MIGRATION AND RETURN MIGRATION: A NEW LOOK AT THE EASTERN KENTUCKY MIGRATION STREAM*

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Most studies of the economics of migration have implicitly assumed that migratory streams are homogeneous. However, migratory streams from one region to another consist of two distinct streams: a stream of first-time migrants and a stream of return migrants moving back to their area of origin. In fact, a substantial proportion of all U.S. migration is return migration, 14 percent from 1955 to 1960 [15, p. 3]. Moreover, in states with histories of substantial out-migration, an even greater proportion of in-migrants are returnees, 35.4 percent between 1955 and 1960. Yet, economists have largely ignored return migration in their attempts to explain changes in the labor force.

Studies of return migration may have several important implications. If first-time migrants and return migrants have different characteristics, then studies which distinguish the two streams may provide more reliable insights into the determinants of migration. Comparison of the characteristics of return migrants with migrants who remain may provide guidance for the design of programs to facilitate successful migration. Knowledge of the causes and characteristics of return migration may provide additional understanding of the effects of migration on the communities of origin and destination.

PURPOSES OF THE STUDY

This paper will draw upon three data sets to compare social and demographic characteristics of Eastern Kentucky migrants in Cincinnati, Ohio, with return migrants in Eastern Kentucky. It draws on three separate, but conceptually linked, research efforts undertaken at the University of Kentucky. More specifically, this paper will:

1. Develop a discriminant function which "best" classifies and distinguishes migrants from return migrants based on social and demographic characteristics,
2. Provide some further substantiation of hypotheses which have been developed as explanations of return migration, and
3. Discuss some implications for development and migration policy of the differences between migrants and return migrants.

EXPLANATIONS OF RETURN MIGRATION FROM PREVIOUS RESEARCH

In view of its potential usefulness, the literature on interstate return migration is rather sparce [1, 9, 13, 15, 18, 20, 21, 26]. In a 1960 study of a group of Eastern Kentucky men who had attended eighth grade together 10 years earlier, Schwarzweller [21, p. 19] found that 61 of 307 respondents (19.9 percent) had established residence for at least a month outside Eastern Kentucky and had then returned. Approximately half the sample, 150, still resided outside Eastern Kentucky. Unfortunately, his data lacked sufficient detail on return migrants to permit comparison of migrants and return migrants.

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In a study using 1960 Census data, Miller [15] was able to show that return migration is responsive to employment opportunities. Moveover, he concluded by emphasizing the methodological necessity of separating return migration from new migration. Miller's data did not, however, permit him to analyze the characteristics of return migrants.

Hathaway and Perkins, analyzing a 1 percent sample of social security records, concluded that nonfarm-farm backmovers "...exhibited about the same characteristics of off-farm movers" [11, p. 212]. In addition, they found that older persons and movers from low income areas are most likely to return. However, data limitations did not permit an analysis of key factors such as educational background, family and marital status, asset ownership and wealth, transfer income receipts, family income, attitudes, and expectations. Their work was a major contribution in suggesting that back movement is economically motivated, in that most backmovers to agriculture find higher incomes in farming [11, 16]

John Sanders [20] and Wesley Weidemann [26] examined four hypotheses explaining return migration: (1) Perkins and Hathaway's [11, 16] *economic* hypothesis that anticipated higher earnings in the area of origin is a major factor inducing return; (2) a *cultural* hypothesis which suggests that migrants are unable to adapt to urban conditions due to personality characteristics; (3) a *transitional* hypothesis which casts the migrant in a role characterized by extreme tension as he is "...torn between the economic pull of employment opportunities in the central city and regional and family ties in his home area" [20, p. 144], and (4) a *marginality* hypothesis "...that the primary reason for the decision to return was the migrant's inability to obtain satisfactory employment in the city" [20, p. 150]. Sanders concluded that "the marginality hypothesis is the most defensible general explanation for return migration to Economic Area Nine" in Eastern Kentucky [20, p. 158].

Weidemann classified 24 of his sample of 99 into the marginal category further substantiating Sanders' findings [26, pp. 70-73]. He incorporated income expectations into his model to test the importance of the "economic" motive for returning and found that 15 migrants in a sample of 99 returned for economic reasons and increased their real income by 29 percent, or $1,478 on the average [26, p. 63]. This increase was substantially greater than the $854 anticipated by the migrant.

On the other hand, no significant difference in real income in the city existed between the "economic" group and any other group of returnees, although the economic group was more educated and younger than those returning for other reasons [26, p. 55]. Return migration resulted in higher incomes for 24 of the 99 respondents in Weidemann's study, while the remainder experienced income losses averaging around 30 percent, usually less than the migrants expected to lose.

