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ABSTRACT

Congressional mandate in 1975 directed that the Appalachian Regional Commission conduct a study on (1) the status of Appalachian migrants living in the destinations to which they had moved; (2) current migration patterns and implications; and (3) past and potential impact of Commission programs on outmigration and welfare of Appalachian migrants. The study utilized data from the Social Security Administration's continuous work history sample for 1965-70 and 1970-75. A dramatic reversal of migration occurred in the periods examined: between 1965-70 the Appalachian Region had a net loss from migration of 400,000 people; between 1970-75 the region had a net growth of 810,000 people with 300,000 migrating into the area. Outmigration dropped from 1.6 million in 1965-70 to 1.4 million in 1970-75. Apparently economic gains within the region during the second time period made outmigration less desirable. For both periods males had the highest inmigration and outmigration ratios. Outmigration seemed to produce favorable results, for most of the migrants made significant income and status gains relative to those who remained in Appalachia, with earnings in the destination regions rising rather quickly to the average of the new area. Evidence indicated that Appalachian migrants have received the health, education, and other services that enable them to compete successfully in their new settings. (DS)

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A REPORT TO CONGRESS ON

MIGRATION

SUBMITTED BY THE APPALACHIAN REGIONAL COMMISSION

March 1979

RC 011607

1666 Connecticut Avenue, N.W.
Washington, D.C. 20235

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APPALACHIAN REGIONAL COMMISSION
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FOREWORD

The Congress mandated in the 1975 amendments to the Appalachian Regional Development Act that "...the Commission shall conduct a study and report on the status of Appalachian migrants in the destinations to which they have migrated, current migration patterns and implications, and the impact which the Commission program has had, and the potential for such impact, on outmigration and the welfare of Appalachian migrants...." This report is intended to fulfill the requirements of this charge. The primary source is the Social Security Administration's continuous work history sample for the 1965-1970 and 1970-1975 periods.

Two additional reports will be available in the near future which supplement this study. Both will contain specialized information on Appalachian migration. One report, based on special Census tabulations, will cover detailed characteristics of Appalachian migrant groups for 1965 to 1970. The other will contain a comprehensive review of the literature on Appalachian migration over the past two decades as well as an extensive bibliography. Finally, the Commission's migration data bank which has been developed over the study period will be available for specialized information requests.

The principal investigator for this report was Dr. Gary L. Fowler. He was assisted by Jeff Rappaport. The Commission's staff coordinator for the study was Dr. Jerome P. Pickard.

HENRY H. KREVOR
Executive Director

Enclosure

A REPORT TO CONGRESS ON MIGRATION SUBMITTED BY THE APPALACHIAN REGIONAL COMMISSION

An Executive Summary

The large-scale migration of Appalachian people long has been considered synonymous with poverty, unemployment and other socioeconomic indices of distress in the Appalachian Region.

Public commissions concerned with Appalachian development also concluded that migration was symptomatic of pervasive regional problems. The Council of Appalachian Governors (1959) and the President's Appalachian Regional Commission (PARC) considered Appalachia to be the locus of a set of problems, one of which was high rates of selective outmigration. This population "shift", PARC reported, "...offers most convincing statistics to prove the deficit of opportunities which pervade the entire region. Americans have been apt students of the geography of opportunity -- their migrations have clearly marked the regions of growth and decline."

PARC's roster of deficits also included high rates of unemployment; lack of urbanization; and low levels of education and income, all of which were indicators of the relative deprivation which faces people in the Region.

The Region had a net loss from migration of 400,000 people from 1965 to 1970. From 1970 to 1975, it had a net gain from migration of 300,000 persons, or about 37 percent of the total net growth of 810,000 people. This dramatic reversal of historical trends may raise significant policy issues for Appalachian migrants and the Commission's regional development program. A review of the literature clearly demonstrates that little is known about the migrants; the causes of migration and its consequences to them, the Region and their destinations; and the relationships of migration to Commission programs.

This report is in response to the Congressional mandate in Section 119, paragraph (3), subsection (b), (3) of the Regional Development Act of 1975 (an amendment to Section 302 of the Appalachian Regional Development Act of 1965):

> (3) The Commission shall conduct a study and report on the status of Appalachian migrants in the destinations to which they have migrated, current migration patterns and implications, and the impact which the Commission program has had, and the potential for such impact, on outmigration and the welfare of Appalachian migrants. The Commission is authorized to conduct pilot projects and demonstrations within the region in connection with such study.

The scope of this study is defined within the frame of reference of the legislation and of the available primary data sources.

Data Sources

The primary migration data are from the Social Security Administration's (SSA) Continuous Work History Sample (CWHS). For this report, the data are from the CWHS 1 percent sample of first quarter earnings for 1965, 1970 and 1975.

The CWHS is a uniquely detailed micro-data file suitable for the analysis of migration. Data are based on individuals in the labor force who are covered by the Social Security program, and are reported by place of employment. The CWHS data have the advantage of tracing the movements of workers from job to job and from place to place, and report the wage earnings associated with individual mobility through time. The CWHS data were tabulated for two periods: 1965 to 1970, and 1970 to 1975. These periods which include the first decade of the Commission's activity, approximate the timing of major socioeconomic and demographic changes affecting the Appalachian Region. Additional basic data for 1965 to 1970 were obtained from special tabulations of the 1970 Census of Population.

Migration Areas

Data were tabulated by multi-county geographical units, or "zones" which group together counties linked by close commuting ties or oriented to regional centers; smaller centers and more rural areas are grouped into residual zones. The zones are aggregated to form nine regions: the three Appalachian subregions; five non-Appalachian regions in the eastern U.S. and the western U.S. (west of the Mississippi River).

APPALACHIAN MIGRATION: AN OVERVIEW

The general structure of Appalachian migration and population redistribution changed significantly in the decade from 1965 to 1975. The Appalachian Region continued to have net migration losses as a result of exchange with other regions from 1965 to 1970. However, by 1975, the Region had a net gain as the result of significant changes in the magnitude and direction of selected migration streams (see Table 1).

Domestic inmigration to Appalachia increased sharply from 1.2 million to over 1.6 million in the later period (1970-75). In addition, the share of inmigrants to Central Appalachia increased from 9 to 12 percent of the total; those to Southern Appalachia, from 44 to 46 percent of the total number; while inmigrants to Northern Appalachia dropped from 47 to 42 percent of the Region's total. The absolute number of inmigrants increased in all subregions, with by far the largest gain in Southern Appalachia, which consequently had the largest share of net inmigration to the Region in 1970-1975, while the Northern subregion continued to experience net outmigration, though at a much lower rate than in the preceding five-year period.

In the 1970-1975 period, domestic outmigration from Appalachia dropped from its earlier level of 1.6 million (in 1965-70) to 1.4 million. Central

Table 1. INTERREGIONAL MIGRATION PATTERNS
APPALACHIAN REGION MIGRATION INTERCHANGES
1965-1975
(Data in Thousands)

Non-Appalachian Regions of Origin or Destination	Appalachian Net Migration	1965-1970 Non-Appalachian Domestic Migration Into Appalachia	1965-1970 Non-Appalachian Domestic Migration Out from Appalachia
Northern regions	-180	614	794
Southern regions	-134	436	570
Western U.S.	-76	178	254
U.S. Total	-390	1,228	1,618
		1970-1975	
Northern regions	+200	741	541
Southern regions	+27	613	586
Western U.S.	-64	225	289
U.S. Total	+163	1,579	1,416
Outside U.S. and Armed Forces	+103	+103	n.a.
Total	+266	1,682*	1,416

* Includes estimated net return of Armed Forces to the Region in civilian status in 1970-1975.

Appalachia's share of outmigration fell sharply to 7 percent, while the Northern subregion provided 54 percent of the total outflow and Southern Appalachia, 39 percent. The absolute number of outmigrants is estimated to have been lower for all three subregions. The drop in outmigration accounted for only just over one-third of the total shift in Appalachian domestic migration. The marked increase in inmigration into the Region accounted for almost two-thirds of the change in net migration for Appalachia.

In 1965-1970, nearly one-half (49 percent) of Appalachian outmigrants went to northern regions; 35 percent of the total moved to southern regions, and one-sixth (16 percent) went to the western U.S. (west of the Mississippi River). The later migration period (1970-75) showed a marked shift: only 38 percent moved to northern regions, while southern regions increased their share to 42 percent, and the west jumped to one-fifth (20 percent) of all Appalachian outmigrants.

The flow of Appalachians out of the Region in the 1970-1975 period reflects the shift in national movements of population with southern and western regions gaining relatively in comparison with the North, but net inmigration into the Appalachian Region as a whole is a new phenomenon which has not occurred for several decades at least.

Migration of the Covered Work Force

The Appalachian Region work force increased from 4.6 to 5.3 million people from 1965 to 1970. Entrants to, and exits from, the work force were the largest sources of change, and on balance accounted for a net rate of increase of 16.1 percent. This was more than sufficient to offset the net loss from interregional migration. From 1965 to 1970, a total of 1,074.4 thousand migrated to, within and from Appalachia. Seventeen percent of them were intra-Appalachian migrants, the majority of whom remained in the same subregion. The other 893.1 thousand were interregional migrants. As a result of their movements, the Region had a net migration rate of -2.1 percent (domestic migration).

Several characteristics of Appalachian labor force migration remained constant throughout the 1965 and 1975 period. First, the majority of Appalachians were nonmigrants. They either remained in the same zone or, if they had moved, they returned before 1970 or 1975. This followed the general trend of decline in other mobility rates as well. Second, migration rates were highest for interregional movement. Rates of intra-Appalachian migration were low, and the majority of those who did migrate within Appalachia remained in the same subregion. Third, turnover rates remained relatively stable through time.

The migration shift to net inmigration was generally considered to be an encouraging sign for Appalachian development. The fact remained, however, that Appalachia continued to be the least-preferred major region in the eastern United States for migrants from other places. The relatively low outmigration rates from other regions to Appalachia from 1965 to 1970 were understandable, as the Region continued to have net migration losses to all other places. From 1970 to 1975, the decline in the rate of outmigration from Appalachia to the North was consistent with general changes in migration patterns at national scale. However, the rate of migration from the North to Appalachia remained at a level which was half that of migration fron North to South, and one-third that of migration to the western U.S. People leaving other regions preferred Sunbelt locations to Appalachia despite the fact that the Region had managed to gain from interregional migration.

MIGRANT WORK FORCE CHARACTERISTICS

Interregional Work Force Migration

Men are more mobile than women . interregional Appalachian migration. Among the white majority, men had the highest in- and outmigration rates, as well as the highest turnover rates, during the 1965-1975 decade. They also experienced the greatest absolute change in migration rates, which

meant that the turnabout in Appalachian migration in 1970-1975 was strongly affected by shifts in the magnitude and direction of migration of white males. By 1975 the migration balance for males in the covered labor force changed to net inmigration in each subregion. In general, the migration rates of females were lower than for males and changed less dramatically between 1965 and 1975. Furthermore, females had higher rates of outmigration and lower rates of inmigration than males in several instances. In Northern Appalachia, labor force females continued to have a net migration loss in 1970-1975 despite a reduction in the rate.

Selectivity of Migration Streams

The selectivity of migration streams by sex and race introduce additional complexity into patterns of interregional migration. The majority of migrants leave the Appalachian Region. With the exception of Central Appalachia, the majority of the intra-Appalachian migrants remain in the same subregion. However, there are significant differences by sex and race in levels of mobility and preference of Appalachian migrants for other subregions in the United States.

1. Males are more likely to remain in Appalachia than females. The differences were significant in both time periods for Northern and Southern Appalachia, and for Central Appalachia in 1970-1975.

2. Among migrants to the North, males had higher levels of preference for the North Central subregion while females had higher levels of preference for the Northeast. Among migrants to the South, females had higher levels of preference for the Southeast. These differences were especially pronounced for Central Appalachian migrants during the 1970-1975 period.

Age Selectivity of Appalachian Work Force Migrants

Seven generalizations can be made about the age distribution of interregional work force migrants for each of the three Appalachian subregions.

1. Migrants were younger than nonmigrants. This was true of all groups in each subregion for both time periods.

2. Outmigrants were younger than inmigrants. The exceptions were in Northern Appalachia, where age distributions were similar, and in Central Appalachia, where male inmigrants were younger than outmigrants.

3. The bimodal age distribution common to the female labor force was especially pronounced among migrants. The critical age cohorts for female migrants were 25-29 and 35-54 (age at end of each period).

4. Both Appalachian inmigrants and inmigrants from other regions were younger than nonmigrants at destination. This was true of all groups in all regions for both time periods.

5. Male Appalachian inmigrants were younger than inmigrants from other regions. This was also true of all subregions for both time periods.

6. Through time, male Appalachian inmigrants became relatively younger than male inmigrants from other regions.

7. The patterns of age selectivity of female Appalachian inmigrants to other regions were much less clear. Compared to female inmigrants from other regions, the bimodal age distribution characteristic of outmigrants from Appalachian subregions also appeared. Significantly larger proportions of Appalachian inmigrants were in the age cohorts of 29 and less, and 45-64, than were inmigrants from other regions.

Selectivity by age generally follows expected patterns. That is, nonmigrants in the Appalachian Region and other places are older than migrants; and Appalachian migrants are younger than those from other places. On the whole, Appalachian migration added a relatively young population to other places and, in combination with the age of inmigrants, the Appalachian Region's population became relatively older.

RELATIVE INCOME CHARACTERISTICS OF APPALACHIAN MIGRATION

Appalachian Migration: A Review of Other Studies

In summary, previous studies of the personal income benefits associated with Appalachian migration suggest that the results of the decision to migrate have been favorable for most. Although outmigrants from Appalachia had lower incomes than nonmigrants, they increased their incomes more rapidly than these nonmigrants to reach levels which approximated those of previous inmigrants and long-term residents in the places to which they moved. Except for return migrants, migrants to Appalachia had higher incomes than prevailed in the Region, although their income increased relatively more slowly. The degree to which an individual migrant participated in these personal income benefits, however, depended upon sex, race and distance migrated as well as other migrant characteristics.

Hirschberg's (1968) analysis of Continuous Work History Sample data for 1957-1963 reported that:

> ...those who migrate increase their wages faster than those who did not migrate; those who migrate long distances increase their wages faster than those who migrate short distances. Long-distance Appalachian migrants increased their wages faster than short-distance migrants; the latter in turn increased their wages faster than those who have remained in Appalachia. Those who remained in Appalachia had higher initial wages than those who migrated from Appalachia. Among migrants, short-distance movers earned lower wages than long distance movers.

The income benefits to migration were greater for men than for women, and for whites than for blacks. Black males received lower absolute wages than white males, and had lower rates of wage increase irrespective of their migration decisions. Also, migrants to Appalachia had higher premigration incomes than outmigrants, although the rate of increase for inmigrants was slower.

Measuring Relative Income Benefits

Determination of the personal income benefits associated with Appalachian migration follows a methodology developed by Trott, Mason and Smith (1974) to analyze the relative income characteristics of interregional migrants. The analysis is restricted to white males in the covered labor force because of much smaller sample sizes for the interregional migration streams of female and black Appalachians. White males were the majority of the migrants, as well as the group most strongly attached to the labor force.

This study uses measures of relative income to compare migrants' earnings with those of nonmigrants, at both origins and destinations, and to relate absolute earnings gains to regional differentials. Implicit in this analysis is the assumption that differences in cost of living among areas are reflected in differences in levels of average income (earnings of the covered work force).

Income Benefits for White Male Appalachian Migrants

Period 1: 1965 to 1970. The income differentials among non-Appalachian regions of the United States in 1965 followed a familiar pattern. Average annual earnings of white male nonmigrants ranged from highs of $6,879 in the North Central region and $6,751 in the Northeast to $5,347 in the South Central region. The regions of Appalachia generally conformed to this north-south pattern, with an average of $6,060 in Northern Appalachia and $5,198 in Southern Appalachia. Central Appalachia had an average of $4,840, the lowest for any region.

Average premigration (1965) incomes of outmigrants were less than those of nonmigrants in each region. The largest difference was in Central Appalachia, where the outmigrants' average premigration income was only 77 percent of the income zonal nonmigrants. In Northern Appalachia, the premigration income ratio was 92 percent and in Southern Appalachia, 89 percent, of the nonmigrant level.

By 1970, Appalachian migrants to most regions had achieved an income level which was greater than that of nonmigrants in their region of origin. By and large, all migrants improved their relative status as well. Exceptions are those few cases with an index less than 1 in Table 2 (see table).

Northern Appalachian migrants improved their relative income position by 1970. Southern Appalachian migrants had mixed results, with an overall improvement in their position. In the case of Central Appalachia, migrants improved their position significantly despite the relative loss in position for selected streams. Southern and Central Appalachian outmigrants had significant income gains, and moved closer to parity with nonmigrants at their destinations. However, their improvement was less than that of migrants from all other regions, including Northern Appalachia. Despite the gains in relative income to Appalachian migrants, they generally did not achieve 1970 income levels equivalent to those of migrants from other parts of the United States who moved to the same destination regions.

Period 2: 1970-1975. The average premigration (1970) incomes of white male migrants in the United States continued to be lower than those of nonmigrants in their respective regions of origin (Tables IV-3 and IV-6). Central Appalachia continued to have the largest income differential between outmigrants and nonmigrants although, in 1970, the premigration incomes of outmigrants were about 82 percent of the nonmigrant average.

Although the pattern of migration was similar to the previous period, the relative changes in income which resulted were not. The average postmigration (1975) incomes which outmigrants achieved did not reach the income levels of nonmigrants in Appalachia. Only selected migrant streams reached parity with nonmigrant Appalachians in each region. Northern Appalachians who migrated to the North Central, and Southern Appalachians who moved to the West, clearly surpassed the incomes of nonmigrants in their respective subregions of origin. For Central Appalachia, the average postmigration income of outmigrants fell below the average income level of nonmigrants in 1975.

Table 2

GAIN IN RELATIVE INCOME POSITIONS OF APPALACHIAN WHITE MALE OUTMIGRANTS FROM REGION OF ORIGIN TO REGION OF DESTINATION 1965-1970

	Northern		Southern			
Region of Origin	Northeast	North Central	Southeast	Florida	South Central	Western U.S.
Northern Appalachia	1.02	1.06	(1.2)	(1.0)	(0.9)	1.11
Central Appalachia	(0.8)	(1.2)	.....(1.1).....		(1.1)	(0.9)
Southern Appalachia	(0.8)	(0.9)	1.07	(1.0)	1.08	0.99

1970-1975

	Northern		Southern			
Region of Origin	Northeast	North Central	Southeast	Florida	South Central	Western U.S.
Northern Appalachia	0.92	1.02	(1.2)	(1.0)	(1.0)	0.93
Central Appalachia	.....(1.0)..	.....	.....(1.0).....		(1.1)	(0.9)
Southern Appalachia	(0.9)	(0.9)	1.02	(1.0)	1.10	1.03

NOTE: Data enclosed in parentheses () are based on small sample numbers which have standard deviations of the earnings ranging upward from 10 percent to just over 30 percent of the base figure.

The relative income positions of Appalachian migrants also changed in the later period. Compared with 1965, the premigration income position of outmigrants in 1970 had remained similar in Northern and Southern Appalachia, but had increased significantly for Central Appalachian migrants to the Northeast and the Southeast. The relative income positions of Northern Appalachian to the North Central region also increased, but decreased among migrants to the South. Southern Appalachian outmigrants generally fell below parity at their destinations. The general shortfall of Appalachians' postmigration (1975) income relative to the level of nonmigrants at their destinations was in contrast to the previous period.

Compared with outmigrants from Appalachia, inmigrants, on the average, had slightly higher relative income positions in 1970 and, with the exception of Central Appalachians, had improved them as a result of migration (1965-1970). By 1975, the relative income position of inmigrants was, on the average, higher than for outmigrants.

The pattern of relative gain in the relative income positions of Appalachian migration reflects the changes which occurred from 1970 to 1975. One important point in discussing income "benefits" of migration in the later (1970-1975) period in contrast to the 1965-1970 period is the secular recession of 1974-1975 which impacted the later period. It may well have had a depressing effect on the 1975 incomes, therefore biasing downward income comparisons with the earlier period. Another important consideration is the growing relative economic position of Appalachia. As its average income rose, it is reasonable to expect a decreased relative advantage to be associated with leaving the Region.

APPALACHIAN MIGRATION AND PUBLIC POLICY

Findings

The Appalachian Region is no longer a net exporter of people. From 1970 to 1975, Appalachia gained an estimated 810,000 people; 36 percent of the increase was from net inmigration, the majority newcomers to the Region.

