extent as possible, the employment status of at-risk populations.

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[23] For the former, see Herzog and Schlottmann (1982). Analyses of information and remigration behavior are found in Allen (1979), Herzog and Schlottmann (1982), and Yezer and Thurston (1976).

[24] In addition, it was stated above that 1965-70 blue-collar repeat migrants traveled, on average, 16 to 41 percent farther than primary and return migrants, respectively.

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