A study by Collignon [9] compares the characteristics of poor migrants and return migrants among Appalachians, whites, Southeast Blacks, and Southwest Mexican-Americans. Using regression analysis of binary variables, he concluded that [9, p. 229]:

> Return migrants tend to be better educated, middle-aged males, married with few dependents, owning houses or farms in the rural area, with somewhat less favorable employment experiences in the rural area, more often dependent on welfare support, less likely to have participated in government programs offering help to the poor, more critical of rural conditions, and only slightly less praiseworthy of urban opportunities, than are the migrants still living in the urban area.

Studies by Deaton [11], Morgan [16], Osburn [17], Sjaastad [22], Smith [23], and Wertheimer [27] conclude that the monetary returns of rural to urban migration are high, averaging from 12 to over 100 percent as a rate of return on the investment made in moving [9, 11, 16, 17, 27]. In spite of the monetary success of most moves to the city, the magnitude of the return migration stream implies that many migrants do not find in the city the fulfillment – monetary or otherwise – that was anticipated.

Weidemann concludes, "The number who return for noneconomic reasons is an indication of the disillusionment with the quality of life in the city" [26, p. 76]. Baumol [5] suggests that the "disillusionment" may be attributable to the lack of adequate preparation in education and skills at a time when the economy is experiencing a slackening demand for workers in the manufacturing trades where most migrants gain employment.

Data Sources

In this study, the socioeconomic characteristics of return migrants identified by Sanders [20] and Weidemann [26] are compared with similar traits of

"permanent" migrants[1] identified in the National Institute of Health migration study at the University of Kentucky.[2] In this latter study, 115 Kentucky migrants were identified who moved to Cincinnati between 1955 and 1965 and were still there in November and December, 1971. All three samples were randomly selected. Each successive survey included questions consistent with those utilized in the earlier studies so that results are comparable.

THE METHOD OF DISCRIMINANT ANALYSIS

Discriminant analysis is a classification technique which is applicable to a broad range of socioeconomic problems [3, 4, 8, 12] and is explicated by a number of standard references [10, 14, 24]. This method allows the influence of several variables, as well as their covariation, to be considered simultaneously in discriminating between two or more groups.[3]

Ten variables hypothesized to be of significance were matched among the three samples. The variables and their means and standard deviations for each sample are presented in Table 1.

Variables X_2, X_3, and X_5 are coded as 0 or 1 with 1 representing the presence of the characteristics. For X_4 a 1 was coded for those migrants who indicated they had, at the time of migration, planned to reside permanently in the city. The means represent the proportion of the respective sample that possessed the particular characteristic. The income figures for Sanders' sample and for the NICHD group are annual earnings, whereas those for Weidemann were projected to a 12-month estimate from last-reported monthly earnings. This may explain in part the slightly higher incomes of Weidemann's group as compared with Sanders' group. The annual figures would more correctly reflect periods of layoff and unemployment and, therefore, provide more reliable estimates of actual earnings. All dollar figures are adjusted to 1970 values.

Most noticeable in Table 1 is the greater education (X_1), more frequently expected permanent tenure in the city (X_4), more frequent homeownership in the city (X_5), larger income (X_6 and X_7), and greater housing costs in the city (X_8) of the group of permanent migrants. This group also migrated at an earlier age (X_9).

Although some differences are evident between Sanders' and Weidemann's data, the sampling procedures and proportions were similar, and when combined covered virtually the same area of Eastern Kentucky as the area of origin for the permanent migrants. Preliminary analysis indicated that pooling the two samples of return migrants could be achieved without violating statistical assumptions.[4]

RESULTS OF ANALYSIS

Tables 2 and 3 provide a summary of the results of the step-wise discriminant analysis. Variables are presented in the order in which they entered the analysis.

Table 3 indicates the relative importance of each variable in discriminating between the two groups based on the *absolute* value of the scaled coefficients which result from multiplying the square root of the diagonal elements of the pooled sum of squares matrix by the respective raw canonical coefficients. These coefficients are associated with a discriminant function accounting for roughly 53 percent of the total variation in the two groups.[5]

Posterior probabilities were calculated based on the effectiveness of the discriminant function in classifying observations as either "permanent" or "return" migrants. The function correctly classified 74 of the 113 permanent migrants for a percentage of roughly 66 percent. The function was somewhat more accurate in correctly classifying 194 of the 235

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[1] "Permanent" is used here to refer to those migrants who had lived in Cincinnati from six to 17 years; i.e., those who first migrated between 1955 and April 30, 1965. This minimum period of six years was chosen somewhat arbitrarily, though the results of Wertheimer's study suggest that a minimum of five years may be required to adjust to the city. See Wertheimer [27, p. 57].