There is no single measure to define the status and welfare of Appalachian migrants. Migration itself is a means of increasing status and welfare: getting a job, or a better job; earning a higher income; and enjoying better living conditions are important goals. "Adjustment" problems are assumed to accompany migration, if only because people are moving into a relatively unfamiliar, uncertain environment. Various studies have explored dimensions of the adjustment of Appalachian migrants in order to determine the relative success, or failure, of the move.

The Appalachian's job, income, position and other indices of socioeconomic status are frequently used as ways to assess the effects of migration. The definition of status and welfare by a single measure of personal earnings as is done in this report has advantages and disadvantages. Although it is a standard component of socioeconomic status, the relationship of income to personal characteristics such as education, age, sex and race is sometimes ambiguous. How well income represents other aspects of status and welfare, such as behavior, attitudes, and intangible cultural values is not known.

The income measure used in this study places some limitations on interpretations of the results. First, the CWHS data are for labor force migration, not total population migration. However, people in the labor force are the most mobile members of the population and are particularly responsive to income differentials. Second, earnings are based upon income covered by Social Security employment. They do not include income from other employment, transfer payments or asset incomes. Third, the data are not good descriptions of people who have unstable employment patterns. The

coverage of the migrant data does not reflect the unemployed poor, entrants into the covered labor force, those retiring, and the old.

Analysis of income characteristics of white male Appalachian migrants in the Continuous Work History Sample indicates that:

1. <u>The premigration incomes of Appalachian outmigrants were below those of nonmigrants in each Appalachian subregion in both periods (1965-70 and 1970-75).</u>

   Central Appalachian migrants had the lowest incomes. Northern Appalachian migrant incomes were nearest to parity with nonmigrants.

2. <u>Most Appalachian outmigrants at their destinations equaled or exceeded the incomes of nonmigrants in the Region in 1965-1970.</u>

   Northern Appalachians were most successful in that sense. Central Appalachians, despite large gains, did not reach parity with nonmigrants in Appalachia. The largest migration streams had the highest rates of increase.

3. <u>Most Appalachian outmigrants at their destinations did not achieve the income level of nonmigrants in the Region in the period 1970-1975.</u>

   Outmigrants continued to increase their incomes, but <u>intra</u>regional migrants and nonmigrants in Appalachia reached higher levels in 1975. The recession and the relative improvement in the Appalachian economy may have affected these results.

4. <u>Appalachian migrants improved heir income position relative to nonmigrants living in the areas to which they moved in 1965-1970.</u>

   Northern Appalachians had the best record and Central Appalachians going to the North Central region made significant gains as well. Southern Appalachians lost ground relatively in the North, and made modest improvements in relative income positions elsewhere.

5. Appalachian migrants made smaller gains in relative income position in 1970-1975.

6. Migrants to Appalachia in both periods had incomes which were less than the incomes of nonmigrants in the subregions from which they moved.

   Those who went to Central Appalachia had the lowest incomes, the Northern Appalachia inmigrants had the highest.

7. Most inmigrants to Appalachia had higher premigration incomes in both periods than outmigrants from Appalachia. Outmigrants achieved higher income levels at the end of each period.

   This pattern was more widespread in 1970-1975.

Despite rising income levels for Appalachian outmigrants, a decline in relative income status may make migration less attractive and less beneficial. Central Appalachia is the most striking example of this change. When interregional income differentials decrease, a shift in locational preferences toward the home area may be expected of potential migrants.

Current Policy Issues

Recent population trends suggest selected policy issues which may be particularly important to Commission policy and programs. The issues are based upon the probable impact of demographic changes and population redistribution resulting from migration.

The proportion of the migrants to Appalachia who are return migrants is not known. The impression is that a larger number of previous outmigrants have been returning in response to improved opportunities in Appalachia

compared with recent changes in socioeconomic conditions elsewhere in the United States, especially in the North. The analysis of work history data provides some indirect support for this interpretation despite the lack of definition of who is returning and who is a "new" migrant to the Region. It is clear that in the later period (1970-1975), the inmigrants were not "failures" in the usual sense of the word. They had relatively high incomes compared with nonmigrants in their places of origin and in the Appalachian subregion to which they moved. This suggests that inmigrants may be able to compete successfully with nonmigrants in Appalachia for expanding job opportunities in the Region.

The impact of large-scale inmigration upon local economies is a major policy issue. Studies have indicated that when the expansion of job opportunities is the result of new industry, inmigrants, especially newcomers, had an advantage over local Appalachian people. Inmigrants are not likely to take the majority of the jobs but they have predominated in those at higher skill levels and income. They may also take a large proportion of employment from induced economic activity.

The ability (or inability) of local people to compete successfully with inmigrants for new jobs is an obvious problem. Deaton (1972) has suggested that education, especially vocational education, and job training programs would improve the job opportunities of local Appalachians in such circumstances. There is evidence from southeastern Ohio that this may be the case. The implication for policymakers is clear, it is not enough to plan for job creating programs for current county residents. One must also plan for programs for former residents who will return to the area when new job opportunities become available.

The impact of energy development upon Appalachia also promises to raise policy issues related to population redistribution in the Region. Estimates of the direct and indirect employment impacts under different energy development scenarios indicate that a significant expansion of job opportunities can be expected over the next several decades. This may

result in accelerated inmigration to Appalachia, although the relationship of energy development to migration is not a simple one.

The association of the expansion of mining employment with the recent (1970-1975) extraordinary changes in migration patterns and income growth in the coal fields of eastern Kentucky, southwestern Virginia and West Virginia underscores the importance of resource (i.e., coal) extraction in Appalachian development in these areas. In this sense, Appalachia has followed national patterns of population growth and redistribution. Analyses of local impacts from energy development in other parts of the United States generally acknowledge that migration is the principal determinant of population growth, and thus the source of many if not most local problems in affected areas. The impacts may be magnified if they occur in sparsely populated, relatively poor areas of Appalachia.

Settlement Patterns

From the earliest days of the Appalachian regional effort concern has been expressed for the pattern of urbanization or settlement that exists in the Region. The authors of the report of the President's Appalachian Regional Commission in 1964 were convinced that the dispersed settlement pattern that characterized much of the Region had two profoundly negative effects -- it made it prohibitively expensive to deliver basic public services and it impeded the creation of a diversified base of economic opportunity. The programs pursued by ARC in the intervening years have focused on delivering those services and providing the base for widened opportunities.

During these 15 years there have been changes in residential preference patterns that have led to population growth in areas of long-term decline and to decline in areas (particularly larger urban areas) that had grown for decades, with a tendency for population growth to occur outside the political boundaries of both large and small urban places.

A variety of public concerns have resulted. Among them are the appropriateness of public policies that affect this pattern of physical

development and of the various financial policies that affect the flow of public funds to these areas. These require a careful examination that focuses on the specific policies at all levels of government that affect the cost and availability of public services and the sharing of those costs among various levels of government.

ARC has had a history of concern for migration and urbanization or settlement problems. The present study focuses on one of these elements. It is timely that the other issue also be examined.

Outmigration

The recent turnabout in Appalachian migration should not disguise the fact that 1.4 million people left the Region between 1970 and 1975. Although the rate of domestic outmigration had declined, the number was only one-eighth less than in the previous five years. The majority of the migrants made significant income gains relative to those who remained in Appalachia; and they imposed no extraordinary public costs at their destinations. However, the current analysis suggests that their income position relative to people at their destinations was less favorable than in the 1965-1970 period in the case of selected migration streams. These were the same streams in which migration to Appalachia increased.

Continued outmigration poses the familiar dilemma for Appalachian public policy. The Commission's policies are a determinant in the decision to leave the Region and influence the skills and resources which Appalachian people have in order to help them make a better life for themselves wherever they choose to live.

Past and current Commission policies and programs probably have been one factor in reducing outmigration and encouraging inmigration throughout the Region. However, recent shifts to net inmigration in Central and Southern Appalachia and in portions of Northern Appalachia underscore new public

concerns, although some areas of Northern Appalachia, especially western Pennsylvania, continue to experience net outmigration. Current issues include the impact of newcomers as well as return migrants upon Appalachian communities and the resulting requirements for improved and additional public facilities and services. Policy issues related to the growth area strategy of development will remain important, especially with limited public financial sources available to meet demands of a changing population. Successful policies and programs need to be based upon an understanding of regional population systems, including the process of migration, and should be defined explicitly in such a way that they can be evaluated. The evaluation of policies affecting population distribution, or interrelated with migration, past, current, and prospective, is especially needed.

Conclusions

1. Viewed from the standpoint of the Appalachian outmigrant, migration generally produces a favorable result. On the average, increases in both absolute income and relative status occur. The data available strongly support the conclusion that those who migrate are personally advantaged by the move in economic and social terms. Though the data suggest some reduction in the advantages of migration in the later period, the cause is unclear. One possibility is the state of the national economy in 1975. Another is the relative improvement in the Appalachian economy during the study period.

2. The outmigrants from Appalachia had below average earnings records in their areas of origin. At their destination regions, their earnings rose rather quickly to the average of their new area. This strongly suggests that Appalachians are not, on the average, ill prepared for their new settings. It also tends to confirm earlier conclusions that Appalachian migrants have been motivated by lack of opportunities at home to fully utilize their capabilities. As the Appalachian economy

develops, the outmigration rate should fall and the inmigration rate should rise. This is exactly what recent trends indicate.

3. The people who moved into each region of Appalachia had higher earnings at their area of origin than did the Appalachians who left those regions. However, at their origin area, their earnings were below the average then existing in their destination area. In a substantial number of cases, and more evident in the later period, their earnings five years later equal or exceed the average for their region in Appalachia. This strongly suggests that through the process of migration, Appalachia as well as other parts of the U.S. are obtaining a labor force that is better adapted to the opportunities that exist in each region. On balance, the Appalachian net change is toward a labor force that is able to achieve a higher level of earnings.

4. No study can demonstrate precisely connections between specific public policies or the policies of specific agencies such as ARC in Appalachia and changes in migration or the status of migrants. However, it is safe to conclude:

   a. There is evidence that, in general, Appalachian migrants have received the health and education and other services from the public and private sectors in the Region that enable them to compete more successfully at their destinations.

   b. There is evidence that public policy has encouraged the widened opportunities for skill development which facilitate satisfactory postmigration income and employment experience.

   c. No evidence has appeared which casts doubt upon the health and education priorities of regional public policy.

d. The health and education programs of ARC appear to have been appropriate when examined in the light of the experience of migrants.

5. It is time for a thorough study to be initiated of the changing pattern of urbanization in the Region to ascertain the appropriateness of present public policies in facilitating desired settlement patterns.

CHAPTER 1

INTRODUCTION

Background

The large-scale migration of Appalachian people long has been considered synonymous with poverty, unemployment and other socioeconomic indices of distress in the Appalachian Region. Caudill (1962) has attempted to explain the causes and consequences of migration through the bust and boom cycles of resource exploitation in the Cumberland Plateau; and regional surveys, including the research of the Southern Appalachian Studies (Ford, 1962) have elaborated similar themes for other parts of the southern mountains.[1] Most of these studies concluded that large-scale outmigration was a necessary adjustment to the imbalance between large labor surpluses created by a rising net natural increase in population and decreasing employment opportunities which resulted from the depletion of land, timber and mineral resources as well as technological change. In the opinion of many (cf. Brown, 1971), migration was a matter of survival.

Public commissions concerned with Appalachian development also concluded that migration was symptomatic of pervasive regional problems. The Council of Appalachian Governors (State of Maryland, 1959) and the President's Appalachian Regional Commission (PARC) considered Appalachia to be the locus of a set of problems, one of which was high rates of selective outmigration. This population "shift", PARC reported (PARC, 1964, p-16)

> offers most convincing statistics to prove the deficit of opportunities which pervade the entire region. Americans have been apt students of the geography of opportunity -- their migrations have clearly marked the regions of growth and decline.

PARC's roster of deficits also included high rates of unemployment; lack of urbanization; and low levels of education and income, all of which were indicators of the relative deprivation which faced people in the Region. PARC argued that large-scale outmigration clearly indicated that "the

Appalachian people understood their problems and were determined to solve them." It was a "prime example of a natural adjustment to a changing economy," which, had it not occurred, would have "aggravated other regional deficits" (PARC, 1964, p.23). The policies and programs which PARC recommended and which the Appalachian Regional Commission initially adopted, gave little explicit attention to outmigration and its role in regional development and planning. Rather, programs were designed to overcome the problems which had been identified as causes and consequences of outmigration.

Appalachian migration was easily incorporated into the causal network by which numerous authors linked the problems of metropolitan poverty in "northern" cities with the inmigration of so-called disadvantaged people from economically depressed areas in the rural south. Kain and Persky (1968, p.291) state the case clearly in their report to the President's Commission on Rural Poverty:

> It is our contention that the migration streams originating in the rural South form the crucial link in a system of poverty; a system nurtured by the inability or unwillingness of rural communities to adequately prepare their children for the complexities of modern life; a system brought to fruition in the metropolitan area too crowded and too short-sighted to rectify these mistakes. While much of this argument appears to be obvious for the southern Negro migrant, it is important to realize that a similar causal chain explains substantial amounts of metropolitan white poverty. The Appalachian South plays a role for white urban poverty (especially in the North Central region) similar to that which the Core South plays vis-a-vis the metropolitan ghetto. While the southern white does not come up against the same obstacles of discrimination that meet the southern Negro, he does suffer from similar, if not as extreme, educational and vocational handicaps.

These arguments about Appalachian migration persist as conventional wisdom despite considerable evidence to the contrary.[2]

An estimated 5.9 million people moved to and from the Appalachian Region from 1965 to 1975.[3] Population growth was not equally distributed among the subregions. According to Pickard (1978, p.41):

> Southern Appalachia has contributed the lion's share of regional growth, with 62 percent of total population gain; Central Appalachia, with the most rapid rate of growth, accounted for 20 percent of Appalachian population increase; while Northern Appalachia, with the largest population total, had the smallest gain, providing only 18 percent of Appalachia's population increase.

The Region had a net <u>loss</u> from migration of 400,000 people from 1965 to 1970. From 1970 to 1975, it had a net <u>gain</u> from migration of 300,000 persons, or about 37 percent of the total net growth of 810,000 people. This dramatic reversal of historical trends raises significant policy issues for Appalachian migrants and the Commission's regional development program. A review of the available research literature clearly demonstrates that little is known about the migrants; the causes of migration and its consequences to them, the Region, and their destinations; and the relationship of the change in migration patterns to the Commission programs. Much of the research dwells upon the outmigration of white males from the coal fields and subsistence farming areas of Kentucky, Tennessee and West Virginia to selected metropolitan areas in Kentucky, Ohio and points north. This is a limited view of Appalachian migration which excludes not only the majority of the migrants but also the majority of their destinations as well.

Scope of Study

Objective

This report is in response to the Congressional mandate in Section 119, paragraph (3), subsection (b), (3) of the Regional Development Act of 1975 (an amendment to Section 302 of the Appalachian Regional Development Act of 1965):

> (3) The Commission shall conduct a study and report on the status of Appalachian migrants in the destinations to which they have migrated, current migration patterns and implications, and the impact which the Commission program has had, and the potential for such impact, on out-migration and the welfare of Appalachian migrants. The Commission is authorized to conduct pilot projects and demonstrations within the region in connection with such study.

The scope of this study and the issues it addresses are defined within the frame of reference of the legislation and of the available primary data sources.

Data Sources

The primary data are from the Social Security Administration's (SSA) Continuous Work History Sample (CWHS).[4] The CWHS is a sample of workers' earning records from employers' first quarter reports to the SSA. The sample is based upon specific digits in workers' social security numbers. Because the same social security numbers are included in the sample for each period, work histories for workers in the sample who remain in covered employment can be assembled by linking the data files for successive time periods. Work histories include data on race, sex, year of birth and, for each time period, the state, county, and industry of employment, as well as an estimate of annual wages earned from each social security-covered job. For this report, the data are from the CWHS 1 percent sample of first quarter earnings for 1965, 1970 and 1975.

The CWHS is a uniquely detailed micro-data file suitable for the analysis of migration and change in the work force for states and substate areas for intercensal years. The data are based on individuals in the labor force who are covered by the Social Security program, and are reported by place of employment, not residence. These limitations, and the use of first quarter earnings, exclude certain subgroups and bias local migration rates downward. However, the CWHS data have the advantage of tracing the gross movements of individual workers from job to job and from place to place, and reporting the wage earnings and their changes associated with mobility through time.[5]

The data for this report are tabulated for two periods: 1965 to 1970, and 1970 to 1975. These periods, which include the first decade of the Commission's activity, approximate the timing of major socioeconomic and demographic changes affecting the Appalachian Region. Further detailed data on migrant characteristics are available for 1965 to 1970 from special tabulations of the 1970 General Population Census. These data are reported by plce of residence in 1970 and 1965.

For each time period, the CWHS data are tabulated in standard formats prepared by the Bureau of Economic Analysis (BEA).

1. Migration Summary.-- This tabulation displays the components of labor force change for a specified region. It also shows the origins of inmigrants and the destination of outmigrants. Mean wages are shown for each group of workers at both the beginning and end of the time period, thus enabling calculation of relative wage gains or losses associated with migration. The migration summary tabulations are cross-classified by race, sex and age.

2. Structure of Migrants, Nonmigrants, Entrants and Exits.--The structure tables describe total inmigrants, outmigrants, nonmigrants, entrants and exits to the labor force of an area in terms of their demographic and economic characteristics. These include race, sex, age, industry, and wage class. Migrant profiles, including those

. showing relative wages, can be compared with the profiles of other groups in order to determine the differential characteristics of workers migrating to or from an area or its labor force and to assess the impact which migration has on the total work force structure.

The definition of terms (Appendix A) are adapted to the geographical grid of migration areas.

Migration Areas

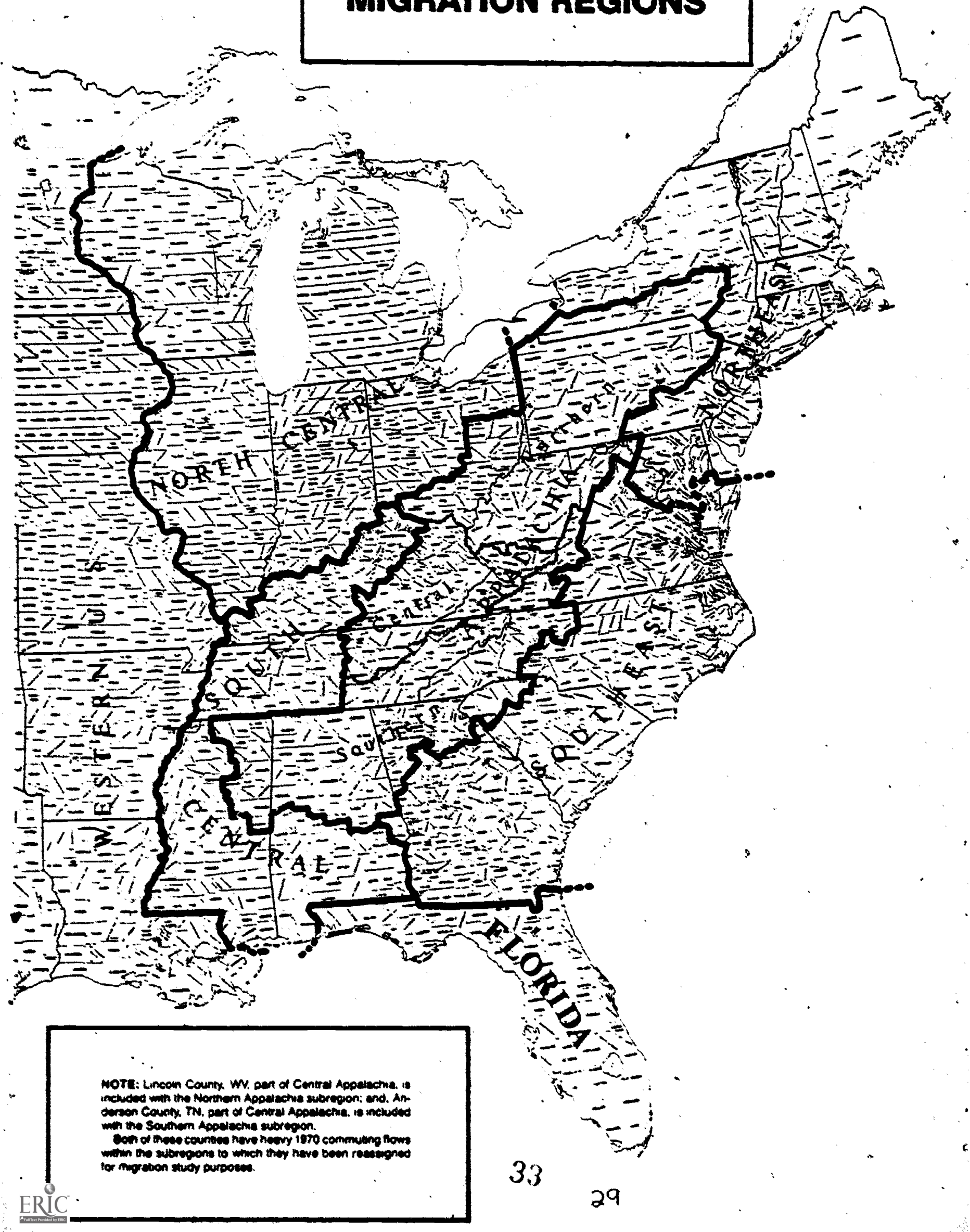
The data are organized geographically by a hierarchy of multi-county units, or "zones" (Appendix B). Nodal zones include counties which are oriented functionally toward major regional urban centers. Residual zones contain smaller urban centers and generally have lower population densities, lower per capita incomes, and higher proportions of rural population. The zones are designed to minimize the influence of commuting and short-distance migration, much of which may not be associated with job mobility.

The zones can be aggregated to form nine subregions and four regions. In the Appalachian Region, the subregions are those which the Commission defines as Northern, Central and Southern Appalachia (Figure 1). The Appalachian subregions have significantly different histories as well as socioeconomic and demographic characteristics which have been important to recent migration patterns and regional planning.[6] With the exception of the State of Florida, the other subregions east of the Mississippi River do not conform exactly to the geographical divisions and regions used by the Bureau of the Census (see map, Figure 1). Florida is considered a separate subregion because of its importance as a destination for Appalachians and other migrants.

Definition of Terms

The Congressional mandate sets forth selected general terms which, within the general framework of reference of the CWHS data, determine the scope of the study. These are defined as follows:

MIGRATION REGIONS



NOTE: Lincoln County, WV, part of Central Appalachia, is included with the Northern Appalachia subregion; and, Anderson County, TN, part of Central Appalachia, is included with the Southern Appalachia subregion.

Both of these counties have heavy 1970 commuting flows within the subregions to which they have been reassigned for migration study purposes.

Appalachian Migrants

Appalachian migrants, when defined by place-of-residence, are people who move between zones within, or from, the Appalachian Region. Direction of movement is the determining factor.

For the purposes of this report, Appalachian migrants are people who migrate between zones within Appalachia or who leave the Region. Appalachians who leave and then return to the Region are not differentiated from other inmigrants.

Migration Patterns

Migration patterns refer to the selectivity of migrants according to socioeconomic and demographic characteristics, and the geography of their movement. Migrants are expected to differ systematically from the general population at origin and destination according to race, sex and age.[7] The migrants' characteristics are important determinants of the causes and consequences of migration.

The geography of migration is also selective. Certain destinations are preferred over others. This depends on the characteristics of the migrants and their evaluation of alternate locations. The geography of Appalachian migration is responsive to economic opportunity within a matrix of kinship relationships which have been relatively stable through time (cf. Schwarzweller, Brown and Mangalam, 1971). Therefore, any recent shifts in these patterns loom important.

In this report, migration patterns include differential characteristics of migrants as well as the direction of movement among the places defined by the geographical grid of migration areas. The majority of the analysis is at regional and subregional scale.

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Migrant Status and Welfare

The status and welfare of migrants is difficult to define and measure. One approach is to use indicators of "adjustment" at the destination, usually (in other studies) a metropolitan area. These indicators commonly range from measures of labor force experience to the patterns of contact with institutions and social groups. They may also include attitudinal information about happiness, satisfaction and nostalgia.[8]

Definition of status by wage and income measures is a more conservative approach common to labor force studies.[9] Economic considerations related to employment opportunities and income differentials have been demonstrated to be the major determinants of the migration decisions of Appalachian people (cf. Deaton, 1972; Morgan, 1973; and Smith and Klindt, 1976). Since the CWHS data include estimates of a person's total annual wages for each time period, one aspect of the economic consequences of migration to the individual, as well as to the origins and destinations, can be estimated.

Migrant status and welfare is measured in this study by total annual wages. Appalachian migrants' wages are compared before and after migration, and with the wages of other groups of similar race, sex and age. The groups include nonmigrants at places of origin and destination, inmigrants to Appalachia, and inmigrants from other regions who move to the destinations of Appalachian migrants.

Commission Program

The program of the Appalachian Regional Commission includes those activities which are designed to meet the goals and objectives of its regional development policies. The program for the years of the Commission's existence is described in Annual Reports and selected other publications (e.g., ARC, 1972). The future program is set forth in Appalachia: Goals, Objectives and Development Strategies (1977).

Organization of the Report

The results of the analysis are presented in four chapters.

Chapter 2 is a general overview of types and rates of mobility in the Appalachian Region and the structure of gross migration between Appalachian subregions and other parts of the United States.

Chapter 3 describes migration differentials (race, sex and age) and the selectivity of movement of different groups among subregions. Appalachian outmigrants are compared with nonmigrants and inmigrants at origin; and with nonmigrants and inmigrants from other places in their subregions of destination. Patterns of selectivity in migrational interchange of selected groups among subregions are also examined.

Chapter 4 analyzes the status and welfare of Appalachian migrants as measured by wage income. Changes in their levels of income, as well as comparisons of income with selected reference groups in Appalachia and at their destinations in and outside the Region provide a base for the estimation of the impact of migration upon sending and receiving areas for the migrants. Other indices of migrant status and welfare which are known through limited survey data are also discussed.

Chapter 5 sets forth the findings and conclusions that can be drawn from the preceding analyses.

Appendices include technical material which describe the data sources and methodology, and selected tabulations of migration data.

FOOTNOTES

[1]The regional surveys are reviewed by Loyal Jones, " Surveys of the Appalachian Region," Appalachian Heritage, 4 (Spring, 1976), pp. 25-42.

[2]Selected studies are reviewed by Fowler (1976).

[3]See: Jerome P. Pickard, "Appalachian Population and Income Show Significant Growth," Appalachia, 11 (February-March, 1978), pp. 41-44, for a discussion of recent population changes in the Region.

[4]U.S. Department of Commerce, Bureau of Economic Analysis, Regional Work Force Characteristics and Migration Data: A Handbook on the Social Security Continuous Work History Sample and Its Application (Washington, D.C.: U.S. Government Printing Office, 1976), hereafter cited as CWHS Handbook. Hanson (1971) and Hirschberg (1968) previously used CWHS data in studies of Appalachian migration. Hirschberg's study, which was one of the earliest area studies using CWHS data, also marked the beginning of the BEA tabulation system. The CWHS data and limitations of their use for migration analysis are summarized in Appendix A.

[5]A critical evaluation of the advantages and disadvantages of the CWHS and other large-scale data sources used for migration analysis is in the CWHS Handbook, esp. Chaps. 6 and 7.

[6]"The new Appalachian Subregions and Their Development Strategies," Appalachia, 8 (August-September, 1974), pp. 11-14.

[7]Level of educational attainment is also a significant differential because of its relationship with occupation and income. However, the CWHS data do not have this information.

[8]Adjustment measures are usually from survey data: c.f. Peterson, Sharp and Drury (1977) and Photiadis (1971).

[9]These are reviewed by Michael J. Greenwood, "Research on Internal Migration in the United States: A Survey", Journal of Economic Literature, 13 (June, 1975), pp. 397-433.

CHAPTER 2

APPALACHIAN MIGRATION: AN OVERVIEW

Introduction

The general structure of Appalachian migration and population redistribution changed significantly in the decade from 1965 to 1975. The Appalachian Region continued to have net migration losses as a result of exchange with other regions from 1965 to 1970. However, by 1975, the Region had a net gain as the result of changes in the magnitude and direction of selected migration streams. The purpose of this chapter is to document these changes at regional and subregional scale for the total population and the labor force.

Total Population

There has been considerable discussion and literature[1] on the "turnaround" in Appalachian migration between the 1965-70 and the 1970-75 periods. This turnaround refers to the abrupt shift in net migration which resulted around 1970, in a change from net outmigration to net inmigration. For purposes of analysis, this study has separated the outflow and inflow components of migratory streams for each of the five-year periods. In addition, Appalachian migration streams are measured or estimated for each of the six non-Appalachian regions of the U.S. (as defined for this study) as well as for a residual estimated flow to and from outside the U.S. (Tables II-1 and II-2).

In the 1965-1970 period, Northern Appalachia supplied 52 percent of the 1.6 million Appalachian outmigrants; Southern Appalachia, 36 percent; and Central Appalachia, 12 percent. However, given its relatively smaller population, the rate of outmigration was highest for the Central subregion. Nearly one-half (49 percent) of the Appalachian outmigrants went to

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Table II-1

INTERZONAL MIGRATION (CENSUS, ADJUSTED) 1965-1970
TOTAL PERSONS, 5 YEARS AND OVER IN 1970
ADJUSTED FOR NONREPORTING (BY REGION)

(Data in thousands)

1970 Residence By Region	U.S. Total, Different Zone	1965 Residence in Different Zone, By Region									U.S. Subtotal, Different Region (In)	Abroad 1965 or 1970 Net Migration
		Northern Appalachia	Central Appalachia	Southern Appalachia	Northeast	North Central	Southeast	South Central	Florida	West		
Northern Appalachia	876	272	17	8	275	161	31	10	20	82	604	(-16)
Central Appalachia	154	13	25	11	11	47	8	24	4	10	129	(-7)
Southern Appalachia	762	10	20	188	52	68	198	94	45	86	574	(-11)
Northeast	4,030	332	14	55	2,127	363	332	65	136	605	1,902	(782)
North Central	4,002	236	86	70	357	2,079	109	176	87	802	1,923	(142)
Southeast	2,014	59	20	214	325	144	732	82	148	290	1,282	(46)
South Central	978	16	41	90	59	156	66	296	43	207	682	(-6)
Florida	1,589	68	10	52	442	292	149	64	292	220	1,297	(145)
West #	5,764	136	17	102	838	1,098	286	232	195	2,861#	2,903	(631)
U.S. Total, Different Zone	20,170	1,142	261	790	4,485	4,408	1,912	1,044	976	5,162	11,297	(1,707)[2]
Net Migration (U.S.) 1965-1970	0	-266	-96	-28	-455	-406	+103	-68	+613	+602	0	
(Rate)*		-2.7%	-5.5%	-0.4%	-1.0%	-1.1%	+0.8%	-0.9%	+10.3%	+0.9%	–	
U.S. Subtotal, Different Region	(Out) 11,297	870	226	602	2,358	2,329	1,180	748	684	2,301	11,297	
Net Migration 1965-1970 Including From or To Abroad	+1,707	-282	-103	-39	+327	-264	+148	-72	+758	+1,233	+1,707	
(Rate)*	+0.9%	-2.8%	-5.9%	-0.6%	+0.7%	-0.7%	+1.2%	-1.0%	+11.5%	+1.9%	0.9%	

*Migration rate is computed on total estimated base year population (July 1, 1965); migration data for period April 1, 1965 to 1970.

#Regional migration in the West (24 states west of Mississippi River) consists of migration flows between the four Census divisions in this region.

[2]Immigration flow from abroad (adjusted for under-reporting) in 1965-1970 was 3,057 thousand; net flow is estimated at 1.7 million.

Table II-2

INTERZONAL MIGRATION (ESTIMATED) 1970–1975
TOTAL PERSONS, 5 YEARS AND OVER IN 1975

(Data in thousands)

1975 Residence By Region	U.S. Total, Different Zone	1970 Residence in Different Zone, By Region									U.S. Subtotal, Different Region (In)	Abroad 1970 or 1975 (Net In)
		Northern Appalachia	Central Appalachia	Southern Appalachia	Northeast	North Central	Southeast	South Central	Florida	West		
Northern Appalachia	961	271	17	7	293	205	33	13	38	84	690	(13)
Central Appalachia	247	12	27	20	18	83	24	40	8	15	220	(1)
Southern Appalachia	913	8	14	166	62	80	287†	113†	57	126	747	(15)
Northeast	3,801	245	5	35	2,137	322	253	35	126	643	1,664	(764)
North Central	3,491	175	28	53	334	1,905	113	107	58	718	1,586	(298)
Southeast	2,152	79	17	201	396	169	703	87	164	336	1,449	(114)
South Central	1,108	16	30	103	91	167	130	288	46	237	820	(31)
Florida	2,216	84	7	49	718	468	161	83	355	291	1,861	(205)
West #	6,666	169	16	104	1,116	1,341	375	246	224	3,075#	3,591	(1,000)
U.S. Total, Different Zone	21,555	1,059	161	738	5,165	4,740	2,079	1,012	1,076	5,525	12,628	(2,441)[z]
Net Migration (U.S.) 1970–1975	0	−98	+86	+175	−1,364	−1,249	+73	+96	+1,140	+1,141	0	
(Rate)	–	−1.0%	+5.2%	+2.6%	−2.8%	−3.2%	+0.6%	+1.3%	+16.8%	+1.6%	–	
U.S. Subtotal, Different Region	(Out) 12,628	788	134	572	3,028	2,835	1,376	724	721	2,450	12,628	
Net Migration 1970–1975 Including From Abroad††	+2,441	−85	+87	+190	−600	−951	+187	+127	+1,345	+2,141	+2,441	
Rate												
Census Revised**	+1.2%	−0.9%	+5.2%	+2.8%	−1.3%	−2.4%	+1.4%	+1.7%	+19.8%	+3.0%	+1.2%	
Estimate (Net Migration)	+2,441	−27	+79	+257	−605	−841	+245	+43	+1,339	+1,962	+2,441	
Rate, 1970–1975	+1.2%	−0.3%	+4.8%	+3.8%	−1.0%	−2.1%	+1.9%	+0.6%	+19.7%	+2.8%	+1.2%	

**Net estimate from Census revised 1975 data, total population.

†Migration into Southern Appalachia from two southern regions adjusted for large-scale inmigration of commuters (esp. in Atlanta region).

††Does not include net return of military to civilian status in 1970–1975.

#Intra regional migration in the West (24 states west of Mississippi River) consists of migration flows between the four Census divisions within the West.

[z]Gross inmigration flow from abroad in 1970–1975 was estimated at 3,922 thousand; net flow is used so that net migration comparisons may be made.

northern regions; 35 percent of the total moved to southern regions, and one-sixth (16 percent) went to the western U.S. (west of the Mississippi River).

The later migration period (1970-75) showed a marked shift in the destination pattern: only 38 percent moved to northern regions, while southern regions increased their share to 42 percent, and the west jumped to one-fifth (20 percent) of all Appalachian outmigrants. Individual regions in the north and south all followed the trends of their group rather closely. The flow of Appalachians out of the Region in the 1970-1975 period reflects rather accurately the shift in national movements of population with southern and western regions gaining relatively in comparison with the north.

In the 1970-1975 period, domestic outmigration from Appalachia dropped from its earlier level of 1.6 million (in 1965-70) to 1.4 million. Central Appalachia's snare of outmigration fell sharply to 7 percent, while the Northern subregion provided 54 percent of the total outflow and Southern Appalachia, 39 percent. The absolute number of outmigrants is estimated to have been lower for all three subregions (see Tables II-3 and II-4).

The drop in outmigration accounted for only just over one-third of the total shift in Appalachian domestic migration. The marked increase in inmigration into the Region accounted for almost two-thirds of the change in net migration for Appalachia. Domestic inmigration jumped from 1.2 to 1.6 million persons between the 1965-1970 period and the 1970-1975 period. Northern regions supplied 50 percent of these migrants in the earlier period and 47 percent in the later (1970-75). Southern inmigration to Appalachia increased substantantially in number, and from 35 to 39 percent of the total, while inmovement from the west changed its share of the total only slightly (from 15 to 14 percent).

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Appalachian outmigrants from different subregions have different destinations. The preponderance of Northern Appalachians went to the non-Appalachian north, while the West received about one-fifth and Florida, about one-tenth of the total outflow within the U.S. Between the two periods (1965-70 and 1970-75) there was a shift in proportions with a larger share of the total number going to the west and Florida, while the total outflow fell by about 80,000 from roughly 850,000 to 770,000. (See Summary Tables of Destinations and Origins, Tables II-3 and II-4).

Central Appalachians flowed in greatest numbers to the North Central region in the 1965-1970 period. This outflow is estimated to have dropped to only about one-third of its volume in the later period, while the flow from North Central into Central Appalachia increased by about 75 percent in volume. In the 1970-1975 period, the South Central region replaced the North Central as the leading destination of Central Appalachian outmigrants. The Southeast and the West remained in third and fourth place as destinations for Central Appalachians, with the shares of total outflow for these two regions increasing though the absolute volume did not increase, but is estimated to have fallen slightly.

The preferred destination of Southern Appalachian outmigrants in the entire ten-year study period was the Southeast, which received three-eights of the total. The West and South Central regions each received about one-fifth of Southern Appalachians in the later period, while the North Central share dropped to only about one-tenth in the later period. It is worthy of note in light of the report of the President's Commission on Rural Poverty that in the 1965-1970 period, almost one-third of Southern Appalachian migrants to northern regions were blacks, while the reverse flow from the North into the Region (smaller in number) was only about 8 percent black. Recent census data suggest that the racial mix shifted in the later period with only about one-sixth of outmigrants from the south to northern regions consisting of blacks.

Table II-3
INTERREGIONAL MIGRATION PATTERNS,
APPALACHIAN REGION MIGRATION INTERCHANGES,
1965-1970*
(Data in thousands)

	1965-1970			
	Net Migration*	Non-Appalachian Domestic Migration		Net Migration (To and From) Outside U.S.
		In	Out	
Northern Appalachia	-284	579	847	-16
Central Appalachia	-90	105	188	-7
Southern Appalachia	-50	544	583	-11
Appalachian Region	-424	1,228	1,618	-34
Northeast	-64	337	401	
North Central	-116	276	392	
North	-180	614	794	
Southeast	-55	238	293	
South Central	-18	128	146	
Florida	-60	70	130	
South	-134	436	570	
West	-76	178	254	
U.S. Total	-390	1,228	1,618	
Outside U.S.	-34	82	116	
Total	-424	1,310	1,734	

*Excludes migration between subregions within Appalachian Region; includes outside U.S.

Table II-4
INTERREGIONAL MIGRATION PATTERNS, APPALACHIAN REGION MIGRATION INTERCHANGES, 1970-1975*
(Data in thousands)

	1970–1975			
	Net Migration*†	Non-Appalachian Domestic Migration		Estimated Net Return (of Armed Forces) to Civilian Status†
		In	Out	
Northern Appalachia	−42	666	768	+60
Central Appalachia	+95	188	103	+10
Southern Appalachia	+213	725	545	+33
Appalachian Region	+266	1,579	1,418	+103
Northeast	+88	373	285	
North Central	+112	368	256	
North	+200	741	541	
Southeast	+47	344	297	
South Central	+17	166	149	
Florida	−37	103	140	
South	+27	613	586	
West	−64	225	289	
U.S. Total	+163	1,579	1,418	
Outside U.S.	+103†	n.a.		+103†
Total	+266	1,882†	1,418	

*Excludes migration between subregions within Appalachian Region; includes estimated migration outside U.S.
†Includes estimated net return of Armed Forces to the Region in civilian status in 1970–1975.
[c]Civilians only.

Domestic inmigration to Appalachia increased sharply from 1.2 million to 1.6 million in the later period (1970-75). In addition, the share of inmigrants to Central Appalachia increased from 9 to 12 percent of the total; those to Southern Appalachia, from 44 to 46 percent of the total number; while inmigrants to Northern Appalachia dropped from 47 to 42 percent of the Region's total. The absolute number of inmigrants increased in all subregions, with by far the largest gain in Southern Appalachia, which consequently had the largest share of net inmigration to the Region in 1970-1975, while the Northern subregion continued to experience net outmigration, though at a much lower rate than in the preceding five-year period.

Nearly one-half the inflow to Northern Appalachia originated in the Northeast, while the North Central region provided about 30 percent of the total, and West, about one-seventh. These three regions were also the principal destinations of Appalachian outflow; however, the Northeast looms larger, relatively, as a source of inmigrants than it does as a destination of outmigrants and, in fact, in the later period (1970-75) is estimated to have provided 48,000 more inmigrants to Northern Appalachia than it received in Northern Appalachia outmigrants.