[2] For detailed descriptions of sampling procedures and questionnaires of the National Institute of Health-sponsored research project, see [11, 16, 20, 26].

[3] Distinctions between discriminant and regression analysis are discussed broadly by Phillip J. Rulon, "Distinctions Between Discriminant and Regression Analyses and a Geometric Interpretation of the Discriminant Function," *Harvard Educational Review*, Vol. 21, Spring 1951. More recent applications of discriminant analysis make the same observation. For example, see A. A. Araji and R. M. Finley, "Managerial Socioeconomic Characteristics and Size of Operation in Beef Cattle Feeding--An Application of Discriminant Analysis," *American Journal of Agricultural Economics*, Vol. 53, No. 4, p. 654, Nov. 1971. For further discussion of this point as well as interesting application and mathematical summary, see Milton C. Hallberg, *Multiple Discriminant Analysis for Studying Group Membership*, Pennsylvania State University Agricultural Experiment Station Bulletin 775, pp. 15-20, Feb. 1971.

[4] A more extensive analysis is presented in [11, Ch. VI, pp. 144-166].

[5] The eigenvalue is 0.5255 representing that proportion of total variation between groups that is accounted for by the discriminant function.

Table 1. SUMMARY CHARACTERISTICS OF MIGRANT GROUPS

Var.	Description	Mean Values (and Standard Deviations)[c] Weidemann n = 84	Sanders n = 150	NICHD n = 113
X_1	Education level in years	8.06(2.96)	7.57(2.89)	10.04(2.90)
X_2	Property ownership before initial migration[a]	.40(.059)	.32(.038)	.14(.032)
X_3	Property ownership maintained while in city[a]	.34(.051)	.29(.037)	.14(.032)
X_4	Expected tenure in city	.39(.053)	.47(.041)	.65(.045)
X_5	Homeownership in city	.08(.029)	.08(.022)	.48(.047)
X_6	Head's income in city	6,979(2,636)	6,156(2,348)	8,113(4,294)
X_7	Family income in city	7,611(3,455)	6,531(2,569)	9,815(5,367)
X_8	Housing costs last year in city	927(610)	949(529)	1,421(1,012)
X_9	Age at initial migration	30.3(11.6)	29.2(6.5)	26.9(12.1)
X_{10}	Age at return to Eastern Kentucky[b]	38.0(13.7)	34.4(13.0)	38.5(11.6)

[a]Refers to property in Eastern Kentucky.

[b]Refers to current age for NICHD group.

[c]Rather than report the standard deviation for dummy variables, the standard error of that proportion with a given characteristic will be shown in parentheses whenever applicable. The standard error is calculated by taking the square root of [(P) (1-P)/N] where N is the sample size and P is the mean value for the dummy variable.

Table 2. VARIABLES IN DISCRIMINANT FUNCTION: MEANS AND STANDARD DEVIATIONS (in Parentheses)

	Variable	F-Value to Enter or Remove	Mean Values and Standard Deviations Permanent (n = 113)	Return (n = 234)
X_5	Homeownership in city	94.3	.48 (.047)	.08 (.018)
X_1	Education level	38.7	10.04 (2.90)	7.75 (2.92)
X_2	Property owned in E. Ky.	11.5	.14 (.032)	.35 (.031)
X_7	Family income in city[a]	6.5	9.815(5.367)	6.906(2.955)
X_9	Age at migration	4.9	26.9 (12.1)	29.7 (11.8)
X_4	Expected tenure	4.2	.66 (.045)	.44 (.032)
X_8	Housing costs in city[a]	0.1	1.421(1.012)	.932(.542)

[a]X_7 and X_8 entered in thousands of dollars.

return migrants for a percentage of approximately 83 percent accuracy.

The discriminant function is more accurate in classifying return migrants than permanent migrants. This may imply that the returnees are clearly identifiable on the basis of the seven variables which entered the analysis, while the permanent group contains a larger proportion of individuals with characteristics similar to return migrants. This may imply that several of the migrants denoted as permanent residents in the city are likely to return to Eastern Kentucky eventually.