Central Appalachia has received the largest shares of its inmigration from the North Central (about 45 percent) and the South Central regions (over one-fifth). The Northeast is estimated to have provided about one-tenth of total inmigrants, while the Southeast, which provided relatively small numbers in the 1965-70 period increased its share to about one-eighth in the later period. The North Central region has been a consistent source of Central Appalachian inmigrants, but there was a sharp drop in outmigration from Central Appalachia to the North Central region in the 1970-75 period, with the result that the net migration balance between the two areas shifted from a net outflow from Central Appalachia of 39,000 in 1965-70 to a net inflow to Central Appalachia estimated at 55,000 in 1970-75.

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Southern Appalachian inmigration flows originated in the Southeast (about four-tenths of the total), followed by the West and South Central regions (each about one-sixth). Thus, Southern Appalachia received inmigrants from both directions - from the East and Southeast, and from the West. The North Central region ranked fourth, providing just over one-tenth of Southern Appalachian inmigrants. No dramatic shifts occurred during the decade in the regional inmigration patterns to Southern Appalachia, as was also true of its outmigration patterns. However, the inflow increased sharply in absolute numbers between the two periods, increasing by about 180,000, which was by far the largest single subregional component in the "turnaround" in Appalachian migration between the two five-year periods. The drop in Southern Appalachian outmigration was only about one-fifth as large as the increased inflow.

Anatomy of the "Turnaround" in Appalachian Migration within Appalachia

The total effect of Appalachian migratory flows between the 1965-1970 period and the 1970-1975 period produced an estimated 690,000 shift in a positive direction in the Region's migration balance. In terms of the three subregions as defined for migration zone study, the total shifts were:

	Net Migratory Shift	Percent of Total
Northern Appalachian zones	+ 242,000	35%
Central Appalachian zones	+ 185,000	27%
Southern Appalachian zones	+ 263,000	38%
APPALACHIAN REGION **	+ 690,000	100%

** excluding migration flows within the Region.

Further breakdown into components provides a detailed insight into what happened:

Nature of Shift	Net Migratory Shift	Percent of Total
Increased INFLOW to Southern Appalachia	+ 181,000	26%
Reduced OUTFLOW from Southern Appalachia	38,000	6%
Increased INFLOW to Northern Appalachia	+ 87,000	13%
Reduced OUTFLOW from Northern Appalachia	79,000	11%
Increased INFLOW to Central Appalachia	+ 83,000	12%
Reduced OUTFLOW from Central Appalachia	85,000	12%
Reduced OUTFLOW to abroad plus net return) of military to civilian life (estimated)	137,000	20%
GRAND TOTAL	+ 690,000	100%

The predominance of increased inmigration to Appalachia becomes quite apparent in the detailed pattern, as well as the significant contribution of the net shift in migratory exchanges with abroad and the military, of which the largest component was due to the winding down and termination of the Vietnam war.

Migration of the Covered Work Force

The Appalachian Region work force increased from 4.6 to 5.3 million people from 1965 to 1970 (Table II-5). Entrants to, and exits from, the work force were the largest sources of change, and on balance accounted for a net rate of increase of 16.1 percent. This was more than sufficient to offset the net loss from interregional migration.

Several characteristics of Appalachian covered work force migration remained constant throughout the 1960-1965 and 1970-1975 periods. First,

Table II-5
WORK FORCE MOBILITY IN THE APPALACHIAN REGION 1965-1970 AND 1970-1975 ALL WORKERS, ALL AGES

	1965-1970		1970-1975	
	(000)	(%)	(000)	(%)
Initial Covered Work Force	4,612.8	(100.0)	5,296.8	(100.0)
Interregional Migration				
Inmigrants	398.7	(8.6)	496.8	(9.4)
Outmigrants	494.4	(10.7)	455.2	(8.6)
Net Migration	-95.7	(-2.1)	+41.6	(0.8)
Intra-Appalachian Migration				
Same Subregion	152.0	(3.3)	152.9	(2.9)
Different Subregion	29.3	(0.6)	28.8	(0.5)
Nonmigrants	2,796.7	(60.6)	2,731.3	(51.6)
Entered Covered Work Force	1,761.4	(38.2)	1,537.0	(29.0)
Left Covered Work Force	1,018.5	(22.1)	1,584.2	(29.9)
Net Military and Others†	36.8	*	-150.5	(-2.8)
Final Covered Work Force	5,296.8	(114.8)	5,140.7	(114.8)

*Rate of less than 1.0 percent.

†Persons in the covered work force whose earlier year location was unknown, but later year known, MINUS persons whose later year was unknown, but earlier year known. The negative sum is larger for the 1970-1975 period, in general.

Source: Appalachian Regional Commission, Migration Summary Tabulations, based on the Continuous Work History Sample (1%), first quarter of 1965, 1970 and 1975. Gross numbers of workers are in thousands; mobility rates are in parentheses. 1975 continuous work history sample data are preliminary tabulations available from Bureau of Economic Analysis at the time of data processing for this report. The 1975 U.S. total final count was 6.1 percent higher than the preliminary tabulation.

TECHNICAL NOTE. Work force mobility rates include entrants into the work force (whose earlier year location is unknown) and exits from the work force (whose later year location is unknown), as well as net military and others with location in only one year.

Therefore, the covered work force whose location was known in *both* years in each period include only the nonmigrants and the migrants. Migration rates for the Appalachian Region based on the work force with known location in both years follows:

	1965-1970		1970-1975	
	(000)	(Percent)	(000)	(Percent)
Initial Covered Work Force with Known Locations	3,472.4	(100.0)%	3,368.2	(100.0)%
Interregional Migration				
Inmigrants	398.7	(11.5)	496.8	(14.7)
Outmigrants	494.4	(14.2)	455.2	(13.5)
Net Migration	-95.7	(-2.8)	+41.6	(+1.2)
Intra-Appalachian Migration	181.3	(5.2)	181.7	(5.4)
Nonmigrants	2,796.7	(80.5)	2,731.3	(81.1)
Final Covered Work Force with Known Locations	3,376.7	(97.2)%	3,409.8	(101.2)%

In Tables II-5 through II-10 and Table III-1 in this report, following, migration *rates* are calculated on the covered work history sample (total aggregate), and therefore, are lower than the rates if calculated on that portion of the covered work force which had known locations in both years.

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the majority of Appalachians were nonmigrants. They either remained in the same zone or, if they had moved, they left and returned before 1970 or 1975. The nonmigration rate of 60.6 percent from 1965 to 1970 declined to 51.6 from 1970 to 1975. Second, migration rates were highest for interregional movement. Rates of intra-Appalachian migration were low, and the majority of those who did migrate within Appalachia remained in the same subregion. Third, turnover rates remained relatively stable through time.[2] Consequently, changes in the volume and direction of the migration streams have had the most significant impact on population redistribution in Appalachia.

From 1965 to 1970, a total of 1,074.4 thousand people in the covered work force migrated to, within and from Appalachia. Seventeen percent of them were intra-Appalachian migrants, the majority of whom remained in the same subregion. The other 893.1 thousand were interregional migrants. As a result of their movements, the Region had a net migration rate of -2.1 percent. Net migration loss had been associated with Appalachian problems and issues at least since the Great Depression. However, the rate of loss had been declining since the 1950s, prompting some researchers to predict that large-scale outmigration would soon end.[3] Indeed, the pattern of loss from interregional migration was reversed after 1970, as the Region had a net inmigration rate of 0.8 percent. A large increase in inmigration, combined with a smaller decrease in outmigration, produced the change.

At subregional scale, differences in covered labor force mobility within Appalachia were significant (Table II-6). Northern Appalachia had the majority of net interregional migration losses from 1965 to 1970, with Southern and Central Appalachia following in that order. However, Central Appalachia had the highest rates of interregional and intra-Appalachian migration as well as the lowest nonmigration rate. Although all subregions had net losses from interregional migration, the rates for Central Appalachia were twice as high as for Northern Appalachia and three times as high as for Southern Appalachia. Also, Northern and Central Appalachia had net losses from intra-Appalachian migration; Southern Appalachia gained.

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Table II-6
WORK FORCE MOBILITY IN THE APPALACHIAN REGION, BY SUBREGIONS, 1965-1970 AND 1970-1975
ALL WORKERS, ALL AGES

	Northern Appalachia				Central Appalachia				Southern Appalachia			
	1965-1970		1970-1975		1965-1970		1970-1975		1965-1970		1970-1975	
	(000)	(%)	(000)	(%)	(000)	(%)	(000)	(%)	(000)	(%)	(000)	(%)
Initial Covered Work Force	2,578.1	100.0	2,847.3	100.0	255.5	100.0	302.8	100.0	1,779.2	100.0	2,146.7	100.0
Interregional Migration												
Immigrants	194.3	7.5	228.1	8.0	24.1	9.4	45.8	15.1	180.3	10.1	222.9	10.4
Outmigrants	253.7	9.8	234.4	8.2	36.2	14.2	21.3	7.0	204.5	11.5	199.5	9.3
Net Migration	-59.4	-2.3	6.3	0.2	-12.1	-4.8	+24.5	+8.1	-24.2	-1.4	+23.4	+1.1
Intra Appalachian Migration												
Same Subregion	75.6	2.9	77.6	2.7	5.2	2.0	6.2	2.1	71.2	4.0	69.1	3.2
Immigrants	8.5	0.3	8.2	0.3	9.9	3.9	12.3	4.1	10.9	0.6	8.3	0.4
Outmigrants	10.7	0.4	9.8	0.3	12.1	4.7	10.3	3.4	6.5	0.4	8.7	0.4
Net Migration	2.2	0.1	-1.6	-0.1	-2.2	-0.9	+2.0	+0.7	+4.4	+0.2	-0.4	-0.0
Nonmigrants	1,578.5	61.2	1,484.2	52.1	134.2	52.5	148.4	49.0	1,084.0	60.9	1,098.7	51.2
Net Military and Others	2.6	*	-89.6	-3.1	3.6	1.4	-0.8	*	30.6	1.7	-60.1	-2.8
Entered Covered Labor Force	906.8	35.2	812.4	28.5	121.8	47.7	123.6	40.8	732.8	41.2	601.0	28.0
Left Covered Labor Force	578.6	22.4	839.0	29.5	63.8	25.0	102.6	33.9	376.1	21.1	642.5	29.9
Final Covered Work Force	2,841.3	110.4	2,723.2	95.6	302.8	118.5	349.5	115.4	2,146.7	120.7	2,068.0	96.3

*Figure of less than 1.0 percent

Source: Appalachian Regional Commission, Migration Summary Tabulations, based on the Continuous Work History Sample (1%), first quarter of 1965, 1970 and 1975. Gross numbers of workers are in thousands, mobility rates are in parentheses. 1975 continuous work history sample data are preliminary tabulations available from Bureau of Economic Analysis at the time of data processing for this report. The 1975 U.S. total final count was 6.1 percent higher than the preliminary tabulations.

See Technical Note to Table II-5.

Table II-7

MIGRATION BETWEEN THE APPALACHIAN REGION AND OTHER REGIONS, 1965-1970 AND 1970-1975
ALL WORKERS, ALL AGES

	1965–1970						1970–1975					
	To Appalachia Inmigration		From Appalachia Outmigration		Net Migration		To Appalachia Inmigration		From Appalachia Outmigration		Net Migration	
	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)
North												
Northeast	122.7	(2.7)	157.1	(3.4)	-34.4	(-0.7)	141.0	(2.7)	120.1	(2.3)	20.9	(0.4)
North Central	84.7	(1.8)	106.7	(2.3)	-22.0	(-0.5)	114.2	(2.2)	80.9	(1.5)	33.3	(0.7)
South												
Southeast	82.3	(1.8)	97.2	(2.1)	-14.9	(-0.3)	97.2	(1.8)	100.6	(1.9)	-3.3	(-0.1)
Florida	15.7	(0.3)	26.9	(0.6)	-11.2	(-0.2)	24.7	(0.5)	29.3	(0.6)	-4.6	(-0.1)
South Central	41.4	(0.9)	48.0	(1.0)	-6.6	(-0.1)	55.0	(1.0)	52.2	(1.0)	2.8	(0.1)
West	51.9	(1.1)	58.5	(1.3)	-6.6	(-0.1)	64.7	(1.2)	72.2	(1.4)	-7.5	(-0.2)
Totals	398.7	(8.6)	494.4	(10.7)	-95.7	(-2.1)	496.8	(9.4)	455.2	(8.6)	41.6	(0.8)

Source: Appalachian Regional Commission, Migration Summary Tabulations, based on the Continuous Work History Sample (1%), first quarter of 1965, 1970 and 1975. Gross numbers of workers are in thousands; mobility rates are in parentheses.

See Technical Note to Table II-5

The role of each subregion changed from 1970 to 1975. Northern Appalachia's net interregional migration rate declined from -2.3 to -0.2, primarily as the result of a reduced rate of outmigration. Southern Appalachia had a similar experience, except that the result was a net rate of 1.1 percent increase, rather than loss. Central Appalachia had the most dramatic change. It surpassed Southern Appalachia in both volume and rate of change, gaining 24.5 thousand persons at a net rate of 8.1. This represented a gross shift in migration rate of 17.9 percent compared with 2.5 in Southern, and 2.1 in Northern Appalachia. As elsewhere, the majority of the change resulted from an increase in inmigration, although outmigration dropped much more sharply in Central Appalachia than in the other Appalachian subregions.

Subregional Work Force Migration

Migration between Appalachia and subregions in the North (Northeast and North Central) was the most important source of work force interchange for the Region (Table II-7). These streams accounted for 53 percent of the total migration from 1965 to 1970, and 48 percent from 1970 to 1975. Migration between Appalachia and the South Central region was extraordinarily important in both periods relative to its population size. Changes in the geography of Appalachian migration, which were apparent in 1965 to 1970, became even more accentuated in the succeeding period.[4]

Outmigration from Appalachia exceeded inmigration to the Region in all streams from 1965 to 1970. Almost 60 percent of the Region's net migration loss was from interchange with the Northeast and North Central subregions. However, Appalachian migration was relatively more important in migration to and from the Southeast and South Central regions. From 1965 to 1970, Appalachians were 29 percent of the total inmigrants to the Southeast, and 27 percent of the total outmigrants went to Appalachia.[5] Comparable figures for South Central were 25 and 20 percent, and for the Northeast 22 and 17 percent. The North Central subregion ranked fourth on a relative basis despite the fact that it had the second largest number of migrants to and from the Appalachian Region.

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From 1965-1970 to 1970-1975, changes in the volume and direction of migration between Appalachia and the northern regions accounted almost exclusively for the turnabout in Appalachian migration. The rate of outmigration to both northern regions dropped sharply, and inmigration increased slightly. The rate of loss in the interchanges between Appalachia and the Southeast and Florida declined but did not reverse, as outmigration rates dropped. Migration between Appalachia and the South Central and the West resulted in no significant population redistribution.

Paradoxically, the relative importance of Appalachian migration in each other subregion also declined from 1970 to 1975. Although the volume of migration to Appalachia from the North increased significantly, people were leaving for other regions, primarily to the South, in even larger numbers. The relative importance of Appalachian inmigrants to the South declined for analogous reasons; that is, larger number of inmigrants came from other places, especially from the North. In a sense, Appalachian migration participated unequally in the emerging national migration trends toward the Sunbelt.[6]

The relative importance of the major streams differed among Appalachian subregions. Northern Appalachian migration was concentrated in the Northeast, North Central, and the West. It was the second largest number of migrants to and from both northern regions (Table II-8). Northern Appalachia had a net loss in each stream for 1965 to 1970. It had a net gain from the Northeast and North Central regions from 1970 to 1975, but high rates of outmigration to the Southeast and Florida regions cancelled these gains. A net migration loss to the South was a characteristic which Northern Appalachia shared with other parts of the North, as the pace of migration toward the Sunbelt accelerated.

Table II-8

MIGRATION BETWEEN NORTHERN APPALACHIA AND OTHER REGIONS, 1965-1970 AND 1970-1975
ALL WORKERS, ALL AGES

	1965–1970						1970–1975					
	Inmigration		Outmigration		Net Migration		Inmigration		Outmigration		Net Migration	
	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)
Appalachia												
• Northern												
Central	5.2	(0.3)	6.7	(0.4)	-1.5	(-0.1)	6.3	(0.3)	6.5	(0.3)	-1.2	(-0.1)
Southern	3.3		4.0		-0.7		2.9		3.3		-0.4	
North												
Northeast	99.4	(3.9)	127.1	(4.9)	-27.7	(-1.0)	108.6	(3.8)	101.0	(3.5)	7.6	(0.3)
North Central	52.2	(2.0)	69.3	(2.7)	-17.1	(-0.7)	68.0	(2.4)	57.3	(2.0)	10.7	(0.4)
South												
Southeast	9.3	(0.7)	9.3	(1.0)	–	(-0.3)	10.2	(0.8)	13.5	(1.2)	-3.3	(-0.4)
Florida	4.8		12.6		7.8		9.3		16.2		-6.9	
South Central	3.2		3.9		0.7		4.2		4.4		-0.2	
West	25.4	(1.0)	31.5	(1.2)	-6.1	(-0.2)	27.8	(1.0)	42.0	(1.5)	-14.2	(-0.5)
Totals	202.8	(7.9)	264.4	(10.3)	61.6	(-2.4)	236.3	(8.3)	244.2	(8.6)	-7.9	(-0.3)

Source: Appalachian Regional Commission, Migration Summary Tabulations, based on the Continuous Work History Sample (1%), first quarter of 1965, 1970 and 1975. Gross numbers of workers are in thousands, mobility rates are in parentheses.

See Technical Note to Table II-5.

Table II-9

MIGRATION BETWEEN CENTRAL APPALACHIA AND OTHER REGIONS, 1965-1970 AND 1970-1975 ALL WORKERS, ALL AGES

	1965–1970						1970–1975					
	Immigration		Outmigration		Net Migration		Immigration		Outmigration		Net Migration	
	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)
Appalachia												
Northern	6.7	(2.6)	5.2	(2.0)	1.5	(0.6)	6.5	(2.1)	5.3	(1.8)	1.2	(0.4)
• Central												
Southern	3.2	(1.3)	6.9	(2.7)	-3.7	(-1.4)	5.8	(1.9)	5.0	(1.7)	0.8	(0.3)
North												
Northeast	2.8	(1.1)	3.7	(1.4)	-0.9	(-0.4)	5.4	(1.8)	1.3	(0.4)	4.1	(1.5)
North Central	9.1	(3.6)	13.1	(5.1)	-4.0	(-1.5)	16.8	(5.5)	4.4	(1.5)	12.4	(4.0)
South												
Southeast	1.9	(0.7)	3.5	(1.4)	-1.6	(-0.6)	5.7	(1.9)	3.1	(1.0)	2.6	(0.9)
Florida	0.9	(0.4)	2.1	(0.8)	-1.2	(-0.5)	1.8	(0.6)	1.5	(0.5)	0.3	(0.1)
South Central	7.2	(2.8)	11.7	(4.6)	-4.5	(-1.8)	12.6	(4.2)	8.8	(2.9)	3.8	(1.3)
West	2.2	(0.9)	2.1	(0.8)	0.1	(0.0)	3.5	(1.2)	2.2	(0.7)	1.3	(0.4)
Totals	34.0	(13.3)	48.3	(18.9)	-14.3	(-5.6)	58.1	(19.2)	31.6	(10.4)	26.5	(8.8)

Source: Appalachian Regional Commission, Migration Summary Tabulations, based on the Continuous Work History Sample (1%), first quarter of 1965, 1970 and 1975. Gross numbers of workers are in thousands, mobility rates are in parentheses.

See Technical Note to Table II-5.

Table II-10

MIGRATION BETWEEN SOUTHERN APPALACHIA AND OTHER REGIONS, 1965-1970 AND 1970-1975
ALL WORKERS, ALL AGES

	1965-1970						1970-1975					
	Inmigration		Outmigration		Net Migration		Inmigration		Outmigration		Net Migration	
	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)	(000)	Rate (%)
Appalachia												
Northern	4.0	(0.6)	3.3	(0.4)	0.7	(0.2)	3.3	(0.4)	2.9	(0.4)	0.4	(-0.0)
Central	6.9		3.2		3.7		5.0		5.8		-0.8	
• Southern												
North												
Northeast	20.5	(1.2)	26.3	(1.5)	-5.8	(-0.3)	27.0	(1.3)	17.8	(0.8)	9.2	(0.4)
North Central	23.4	(1.3)	24.3	(1.4)	-0.9	(-0.1)	29.4	(1.4)	19.2	(0.9)	10.2	(0.5)
South												
Southeast	71.1	(4.0)	84.4	(4.7)	-13.3	(-0.7)	81.3	(3.8)	83.9	(3.9)	-2.6	(-0.1)
Florida	10.0	(0.6)	12.2	(0.7)	-2.2	(-0.1)	13.6	(0.6)	11.6	(0.5)	2.0	(0.1)
South Central	31.0	(1.7)	32.4	(1.8)	-1.4	(-0.1)	38.2	(1.8)	39.0	(1.8)	-0.8	(-0.0)
West	24.3	(1.4)	24.9	(1.4)	-0.6	(-0.0)	33.4	(1.6)	28.0	(1.3)	5.4	(0.3)
Totals	191.2	(10.7)	211.0	(11.9)	-19.8	(-1.2)	231.2	(10.8)	208.2	(9.7)	23.0	(1.1)

Source: Appalachian Regional Commission, Migration Summary Tabulations, based on the Continuous Work History Sample (1%), first quarter of 1965, 1970 and 1975.
Gross numbers of workers are in thousands, mobility rates are in parentheses.

See Technical Note to Table II b.

The principal origins and destinations for Central Appalachian migrants were the North Central region, South Central region and Southern Appalachia (Table II-9). From 1965 to 1970, the largest net losses were to the South Central and North Central regions and to Southern Appalachia. After 1970, Central Appalachia gained from each exchange after 1970, with the highest rate (4.0 percent) from the North Central region. Inmigration streams from the Northeast and South Central regions were new patterns. Inmigration from both regions in the North also increased sharply, and outmigration to them decreased. Overall, the increased volume of inmigration to Central Appalachia provided about 60 percent of the total shift from out- to inmigration.

The principal origins and destinations for Southern Appalachian migrants were the Southeast, South Central and the North Central regions (Table II-10). Southern Appalachia had a small net loss in each stream from 1965 to 1970, but had net gains as the result of migration from Central and Northern Appalachia, with a total net migration loss of 19.8 thousand (1.2 percent). Southern Appalachia had a net gain from most streams after 1970, primarily as a result of increase[illegible] the volume of inmigration. The only significant reversal of trends [illegible] a net migration loss to Central Appalachia, but the number was small.

Summary

Changes in the volume and direction of selected migration streams from 1965 to 1975 resulted in the Appalachian Region having a net gain in interregional migration for the first time in several decades. The most significant changes occurred in the migration streams between Appalachia and regions in the North, with declining outmigration from Appalachia assuming major importance in the migration turnabout. Northern Appalachia significantly reduced the rate of net migration loss, and Southern Appalachia recorded modest net migration gains (reversing a modest loss) from 1970 to 1975. However, the change in the rate and extent of migration to and from Central Appalachia was clearly the most dramatic within the Region.

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The migration turnabout was generally considered to be an encouraging sign for Appalachian development, if not a result of it (ARC, 1978). The fact remained, however, that Appalachia continued to be the least-preferred region in the eastern United States for migrants from other places. The relatively low outmigration rates from other subregions to Appalachia from 1965 to 1970 were understandable, as the Region continued to have net migration losses to all other places. From 1970 to 1975, the decline in the rate of outmigration from Appalachia to the North was consistent with general changes in migration patterns at national scale. However, the rate of migration from the North to Appalachia remained at a level which was one-half that of migration from North to South, and one-third that of migration to the West. People leaving other regions preferred Sunbelt locations to Appalachia despite the fact that the Region had managed to gain, rather than lose, people from interregional migration.

FOOTNOTES

[1]Jerome P. Pickard, "Population Trends in the Appalachian Region, 1970-1973, with Projections to 1980", Current Regional Reports 6 (December 1974) 12 pages, map.

Calvin L. Beale, The Revival of Population Growth in Non-Metropolitan America. Washington, U.S. Dept. of Agriculture, June 1975. 15 pages.

"Where Is Appalachia Today?", pp. 2-9, and "Selected Facts About Appalachia", pp. 45-55, Appalachia, 10, No. 2 (Oct.-Nov. 1976).

Peter A. Morrison, Current Demographic Change in Regions of the United States, Santa Monica, Calif., Rand Corporation, Nov. 1977. 37 pages (Report P-6000).

Richard S. Thoman, "Appalachia After Ten Years", Lambda Alpha Land Economics Journal, 1 (Spring 1978), pp. 9-29.

Jerome Pickard, "Appalachian Population and Income Show Significant Growth", Appalachia, 11, No. 4 (Feb.-Mar. 1978) pp. 41-45.

Economic Development Division Staff, "Rural America in the Seventies", Rural Development Perspectives, 1 (Nov. 1978), pp. 6-11.

William W. Philliber and Clyde S. McCoy, editors. Appalachians in Urban Areas: Myths, Facts, Questions. Lexington, Ky., University Press of Kentucky, 1979 (forthcoming) (several articles relating to changes in the Region).

See also footnote 6, following.

[2]The turnover rate is the total number of migrants who enter and leave a region. It is the sum of the inmigration and outmigration rates, and does not carry a sign (Shryock and Siegel, 1973, p. 643).

[3]Cf. Brown, 1971 and 1972; and De Jong, 1969. Outmigration began to decline in the early 1960s and, by the end of the decade, the general patterns of change in population growth in Appalachia were known. Census data were used in most of these analyses, with heavy reliance on net migration estimates.

[4]See McCoy and Brown, 1974 and 1975. McCoy and Brown compared outmigration streams from Central and Southern Appalachian State Economic Areas for 1955-1960, and 1965-1970. They concluded that through time, the destinations of Appalachian migrants had begun to shift away from large northern metropolitan areas, such as Detroit and Chicago, to intermediate-size cities which were located closer to the Region, and to metropolitan areas in the south.

[5]The gross migration percentages in the text are calculated as a percent of the total inmigration, outmigration, or net migration for a region.

[6]Brian J. L. Berry and Donald C. Dahmann, "Population Redistribution in the United States in the 1970s," Population and Development Review, 3 (December 1977), pp. 443-472.

CHAPTER 3

MIGRANT WORK FORCE CHARACTERISTICS

Introduction

Migration is selective. The propensity to migrate, as well as preferences for destinations, varies significantly among population subgroups. Furthermore, migrants from a place commonly have significantly different characteristics when compared not only with the people who stay but also with those who are long-term residents of the migrants' destinations. Race, sex and age are important differentials in Appalachian migration which vary significantly through time and from one Appalachian subregion to another.[1] These differentials are most important in migration between Appalachian subregions and other parts of the United States. However, sample size restricts the analysis of migration streams in Northern and Central Appalachia to the white majority. In Southern Appalachia, blacks are included by combining male and female groups.

Interregional Migration Rates

Men are more mobile than women in interregional Appalachian migration (Table III-1). Among the white majority, men had the highest in- and outmigration rates, as well as the highest turnover rates, during the 1965-1975 decade. They also experienced the greatest absolute change in migration rates, which meant that the turnabout in Appalachian migration in 1970-1975 was strongly affected by shifts in the magnitude and direction of migration of white males. By 1975 the migration balance for males had changed to net inmigration in each subregion.[2] Reduction in the rate of outmigration was most important in Northern and Southern Appalachia while the increase in the rate of inmigration, and reduction in the rate of outmigration, were of nearly equal importance in Central Appalachia. Compared with other subregions, Southern Appalachia had very high migration rates, especially among men, but relatively little change in net migration resulted.

Table III-1

INTERREGIONAL MIGRATION FOR APPALACHIAN REGIONS BY RACE AND SEX*
ALL AGES

(Number of migrants in thousands)

	Appalachian Regions											
	Northern				Central				Southern			
	1965-1970		1970-1975		1965-1970		1970-1975		1965-1970		1970-1975	
	'000	Rate	'000	Rate	'000	Rate	'000	Rate	'000	Rate	'000	Rate
White Males												
Nonmigrants	1,045.9	63.2%	960.8	55.4%	86.1	54.8%	90.9	49.6%	599.8	61.6%	592.6	53.0%
*Immigrants	145.2	8.8	158.3	9.1	16.9	10.8	31.7	17.3	118.1	12.1	134.9	12.1
*Outmigrants	183.7	11.1	154.8	8.9	23.2	14.8	12.3	6.7	128.9	13.2	114.3	10.2
Net Migration	-38.5	2.3	3.5	0.3	-6.3	-4.0	19.4	10.6	-10.8	-1.1	20.6	1.9
White Females												
Nonmigrants	491.7	57.6	483.1	47.1	44.4	49.5	54.2	49.1	356.8	60.4	368.8	48.9
*Immigrants	41.1	4.8	58.7	5.7	6.3	7.0	12.2	11.1	45.7	7.7	63.2	8.4
*Outmigrants	62.2	7.3	70.1	6.8	11.8	13.2	7.7	7.0	46.5	7.9	59.2	7.9
Net Migration	21.1	-2.5	-11.4	-1.1	-5.5	-6.2	4.5	4.1	-0.8	-0.2	4.0	0.5
Black Males												
Nonmigrants	25.0	60.4	25.8	45.9					91.9	59.6	86.5	49.3
*Immigrants	6.6	13.4	8.1	14.4					12.4	8.0	16.4	9.3
*Outmigrants	6.0	12.5	6.6	11.7					23.4	15.2	17.1	9.7
Net Migration	0.6	0.9	1.5	2.7					-11.0	-7.2	-0.7	-0.4
Black Females												
Nonmigrants	11.9	56.6	14.5	47.4					35.5	57.8	50.8	51.6
*Immigrants	1.4	7.1	3.0	9.8					4.1	6.7	8.4	8.5
*Outmigrants	1.8	9.2	2.9	9.5					5.7	9.3	8.9	9.0
Net Migration	-0.4	2.1	0.1	0.3					-1.6	-2.6	-0.5	-0.5

*Excluding migration within the Appalachian Region

See Technical Note to Table II-5.

The migration of females differed significantly from that of males. It also varied among the Appalachian subregions. In general, the migration rates of females were lower than males and changed less dramatically between 1965 and 1975. Furthermore, females had higher rates of outmigration and lower rates of inmigration than males in several instances. In Northern Appalachia, females continued to have a net migration loss in 1970-1975 despite a reduction in the rate from 2.5 to 1.1 percent. The rate of net migration loss among females in Central Appalachia, which was even greater than for males in 1965-1970, reversed in 1970-1975 following the pattern of change for males. And in Southern Appalachia, increased inmigration was responsible for a slight net inmigration gain in 1970-1975 for females. However, little change in net migration resulted from relatively high migration rates of males or females, as was true of males.

The migration of black Appalachians was even more distinctive when compared to the white majority in each subregion. In Northern Appalachia, black males had higher migration rates than white males throughout the decade, and black females had higher migration rates than white females in 1970-1975. Black males also had net inmigration in each period, although it increased less than the net inmigration rate of white males in 1970-1975. High rates of migration were characteristics which black males in Northern Appalachia shared with whites in the Southern Appalachian subregion.

In Southern Appalachia, black and white migration patterns also differed significantly. In 1965-1970, high rates of outmigration and low rates of inmigration for both males and females resulted in a higher net migration loss for blacks than for whites. The most significant change in 1970-1975 was the decline in the rate of net migration loss for males, primarily because of the sharp reduction in the rate of outmigration. The migration patterns of black females did not change significantly over the decade. Their migration rates continued to be higher than for white females in the

subregion and, by 1970-1975, black females were almost as mobile as black males. Although both male and females had net outmigration in 1970-1975, the long period of heavy migration loss of black people from Southern Appalachia also appears to be nearing an end.

Selectivity of Migration Streams

The selectivity of migration streams by sex and race introduce additional complexity into the patterns of interregional migration. The basic geographical structure of migration streams discussed in Chapter 2 is a mirror for the distribution of Appalachians by sex and race. That is, the majority of migrants leave the Appalachian Region and, with the exception of Central Appalachia, the majority of the intra-Appalachian migrants remain in the same subregion. However, there are significant differences by sex and race in levels of mobility and preference of Appalachian migrants for other subregions in the United States.

Several of the differences between male and female migrants are characteristic of most, if not all, of the Appalachian Region.[3]

1. Males are more likely to remain in Appalachia than females. The differences were significant in both time periods for Northern and Southern Appalachia, and for Central Appalachia in 1970-1975.

2. Among migrants to the North, males had higher levels of preference for the North Central subregion while females had higher levels of preference for the Northeast. Among migrants to the South, females had higher levels of preference for the Southeast. These differences were especially pronounced for Central Appalachian migrants during the 1970-1975 period.

3. The in- and outmigration streams in each sex cohort are significantly related.

Table III-2
DISTRIBUTION OF APPALACHIAN OUTMIGRANTS, 1965-1970
BY REGION OF DESTINATION†
(Number of migrants in thousands)

	Appalachian Regions													
	Northern				Central				Southern					
	White Male		White Female		White Male		White Female		White Male		White Female		Black	
†Appalachia		(27.0%)		(22.2%)		(35.0%)		(27.2%)		(30.4%)		(24.6%)		(17.3%)
Northern	58.7	23.3%	16.3	20.4%	4.2	11.8%	0.6	3.7%	2.5	1.3%	0.2	0.3%	0.6	1.7%
Central	5.7	2.3	0.8	1.0	3.6	10.1	1.6	9.9	2.0	1.1	1.1	1.8	0.1	0.3
Southern	3.4	1.4	0.6	0.8	4.7	13.2	2.2	13.6	51.9	28.0	13.9	22.5	5.4	15.3
North		(56.1)		(59.3)		(30.8)		(31.4)		(15.6)		(16.6)		(32.4)
Northeast	90.5	36.0	33.8	42.3	1.5	4.2	2.0	12.3	14.7	7.9	6.7	10.9	4.9	13.9
North Central	52.4	20.1	13.6	17.0	9.5	26.6	3.1	19.1	14.3	7.7	3.5	5.7	6.5	18.5
South		(6.9)		(9.7)		(30.0)		(37.7)		(45.2)		(49.2)		(41.2)
Southeast	6.2	2.5	2.9	3.6	1.9	5.3	1.5	9.3	54.0	29.0	20.2	32.7	10.2	29.0
Florida	8.3	3.3	4.0	5.0	1.2	3.4	0.9	5.6	8.6	4.6	2.8	4.5	0.8	2.3
South Central	2.8	1.1	0.9	1.1	7.6	21.3	3.7	22.8	21.5	11.6	7.4	12.0	3.5	9.9
West	23.5	9.3	7.0	8.8	1.5	4.2	0.6	3.7	15.8	8.5	5.9	9.6	3.2	9.1
Totals	251.5	100.0%	79.9	100.0%	35.7	100.0%	16.2	100.0%	185.3	100.0%	61.7	100.0%	35.2	100.0%

†Includes interzonal migration *within* same Appalachian region.

Table III-3
DISTRIBUTION OF APPALACHIAN INMIGRANTS, 1965-1970
BY REGION OF ORIGIN†
(Number of migrants in thousands)

	Appalachian Regions													
	Northern				Central				Southern					
	White Male		White Female		White Male		White Female		White Male		White Female		Black	
†Appalachia		(31.3%)		(29.4%)		(40.1%)		(35.7%)		(33.7%)		(26.8%)		(24.7%)
Northern	58.7	27.9%	16.3	28.0%	5.7	20.2%	0.8	8.2%	3.4	1.9%	0.6	1.0%	–	–*
Central	4.2	2.0	0.6	1.0	3.6	12.8	1.6	16.3	4.7	2.6	2.2	3.5	–	–*
Southern	2.5	1.2	0.2	0.3	2.0	7.1	1.1	11.2	51.9	29.1	13.9	22.3	5.4	24.7%
North		(53.3)		(57.7)		(30.8)		(27.6)		(16.5)		(18.3)		(14.1)
Northeast	70.4	33.4	24.9	42.8	1.7	6.0	0.9	9.2	12.4	7.0	6.5	10.4	1.6	7.3
North Central	42.0	19.9	8.7	14.9	7.0	24.8	1.8	18.4	17.0	9.5	4.9	7.9	1.5	6.8
South		(5.6)		(7.1)		(24.1)		(28.6)		(41.2)		(41.8)		(57.6)
Southeast	6.4	3.0	1.9	3.3	1.1	1.9	0.8	8.2	45.2	25.4	17.6	28.2	8.3	37.9
Florida	3.3	1.6	1.5	2.6	0.6	2.1	0.3	3.1	7.7	4.3	1.8	2.9	0.5	2.3
South Central	2.1	1.0	0.7	1.2	5.1	18.1	1.7	17.3	20.5	11.5	6.7	10.7	3.8	17.4
West	21.0	10.0	3.4	5.8	1.4	5.0	0.8	8.2	15.3	8.6	8.2	13.1	0.8	3.7
Totals	210.6	100.0%	58.2	100.0%	28.2	100.0%	9.8	100.0%	178.1	100.0%	62.4	100.0%	21.9	100.0%

†Includes interzonal migration *within* same Appalachian region (which is also included in Table 2).

*None reported in 1% sample

Table III-4
DISTRIBUTION OF APPALACHIAN OUTMIGRANTS, 1970-1975
BY REGION OF DESTINATION†
(Number of migrants in thousands)

	Appalachian Regions													
	Northern				Central				Southern					
	White Male		White Female		White Male		White Female		White Male		White Female		Black	
†Appalachia		(28.5%)		(25.3%)		(50.8%)		(32.5%)		(31.6%)		(25.1%)		(16.4%)
Northern	56.0	25.4%	21.4	22.8%	4.2	16.8%	1.1	9.6%	2.1	1.3%	0.8	1.0%	–	–
Central	4.5	2.1	1.8	1.9	5.1	20.4	1.1	9.6	4.0	2.4	1.4	1.8	0.4	1.3
Southern	2.3	1.1	0.6	0.6	3.4	13.6	1.5	13.2	46.8	28.0	17.6	22.3	4.7	15.1
North		(48.2)		(49.6)		(11.6)		(21.1)		(11.9)		(13.5)		(20.9)
Northeast	63.9	29.5	33.3	35.5	0.7	2.8	0.5	4.4	8.0	4.8	6.2	7.8	3.6	11.6
North Central	48.6	18.7	13.2	14.1	2.2	8.8	1.9	16.7	11.8	7.1	4.5	5.7	2.9	9.3
South		(9.2)		(13.6)		(31.6)		(42.1)		(46.1)		(52.0)		(52.4)
Southeast	7.7	3.6	4.7	5.0	2.0	8.0	0.8	7.0	47.0	28.1	26.8	33.9	10.1	32.5
Florida	9.2	4.2	6.9	7.3	0.9	3.6	0.6	5.3	6.7	4.0	4.0	5.1	0.9	2.9
South Central	3.0	1.4	1.2	1.3	5.0	20.0	3.4	29.8	23.4	14.0	10.3	13.0	5.3	17.0
West	30.4	14.0	10.8	11.5	1.5	6.0	0.5	4.4	17.4	10.4	7.4	9.4	3.2	10.3
Totals	**216.6**	**100.0%**	**93.9**	**100.0%**	**25.0**	**100.0%**	**11.4**	**100.0%**	**167.2**	**100.0%**	**79.0**	**100.0%**	**31.1**	**100.0%**

†Includes interzonal migration *within* same Appalachian region

*None reported in 1% sample.

Table III 5
DISTRIBUTION OF APPALACHIAN INMIGRANTS, 1970-1975
BY REGION OF ORIGIN†
(Number of migrants in thousands)

	Appalachian Regions													
	Northern				Central				Southern					
	White Male		White Female		White Male		White Female		White Male		White Female		Black	
†Appalachia		(27.9%)		(28.4%)		(30.0%)		(26.1%)		(28.0%)		(23.8%)		(17.3%)
Northern	55.0	25.0%	21.4	26.1%	4.5	9.9%	1.8	10.9%	2.3	1.2%	0.6	0.7%	0.4	1.3%
Central	4.2	1.9	1.1	1.3	5.1	11.3	1.1	6.7	3.4	1.8	1.5	1.8	0.1	0.3
Southern	2.1	1.0	0.8	1.0	4.0	8.8	1.4	8.5	46.8	25.0	17.6	21.2	4.7	13.3
North		(55.7)		(56.3)		(34.7)		(35.1)		(18.6)		(18.1)		(22.0)
Northeast	71.2	32.4	32.6	39.8	3.3	7.3	1.9	11.5	14.8	7.9	8.7	10.5	3.5	11.7
North Central	51.1	23.3	13.5	16.5	12.4	27.4	3.9	23.6	20.0	10.7	6.3	7.6	3.1	10.3
South		(7.0)		(6.6)		(28.9)		(35.1)		(41.7)		(47.4)		(52.0)
Southeast	5.8	2.6	3.1	3.8	3.7	8.2	1.6	9.7	47.5	25.3	24.8	29.9	9.0	30.0	
Florida	7.3	3.3	1.7	2.1	1.2	2.6	0.5	3.1	8.8	4.7	4.2	5.1	0.6	2.0
South Central	3.1	1.4	0.6	0.7	8.2	18.1	3.4	21.6	21.9	11.7	10.3	12.4	6.0	20.0
West	19.8	9.0	7.2	8.8	2.9	6.4	0.6	3.6	21.9	11.7	8.9	10.7	2.6	8.7
Total:	219.6	100.0%	82.0	100.0%	45.3	100.0%	16.5	100.0%	187.4	100.0%	82.9	100.0%	30.0	100.0%

†Includes intercensal migration within same Appalachian region (which is also included in Table [illegible])

within this framework, the most significant changes in the pattern of selectivity of Appalachian migrants were restricted to relatively few streams, most of which were focused upon Central Appalachia.