Table 3. RAW AND SCALED COEFFICIENTS IN ORDER OF RELATIVE IMPORTANCE IN DISCRIMINATING BETWEEN GROUPS

Rank	Variable	Raw Coefficient	Scaled Coefficient
1	X_5	.00842	.05636
2	X_1	.00073	.03953
3	X_2	-.00435	-.03552
4	X_7	.00036	.02611
5	X_9	.00009	.01971
6	X_4	.00176	.01601
7	X_8	-.00028	-.00379

Mean Discriminant Values: Permanent .01745 (Standard Deviation = .00565)
Return .01046 (Standard Deviation = .00383)
Cutoff Point: .013284
Probability of Misclassification: .28
Discriminant Function F (7 and 339 degrees of freedom) = 25.8 significant at .01 level.

CONCLUSIONS AND IMPLICATIONS

The Selectivity of Return Migration

Return migration is clearly selective among migrants for the less educated those migrants least prepared to earn a living and adjust to urban living styles.[6] In fact, educational levels of return migrants are not substantially different from the adult population of Eastern Kentucky. On the other hand, they are substantially less educated than their cohorts in Eastern Kentucky, the adult population of Cincinnati and the permanent migrants. This selectivity for less education among return migrants contradicts one of the general conclusions found in the migration literature that education is generally positively associated with mobility. Among this population of migrants from Eastern Kentucky, the less educated tend to return and are more mobile, i.e., the generalization applies only to outward-migration. Thus, return migration has the effect of screening out the most potentially productive in the community of origin.

It appears that return migration is selective for the middle-aged rather than the young. Migrant streams are predominantly young – under 25 for the most part. These samples of return migrants initially migrated in their *late* twenties and returned in their mid-thirties.

These results clearly imply that studies of gross migration rates must distinguish between out-migrant and return migrant populations. These are obviously different populations responding to different stimuli. Although Miller reports that both groups respond to increased employment opportunities, it is our hypothesis that they are responding to different types of job opportunities. The new migrants with their greater education and youth move in search of higher income opportunities which demand greater skills. Disaggregation of employment growth may support this hypothesis. Thus, the stream of return migrants has very different characteristics than new migrants. Apparently return migration is selective for middle-aged individuals with little wealth and education.

The Causes of Return Migration

The data are not sufficiently inclusive to fully test the importance of each hypothesis suggested by Sanders and Weidemann. Nevertheless, the relatively low incomes and education levels of the return migrants lend support to the proposition that the most general explanation of return migration is the marginality hypothesis. Apparently, the bulk of return migrants are individuals who lack the skills necessary to fully integrate themselves in the urban economy. They seem to be the low skilled, low income people of the rural-urban migration stream. This is not to imply, however, that these migrants may not improve their economic status by returning.

[6] The finding that return migrants have relatively less education than permanent migrants is at odds with the results of the Abt Associates-University of California, Berkeley, study [1, 9]. This difference is probably due to the differences in the samples of the two studies. The samples used in this study were randomly selected from the entire population of migrants and return migrants while Abt Associates-California sample attempted to draw only low income respondents. As a result, the Abt urban sample had less education and lower incomes.

Development and Policy Implications

An implication of this research is that the migrants most likely to return upon creation of new employment opportunities in the home environs may be those with minimal skills and education. Rural industrialization programs designed to attract highly skilled migrants back to their home communities may be less successful than those which attract the less skilled. Moreover, because return migrants are responsive to increased employment opportunities, establishment of new industry will not reduce rural unemployment in proportion to number of jobs created, at least in the short run [25]. Once the backlog of potential returnees has been eliminated, reduction of rural unemployment will occur in proportion to the jobs created.

These results provide added support to the recommendation for increased investment in rural education. The selectivity for return migrants with low levels of education supports the hypothesis that added education would reduce the backflow. If additional expenditures are effective in increasing the quality of education and the permanence of migration, then added investment may be justified. Moreover, this study lends further support to the argument that transfer of funds from the destination to origin areas for support of education can be justified on equity grounds. Destination areas contribute nothing to the education of migrants but are the primary beneficiaries of educational investments made in future migrants.

The discriminant analysis points out migrant characteristics which could be the target of programs in the city either to reduce or increase the backflow of migrants. This target group includes individuals who have not purchased homes, migrated at a late age, have relatively little education and low wages. The failure to purchase a home undoubtedly reflects low income and a sense of impermanence. To the extent, however, that inability to purchase a home, rather than a sense of transience, causes return migration, then programs specifically designed to facilitate purchases might be effective in reducing return migration. Such a program can be justified only if the costs of inducing purchase are less than marginal social benefits of the migrant remaining.

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