Comparison of the in- and outmigration streams of white males and females for Northern and Southern Appalachia shows no significant differences in their relative distribution at regional scale from 1965-1970 to 1970-1975. That is, the pattern of change in the distribution of male and female in- and outmigrants was similar, although the rates of change were always greater for males. Such was not the case in Central Appalachia, where sharp reduction in the rate of outmigration of males, especially to the North Central and South Central regions, was combined with a sharp increase in the rate of inmigration from the North Central region and an increased propensity for migrants in 1970-1975 to remain in Appalachia, especially in Central Appalachia.[4] Reduction in the rate of outmigration of females from Central Appalachia in 1970-1975 was accompanied by a distinct reorientation of outmigration to the South, especially to the South Central region. The propensity of female migrants to stay in Appalachia also increased, but not nearly to the level of male migrants.

The patterns of selectivity among black migrants in Southern Appalachia also changed significantly over the decade. Relatively few black migrants remained in Southern Appalachia during the decade. The largest proportion of those who left in 1965-1970 moved to other parts of the South, with little difference between their distribution and that of whites from Southern Appalachia. This pattern changed sharply in the next five years. The proportion of black Southern Appalachians moving North was reduced by one-third; the inmigration of blacks from the North and Southeast region increased sharply; and outmigration to the South Central region nearly doubled. The net effect of these changes was that in 1970-1975, a majority (51 percent) of black Southern Appalachians went to destinations in the South, which represented a major reorientation of their migration. However, the proportion migrating within Southern Appalachia did not exceed 15 percent despite the reduction in the rate of net outmigration.

Age Selectivity of Appalachian Work Force Migrants

Given the patterns of selectivity by race and sex in interregional migration, the question of the age characteristics of migrants remains. Age is a migration differential which approximates a person's stage in the life cycle. Mobility rates commonly increase sharply between 15-19 and 20-24 years of age, and then decline to a relatively low and stable level from about 45 years on.[5] Because of restrictions in sample size for the Appalachian Region, the geographical detail of interregional migration streams is lost when migrants are cross-classified by race, sex and age cohort. However, aggregate data shown in age-sex pyramids at subregional scale clearly outline patterns of selectivity for Appalachian migrants.

Three generalizations can be made about the age distribution of interregional migrants in each of the three Appalachi subregions.[6]

1. Migrants were younger than nonmigrants. This was true of all groups in each subregion for both time periods.

2. Outmigrants were younger than inmigrants. The exceptions were in Northern Appalachia, where age distributions were similar, and in Central Appalachia, where male inmigrants were younger than outmigrants.

3. The bimodal age distribution common to the female labor force was especially pronounced among migrants. The critical age cohorts for female migrants were 25-29 and 35-54, whereas male migrants were concentrated in the 35-44 year group.[7]

The changes in Appalachian migration from 1965-1970, and 1970-1975 were concentrated in specific age groups. In Northern Appalachia, there was net outmigration among males and females in all age cohorts in 1965-1970. Subsequently, a reduction in the outmigration of males in the 34-44 age

Fig. 2

AGE-SEX PYRAMIDS OF INTERREGIONAL MIGRANTS AND NONMIGRANTS NORTHERN APPALACHIA 1965-1970 AND 1970-1975 (White only)

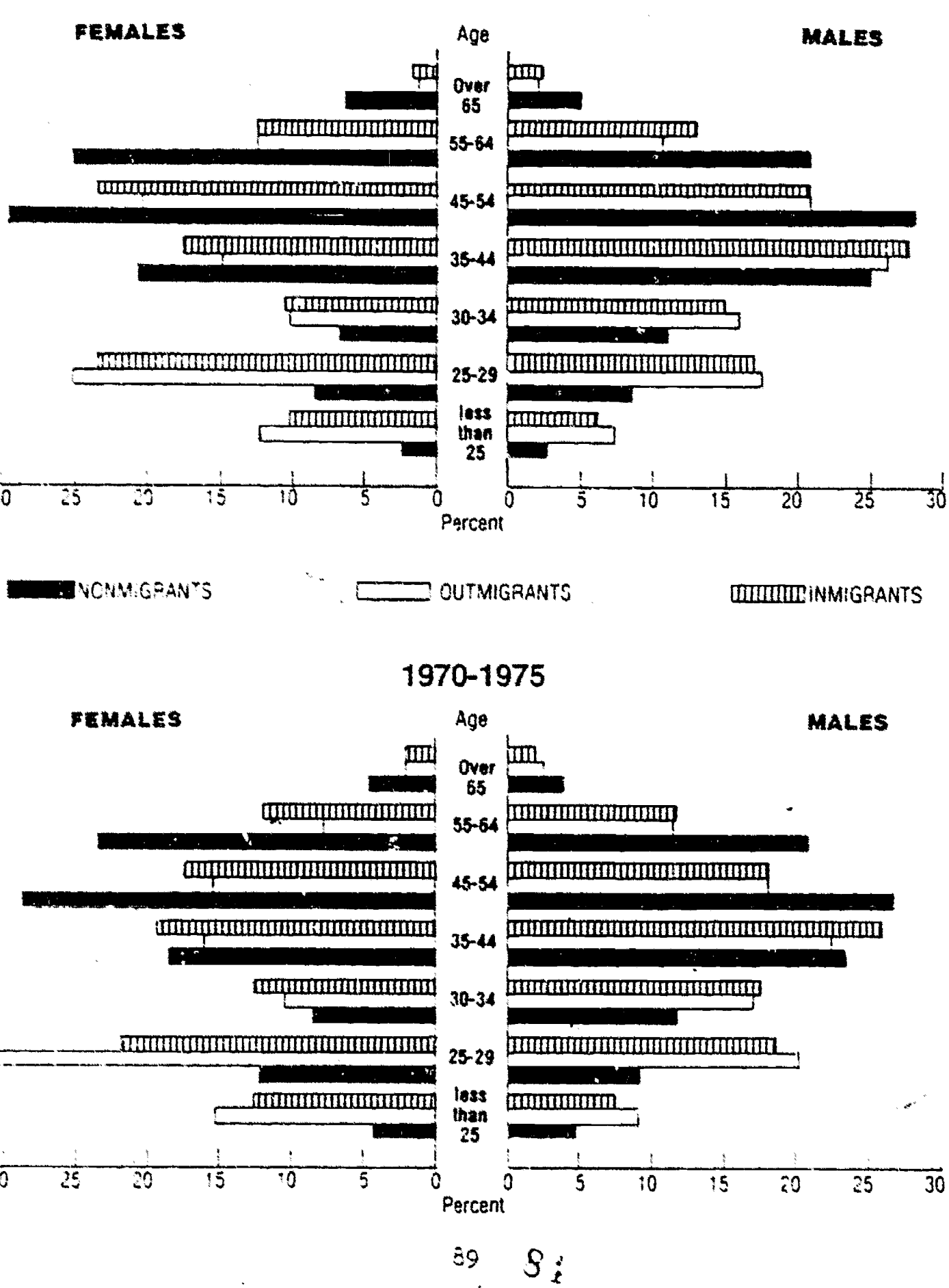

Fig. 3

AGE-SEX PYRAMIDS OF INTERREGIONAL MIGRANTS AND NONMIGRANTS CENTRAL APPALACHIA 1965-1970 AND 1970-1975 (White only)

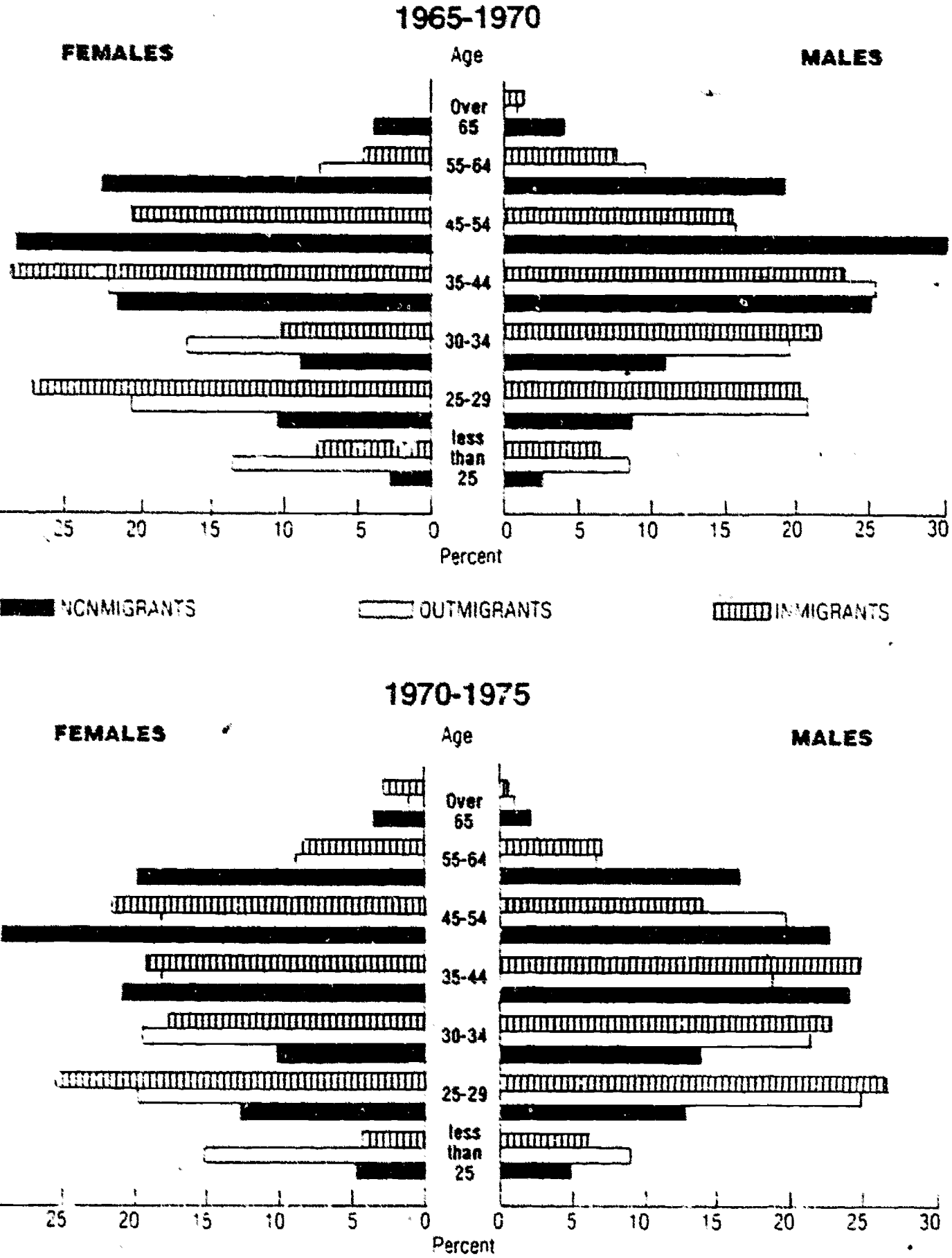

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Fig. 4

AGE-SEX PYRAMIDS OF INTERREGIONAL MIGRANTS AND NONMIGRANTS SOUTHERN APPALACHIA 1965-1970 AND 1970-1975 (White only)

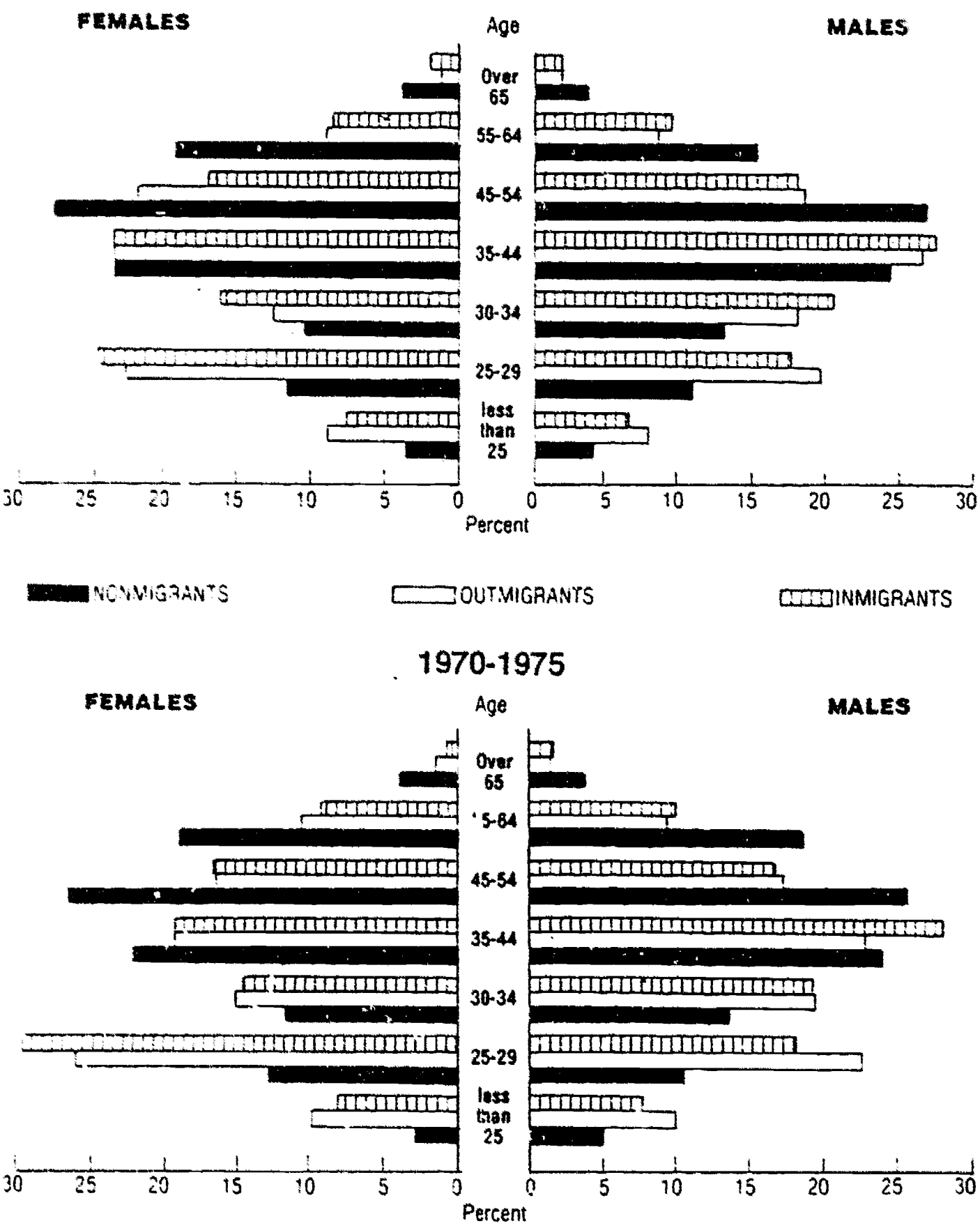
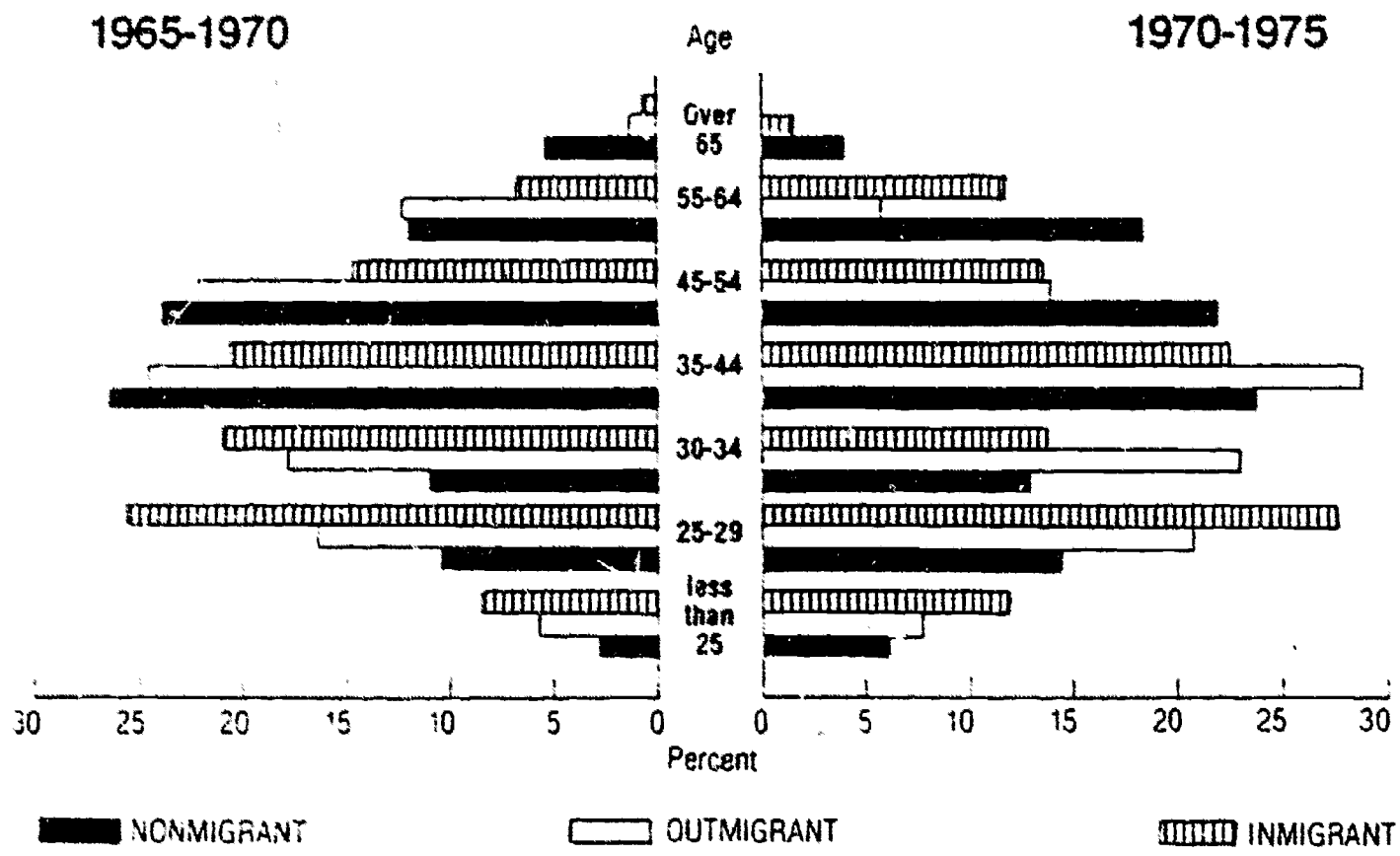


Fig. 5

AGE PYRAMIDS OF BLACK INTERREGIONAL MIGRANTS AND NONMIGRANTS

SOUTHERN APPALACHIA
1965-1970 AND 1970-1975



group, and increased inmigration in most other cohorts resulted in a change to net inmigration among males 45-64 years of age. Among females, the change to net inmigration was concentrated in the age groups 30-44, and 55-64. Changes in migration in Southern Appalachia were similar except that the turnabout to net inmigration include the 20-64 age cohorts for males and the 25-29 and 35-54 age cohorts for females.

Change in Central Appalachia was less clearly differentiated by age. Each age group, male as well as female, had net outmigration in 1965-1970; and, with the exception of males 65 years of age and older, each age group had experienced a reduction in outmigration and an increase in inmigration sufficient to have a net inmigration in 1970-1975. Change was concentrated in the 25-44 age group for males, and in the 25-54 year age groups for females. In Northern and Southern Appalachia, the age distribution of outmigrants became younger more rapidly than that of inmigrants through time. This was also characteristic of white females in Central Appalachia, where male inmigrants were younger than outmigrants in both time periods. This was the only exception to the general rule that outmigrants were younger than inmigrants in the Appalachian Region over the period 1965-1975.

Comparison of the age distributions of inmigrants from Appalachia and other places with the age distribution of nonmigrants in each of the other subregions demonstrates other dimensions of the age selectivity of Appalachian migration which are important in the migrants' destination (see Fig. 6 and 7). Three general patterns are clear:

1. Both Appalachian inmigrants and inmigrants from other regions were younger than nonmigrants at destination. This was true of all groups in all regions for both time periods.

2. Male Appalachian inmigrants were younger than inmigrants from other regions. This was also true of all subregions for both time periods.

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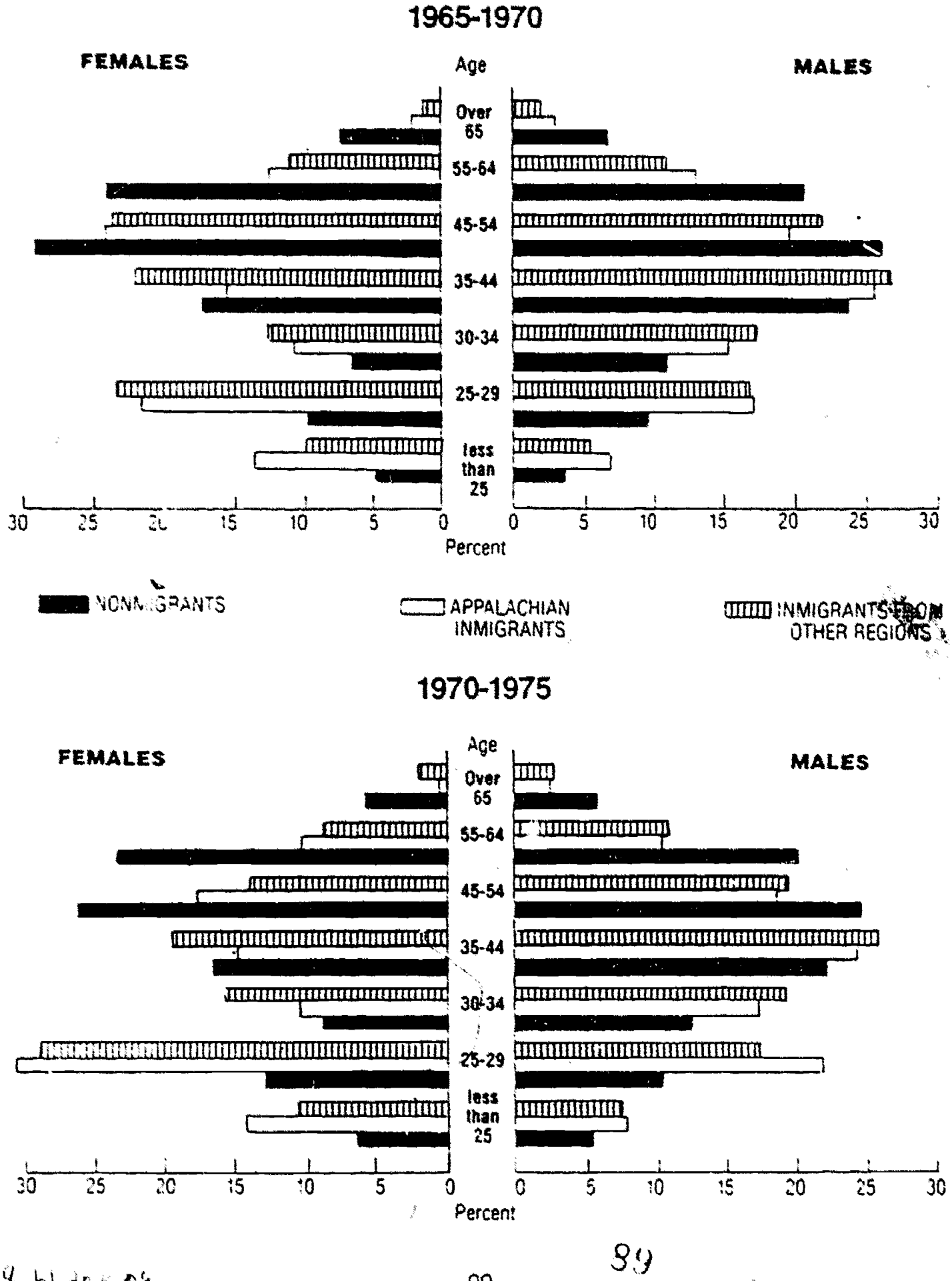
Fig. 6

AGE-SEX PYRAMIDS OF INTERREGIONAL INMIGRANTS AND NONMIGRANTS THE NORTHEAST REGION 1965-1970 AND 1970-1975 (White only)



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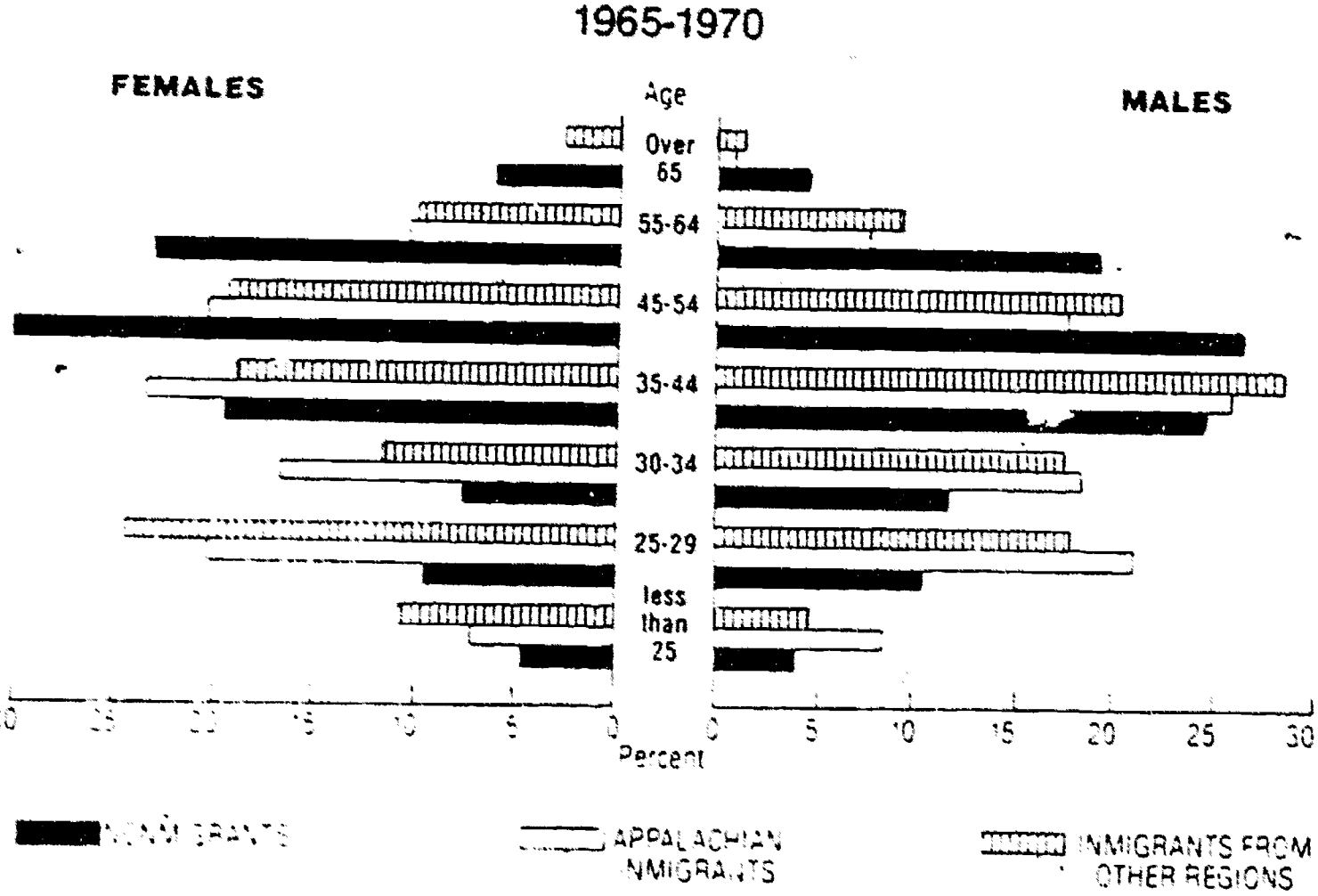
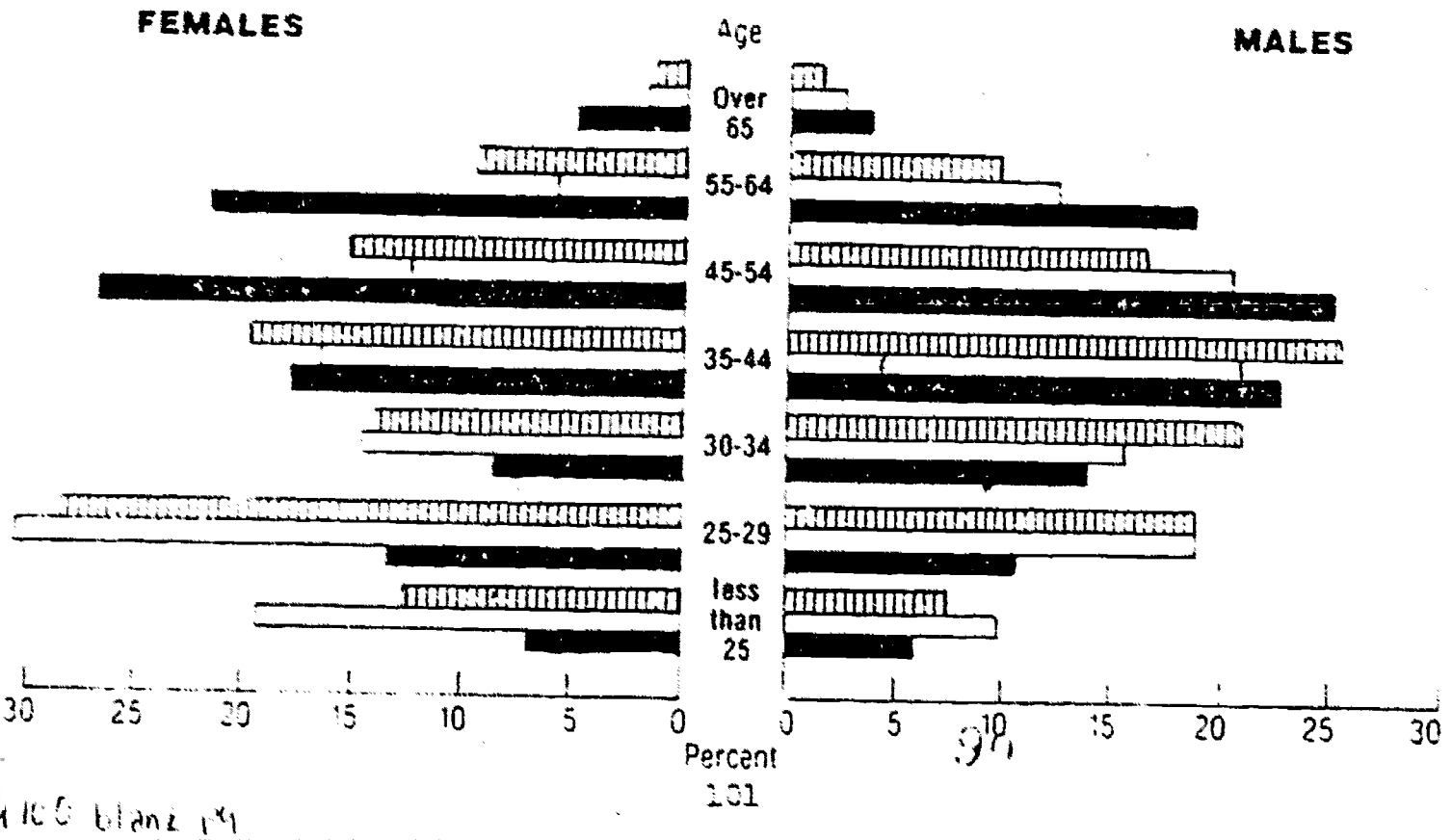
AGE-SEX PYRAMIDS OF INTERREGIONAL INMIGRANTS AND NONMIGRANTS THE NORTH CENTRAL REGION 1965-1970 AND 1970-1975 (White only)





3. <u>Through time, male Appalachian inmigrants became relatively younger than male inmigrants from other regions</u>. Although the age distribution of all groups was younger in 1970-1975 than ~~in~~ 1965-1970, the difference between Appalachian inmigrants and inmigrants from other regions increased. This was consistent with the increasing youthfulness of outmigrants from the Appalachian Region in 1970-1975.

The distinctiveness of the age distribution of male Appalachian inmigrants was most clearly defined in the North Central region (Fig. 7), which continued to be a major destination of outmigrants from Central and Southern Appalachia even in 1970-1975.

The patterns of age selectivity of female Appalachian inmigrants to other regions were much less clear. Compared to female inmigrants from other regions, the bimodal age distribution characteristic of outmigrants from Appalachian subregions also appeared in the age-sex pyramids of Appalachian inmigrants to other regions. Significantly larger proportions of Appalachian inmigrants were in the age cohorts of 29 and less, and 45-64, than were inmigrants from other regions. In 1970-1975, Appalachian inmigrants in the North Central subregion were younger than inmigrants from other subregions, primarily because of a shift in the age distribution of outmigrants from Appalachia to other age cohorts. But in the Southern subregions, inmigrants from other places were younger than those from Appalachia.

Summary

There were significant differences by race, sex and age in Appalachian migration behavior. Because they are the majority of the covered labor force, the behavior of white male migrants underlay the general patterns of change. Males were the most mobile group and experienced the greatest change. Compared with females, male migrants were more likely to remain in

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Appalachia and, in 1970-1975, males were more likely to move to the Region. Decreased rates of outmigration from Appalachia and increased rates of inmigration, especially from the North Central region, were characteristic of male migration. Female migrants were more likely to relocate in other regions, primarily in the South. The change in Central Appalachian migration is a case in point. However, even smaller proportions of blacks in Southern Appalachia remained in the Region despite a significant shift in their migration from North to South.

Selectivity by age generally follows expected patterns. That is, nonmigrants in the Appalachian Region and other places are older than migrants; and Appalachian migrants are younger than those from other places. Through time, outmigrants from Appalachia have become even younger than inmigrants to the Region and, in the case of males, Appalachian inmigrants to other places have become younger than inmigrants from other regions. The patterns of selectivity for Appalachian females are less consistent because of their bimodal age distribution in the labor force. But on the whole, Appalachian migration continues to add a relatively young population to other places and, in combination with the age of inmigrants, the Appalachian Region's population becomes relatively older.

Central Appalachia was the source of most exceptions to these generalizations. Selectivity by sex and age was mirrored in the aggregate patterns of change in mobility and the organization of migration streams. The turnabout in net migration was shared by all age groups, male as well as female. However, male inmigrants were younger than male outmigrants.

FOOTNOTES

[1]Education is also an important migration differential. However, measures of education are not included in the Continuous Work History Sample.

[2]Central Appalachia had the largest total shift in migration rates, with 14.6 percent for men and 10.3 percent for women. Comparable figures for Southern Appalachia were 4.0 percent and 1.4 percent, and 2.6 percent and 1.4 percent for Northern Appalachia; see Table III-1.

[3]See Tables III-2, III-3, III-4, and III-5.

[4]The rate of outmigration of males from Central Appalachia to the North Central region was reduced from 6 to 1.2 percent over the decade, and the rate of inmigration of males from the North Central subregion to Central Appalachia increased from 1.3 to 6.8 percent. In 1970-1975, the majority (50.8 percent) of Central Appalachian male migrants moved between zones within the Appalachian Region.

[5]Cf. Larry H. Long and Celia G. Boertlein. The Geographical Mobility of Americans: An International Comparison. Current Population Reports, Special Studies, Series P-23, No. 64.

[6]See Figs. 2, 3, 4, and 5. These generalizations are within the context of systematic variations in the age distribution of white nonmigrants and migrants among the Appalachian subregions. In 1965-1970, Northern Appalachia had the oldest population while Southern Appalachians were the youngest. Central Appalachians were in between the two extremes, although more like Northern than Southern Appalachia. Southern Appalachian blacks had the youngest age distribution of any group. The age distr on of all groups in all subregions was younger in 1970-1975 than in 19 -1970.

[7]In 1970-1975, the age distribution of the male labor force more closely resembled that of the females. The female labor force was significantly older than the males in all subregions at both times.

CHAPTER 4

RELATIVE INCOME CHARACTERISTICS OF APPALACHIAN MIGRATION

Introduction

Appalachian migration traditionally has been explained as a rational approach to interregional differences in economic opportunity. The large-scale outmigration of the 1940s and 1950s was considered to be a response to relative deprivation. It was a necessary adjustment to an imbalance between a rapidly growing regional labor force and declining job opportunities (cf. Brown and Hillery, 1962; and Brown, 1971 and 1972). The Appalachian Regional Commission's human resource development program proposed to improve the opportunities for Appalachian people to prosper wherever they might choose to live.

Studies of aggregate net migration conclude that Appalachians generally move to areas of higher income and greater opportunity (Levine and Addleman, 1973; Rutman, 1970; and Sanders, 1971). They seek out places within Appalachia as well as outside of the Region which have better opportunities, presumably in order to maximize their personal benefits within an environment of perceived differentials in economic opportunity. Studies of the costs and benefits of selected migration streams from Central Appalachia suggest that the great majority of the migrants are successful in that sense. They significantly increased their absolute incomes as well as their income positions relative to those who stayed in Appalachia; and, through time, most reach the income levels of previous inmigrants and long-term residents at their destinations. However, during the decade 1965-1975 the income benefits to Appalachian migrants relative to the income of migrants from other regions and of nonmigrants at their destinations, and changes in these benefits are not clear. Analysis of the Continuous Work History Sample (CWHS) data demonstrates that the income advantage of migration has varied through time, as well as with the direction of movement.

Appalachian Migration: A Review of Other Studies

The sensitivity of Appalachian migration to income differentials between Appalachia and other parts of the nation depends upon the size of the differential among alternate destinations, the characteristics of the destinations and the characteristics of the migrants. Central Appalachian high school seniors are especially sensitive to income differentials (Hansen, 1970; Hansen and Yokhin, 1970). They are at a stage in the life cycle when they are most likely to associate migration with locating a permanent job and establishing an independent household. Although a large majority of them would prefer to stay in their home region (i.e., in eastern Kentucky and eastern Tennessee), the majority were expected to leave Appalachia and probably not return.

The propensity to migrate from Appalachia depends upon the size of the income differential between the Region and other places. The majority of the high school seniors preferred to remain in Appalachia when incomes were approximately the same in all locations. As the differential increased, they preferred local growth centers, then regional capitals (i.e., Lexington, Kentucky and Knoxville, Tennessee) and large metropolitan centers located outside of Appalachia (e.g., Cincinnati, Atlanta, Chicago and Detroit). However, significantly large increments in income differentials were necessary to induce migration to metropolitan centers. Young men were potentially less inclined to leave Central Appalachia than young women, a difference which presumably reflected perceived differences in opportunities for men and women in Appalachia. But among those who migrated, young women were slightly more likely to go to nearer smaller cities while young men moved longer distances to larger cities.

Compared with high school seniors, people who were older heads-of-households, owned property and were more established in the community were much less likely to migrate, especially to a place outside of Appalachia (Smith and Klindt, 1976). They constitute the majority population in the

Region. Because they earn higher incomes and have more investments "at home," the income increment which would be necessary for them to migrate may be in excess of what they could expect to receive. The locational preferences of the Appalachian majority and high school seniors were similar. But the incremental incomes necessary for the former to migrate to regional centers and large metropolitan areas outside of Appalachia were significantly greater than in the case of high school seniors.

Micro-studies of Appalachian migration behavior clearly demonstrate that migration is a deliberate process designed to maximize personal and family income benefits. Appalachian migration tends to be job-related and kin-dominated. Getting a job, or getting a better job, is the single most important consideration for most migrants (especially males); and they go to places where the support from their network of relatives and friends is most useful (especially females). Studies of migration from eastern Kentucky to Lexington and Cincinnati provide detailed accounts of the strategies used in achieving the migrants' objective of gaining better employment, i.e., maximizing benefits, while reducing the uncertainty which surrounds the move (Deaton, 1972; and Morgan, 1973). Migration occurred when a job was secured.

The Appalachian poor follow similar strategies to achieve similar goals (abt, 1970; Peterson, Sharpe and Drury, 1976). Low-income people from eastern Kentucky migrated because they believed that it was easier to find employment in the city at better pay. The migrants who left Appalachia had lower-incomes than nonmigrants, but they gradually earned higher incomes in the areas to which they moved. Their migration, however, was more stimulated by economic stress in Appalachia than was the case of migrants from other areas. These moves were made in an environment of great uncertainty. The consequence is that they moved more frequently to get a job, rather than to get a better job; they may have depended more heavily upon support from friends and relatives; and they experienced greater

initial instability in the job market as they sought to improve their economic position. Assistance from relatives and friends, unemployment compensation and temporary resettlement back in Appalachia are means of coping with instability. Public assistance is essentially a last resort, and not a determinant of migration.

Private income gains from migration are positive for most Appalachian migrants. Morgan (1974), for example, reports that migrants from eastern Kentucky to Lexington and Cincinnati significantly increased their family incomes even considering cost-of-living differentials. Lexington migrants easily recaptured more than their costs in the first year after moving. Migration to Cincinnati was less profitable, yet their incomes were significantly higher than those of people who remained in eastern Kentucky. The economic success of the migrants to Lexington and Cincinnati was primarily the result of increasing the number of family members in the labor force. However, studies of individual personal income gains report similar results; that is, migrants from Appalachia increased their incomes more rapidly, and to higher levels, than those who stayed in the Region. The large absolute increases in income occurred upon migration and they were followed by a slow steady long-term improvement toward higher wage levels.

Relatively poor Appalachian migrants had similar results, although they reached lower-than-average income levels. Migrants from Appalachia consistently were reported to have lower premigration income levels, and to have achieved higher postmigration income levels, than those who remained in the Region. Recent migrants generally take relatively low entry level jobs in which skills and education are relatively unimportant as conditions of job placement. Consequently, their initial income is low and may be unstable as they search for better jobs at higher pay. They also may have lower initial incomes than long-term residents (Peterson, Sharp, and Drury, 1976). The majority of those who stay gradually improve their

income until, after several years, they are at the level of long-term residents. Men clearly profited more from migration than women. The majority of women who migrated to low-income areas in Cleveland had not planned to work. When they did get a job, the wages were low and increased slowly. Among southern migrants to Cleveland, income benefits differed sharply by sex and race. Black women realized essentially no personal income benefit from moving.

Much less is known about the costs and benefits of migration to Appalachia. The majority of the attention has focused upon return migration (cf. Sanders, 1972; Wiedemann, 1968; and Deaton, 1972). Feelings of nostalgia, and dissatisfaction with social relationships and community life in cities are significant characteristics of the adjustment patterns of a large minority of Appalachian migrants. Surveys of return migration to Central Appalachia in the late 1950s and 1960s concluded that the returnees, most of whom were marginally attached to the labor force at their one-time destination, returned to Appalachia because they had failed to solve satisfactorily their urban adjustment problems. Subsequent research has demonstrated that there are, in fact, two groups of returnees, one of which has relatively high socioeconomic status. In any case, return migrants were a minority (20 or 30 percent) of total inmigration to Appalachia. Returnees were more similar to nonmigrants in Appalachia in many respects, including income levels, than to nonreturn migrants. The latter were clearly better skilled and better educated than either nonmigrants or return migrants, especially in those counties which had a high rate of inmigration.

Compared with the micro-level studies, regional analyses of the income benefits to Appalachian migration have produced conflicting results. Gallaway, McBride and Vedder (1971), for example, analyzed "recent" (i.e., 1955-1960) migration data from the 1960 census for the Appalachian and non-Appalachian portions of Appalachian states. They concluded that Appalachian outmigrants, although slightly more sensitive to income

differentials and job opportunities than non-Appalachian outmigrants, had failed to improve either their absolute or relative income status as a result of locational decisions although others had succeeded. Hirschberg's (1968) analysis of Continuous Work History Sample data for 1957-1963, however, did not support that conclusion. He reported that (Hirschberg, 1968, p. 31):

> ...those who migrate increase their wages faster than those who did not migrate; those who migrate long distances increase their wages faster than those who migrate short distances. Long-distance Appalachian migrants increased their wages faster than short-distance migrants; the latter in turn increased their wages faster than those who have remained in Appalachia. Those who remained in Appalachia had higher initial wages than those who migrated from Appalachia. Among migrants, short-distance movers earned lower wages than long-distance movers.

The income benefits to migration were greater for men than for women, and for whites than for blacks. Black males received lower absolute wages than white males, and had lower rates of wage increase irrespective of their migration decisions. Also, migrants to Appalachia had higher premigration incomes than outmigrants, although the rate of increase for inmigrants was slower.

In summary, the existing studies of the personal income benefits associated with Appalachian migration suggest that the results of the decision to migrate have been favorable for most. Although outmigrants from Appalachia originally had lower incomes than nonmigrants, they increased their incomes more rapidly than these nonmigrants to reach levels which approximated those of previous inmigrants and long-term residents in the places to which they moved. Except for return migrants, migrants to

Appalachia had higher incomes than prevailed in the Region, although their income increased relatively slower. The degree to which an individual migrant participated in these personal income benefits, however, depended upon sex, race and distance migrated as well as other migrant characteristics.

The extent to which these findings can be generalized across the Appalachian subregions and through time is limited. First, the microeconomic studies of costs and benefits are limited to a few migration streams between areas in Central Appalachia, West Virginia and a few midwestern cities (e.g., Cincinnati, Cleveland, Lexington, Indianapolis and Detroit) while the gross regional framework which Hirschberg used is not sensitive to the relationship between the geography of interregional migration and income change.[1] Other studies at regional and subregional scale are not helpful because either income or migration, or both, are measured in the aggregate.[2] Second, almost a decade separates the earlier large-scale studies such as Hirschberg's, and the more recent micro-level research. Migration patterns have changed considerably during that time. Since migration strategies and income benefits are interrelated, the income characteristics of Appalachian migration may have changed as well. Third, the measures of income benefits compare the income levels of Appalachian migrants with nonmigrants, usually in Appalachia, with the migrants' premigration and postmigration income levels and with the incomes of previous migrants and long-term residents of the destination. Appalachians are the reference group for each measure. These studies fail to explain how income gains of Appalachian migrants compare relative to other groups, or what the relative change in income benefits are that follow interregional migration.

Measuring Relative Income Benefits

Determination of the personal income benefits associated with Appalachian migration follows a methodology developed by Trott, Mason and Smith (1974) to analyze the relative income characteristics of interregional migrants.

They used the Continuous Work History Sample as their primary source of data. In this study, the methodology is expanded to include two time periods, 1965 to 1970 and 1970 to 1975. The analysis is restricted to white males in the covered labor force because of much smaller sample sizes for the interregional migration streams of female and black Appalachians. White males were the majority of the migrants, as well as the group most strongly attached to the labor force.

The premigration (1965 and 1970) and postmigration (1970 and 1975) average annual earnings provide estimates on the income characteristics of Appalachian migration streams through time.[3] They are the basis for measuring the income selectivity of migration, as well as gains in current income for migrants and nonmigrants. The average absolute gains in earnings of migrants to and from Appalachia were positive in both time periods. However, these changes must be qualified by comparing the migrants' gains with the gains of nonmigrants in their respective places of origin. In order to make this comparison, it is necessary to assume that if the migrants had stayed, they would have received the same gains in average earnings as nonmigrants. Postmigration earnings can then be compared with the earnings of nonmigrants in either the regions of origin or of destination.

The absolute gain in earnings associated with migration does not consider interregional differences in cost-of-living. These differences are important, as people presumably migrate to improve their real income position. Consistently defined cost-of-living data are not available. Trott, Mason and Smith (1974) use measures of relative income to compare migrants' earnings with those of nonmigrants, at both origins and destinations, and to relate absolute earnings gains to regional differentials. Implicit in this analysis, therefore, is the assumption that differences in cost of living among areas are accurately reflected in differences in levels of average income. Of course, even if this were an accurate measure, other considerations play a role in individual assessment of the overall satisfaction from migration.

Relative income position is calculated from the simple ratio of:

(1) $Y_R,t_o = (\bar{E}_{mi}/\bar{E}_{si})\ t_o$

(2) $Y_R,t_1 = (\bar{E}_{mj}/\bar{E}_{sj})\ t_1$

where Y_R is relative income position and $Y_R \geq 1.00 \geq Y_R$

$\bar{E}$ is average absolute earnings

m,s reference migrants and nonmigrants, or stayers, respectively

i,j reference origin and destination respectively, and

t_o, t_1 reference the beginning and end of each time period respectively.

Ratio (1) compares the premigration (i.e., 1965 to 1970) absolute annual average incomes of migrants relative to the incomes of nonmigrants in their subregions of origin; ratio (2) compares the postmigration (i.e., 1970 to 1975) absolute average annual incomes of migrants relative to the incomes of nonmigrants in their subregions of destination.

The change in relative income position is then measured by a ratio of the postmigration relative income position to the premigration relative income position:

(3) $Y_R,t_1/Y_R,t_o = (\bar{E}_{mj}/\bar{E}_{sj})t_1/(\bar{E}_{mi}/\bar{E}_{si})t_o$

This ratio measures the relative change in relative income, taking into account the income differences which exist between regions i and j. The values reference on unity, which represents the average annual earnings of

nonmigrants and denotes the percentage change in relative income position over time. A value greater than unity indicates that the migrants' gains are in excess of the regional differential; conversely, a value less than unity suggests that the migrants' gains have failed to equal the regional differential.

Income Benefits for White Male Appalachian Migrants in the Labor Force

Period 1: 1965 to 1970

The income differentials among non-Appalachian regions of the United States in 1965 followed a familiar pattern (Table IV-5).[4] Average annual incomes of white male nonmigrants ranged from highs of $6,879 in the North Central region and $6,751 in the Northeast to $5,347 in the South Central region. The regions of Appalachia generally conformed to this north-south pattern, with an average income in Northern Appalachia of $6,060 and of $5,198 in Southern Appalachia. Central Appalachia had an average income of $4,840, the lowest in the United States. Although absolute income differentials between Appalachia and other parts of the country increased by 1970. Premigration (1965) incomes of outmigrants were less than those of nonmigrants in each region of the United States. The largest difference was in Central Appalachia, where the outmigrants' average premigration income of $3,736 was only 77 percent of the $4,840 income of zonal nonmigrants. In Northern Appalachia, the premigration income ratio was 92 percent and in Southern Appalachia, 89 percent, of the nonmigrant level. Table IV-1 presents the pattern of differentials in migrant incomes and changes in income, compared with nonmigrants, for six regions (combining several in Table IV-5), to provide data with higher reliability in interregional flows.

By 1970, Appalachian migrants to most regions, including Northern Appalachia, had achieved an income level which was greater than that of nonmigrants in their region of origin. On the average, the postmigration

Table IV-1

AVERAGE ANNUAL EARNINGS OF WHITE MALES, U.S. REGIONS, MIGRANTS COMPARED WITH NONMIGRANTS, 1965–1970

		Regions of Destination							
		Appalachia		Northern					
	Regions of Origin	Northern	Central and Southern	Northeast	North Central	Southern	Western	Total,* Out-Migrants (Average)	Non-Migrants Average
Appalachia	Northern (Number)†	*(58.7)*	*(9.1)*	*(90.5)*	*(52.4)*	(17.3)*	(23.5)*	(192.8)	(1,045.9)
	1965	$ 4,827	$ 6,006	$ 5,956	$ 5,287	$ 6,295	$ 5,860	$ 5,795	$ 6,060
	1970	8,040	8,790	9,959	9,196	9,182	10,138	9,648	8,590
	Gain, 1965–1970	$ 3,213	$ 2,784	$ 4,003	$ 3,909	$ 2,887	$ 4,276	$ 3,853	$ 2,530
	Central and Southern (Number)	*(6.7)*	*(62.2)*	(16.2)*	(73.8)*	(94.8)	(17.3)*	(158.8)	(635.5)
	1965	$ 5,076	4,313	5,390	4,440	4,264	5,461	$ 4,570	$ 5,116
	1970	8,890	6,699	8,738	8,467	7,095	9,474	7,803	7,576
	Gain, 1965–1970	$ 3,814	2,386	3,348	4,027	2,831	4,013	$ 3,233	$ 2,460
Northern	Northeast (Number)	(70.4)	*(14.1)*	(414.2)	(108.9)	(109.7)	(172.9)	(476.0)	(5,700.0)
	1965	$ 5,841	5,536	6,314	7,102	6,219	6,954	$ 6,611	$ 6,751
	1970	8,996	8,161	10,167	11,365	9,212	10,842	10,234	9,942
	Gain, 1965–1970	$ 3,155	2,625	3,853	4,263	2,993	3,888	$ 3,623	$ 3,191
	North Central (Number)	(42.0)*	(24.0)*	(113.3)	(464.3)	(87.4)	(192.4)	(459.1)	(4,509.1)
	1965	$ 6,469	5,305	7,514	5,841	5,903	6,119	$ 6,412	$ 6,879
	1970	9,391	6,525	11,818	9,333	8,218	9,598	9,703	9,898
	Gain, 1965–1970	$ 2,922	1,220	4,304	3,492	2,315	3,480	$ 3,291	$ 3,019
	Southern (Number)	*(11.8)*	(80.2)	(83.1)	(65.3)	(278.9)	(85.5)	(325.9)	(1,927.8)
	1965	$ 5,195	4,427	5,443	5,120	4,579	5,140	$ 5,040	$ 5,452
	1970	8,765	7,376	9,480	9,029	7,646	8,928	8,701	8,138
	Gain, 1965–1970	$ 3,570	2,949	4,037	3,909	3,067	3,788	$ 3,661	$ 2,686
	Western U.S. (Number)	(21.0)*	(16.7)*	(149.3)	(178.5)	(114.1)	(452.5)≠	(479.6)	(6,745.1)
	1965	$ 6,433	5,218	6,371	5,886	6,253	5,461	$ 6,125	$ 6,207
	1970	10,741	7,985	10,653	9,838	9,175	8,776	9,909	9,139
	Gain, 1965–1970	$ 4,308	2,767	4,282	3,952	2,922	3,315	$ 3,784	$ 2,932
	Total, Inmigrants (Number)	(151.9)	(144.1)	(452.4)	(428.9)	(423.3)	(491.6)	(2,092.2)	(20,563.4)
	(Average) 1965	$ 6,012	$ 4,873	$ 6,368	$ 5,926	$ 5,728	$ 6,207	$ 5,981	$ 6,393
	1970	9,324	7,470	10,521	9,947	8,521	9,940	9,565	9,358
	Gain, 1965–1970	$ 3,312	$ 2,597	$ 4,153	$ 4,021	$ 2,793	$ 3,733	$ 3,584	$ 2,965

Italics indicate sample size with standard deviation of earnings more than 10 percent of the values shown; as follows: 141 (10 percent); 118 (11 percent); 91 (12½ percent); 67 (14 percent).

*Indicates sample size with standard deviations between 5 and 10 percent. 500 (5 percent); 400 (6 percent); 300 (7 percent); 200 (8½ percent); 150 (10 percent). This implies that in about one-third of cases, the average earnings differ from a complete census by more than the stated percentage.

†Number in thousands; if the decimal point is omitted, the number is the number of cases in the 1 percent sample.

*Outmigrants and inmigrants refer to interregional migrants, excluding migrants within the same region. Intraregional migrants (within the same region) are migrants between zones within each region. Nonmigrants are white males in the covered labor force who were working in the same zone in 1965 and 1970.

≠In the Western U.S. migration between the four census divisions (W.N. Central, W.S. Central, Mountain, and Pacific).

Source: Special tabulations of 1% Continuous Work History Sample data by migration zones and regions, Bureau of Economic Analysis, U.S. Department of Commerce, for the Appalachian Regional Commission. Data summarized and tabulated by ARC staff.

Table IV-2

RELATIVE GAIN IN RELATIVE INCOME POSITIONS OF WHITE MALE MIGRANTS, ALL AGES, 1965–1970
REGION OF DESTINATION

	Appalachia			Northern		Southern			
Region of Origin	Northern	Central	Southern	Northeast	North Central	Southeast	Florida	South Central	Western U.S.
Northern Appalachia	1.18	(1.2)	(1.1)	1.02	1.06	(1.2)	(1.0)	(0.9)	1.11
Central Appalachia	(1.0)	(1.3)	(1.2)	(0.8)	(1.2)	(1.1)		(1.1)	(0.9)
Southern Appalachia	(1.1)	(1.1)	1.03	(0.8)	(0.9)	1.07	(1.0)	1.08	0.99
Northeast	1.21	(1.2)	(1.3)	1.09	1.10	1.32	1.08	(1.3)	1.15
North Central	1.16	(1.2)	1.11	1.09	1.11	1.29	1.01	1.26	1.18
Southeast	(1.1)		1.15	0.92	0.93	1.13	1.06	(1.1)	1.04
Florida	(1.1)	(1.3)	(1.2)	0.94	0.96	1.17	1.06	(1.1)	1.08
South Central	(0.9)		1.29	0.92	1.00	(1.3)	(1.2)	1.13	1.00
Western U.S.	1.21	(1.4)	1.24	1.04	1.05	1.15	1.00	1.18	1.09

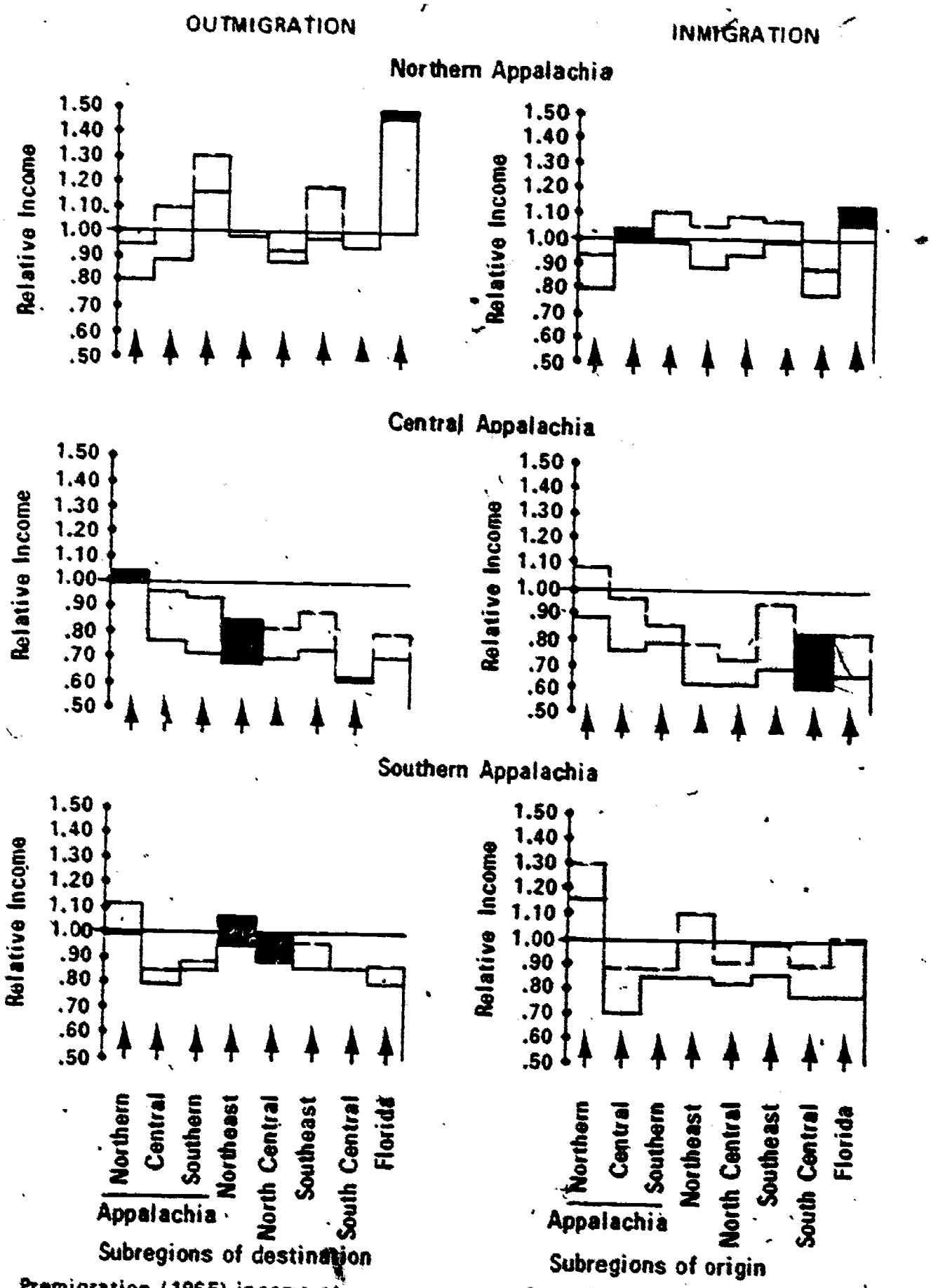
NOTE: Data enclosed in parentheses ( ) are based on small sample numbers which have standard deviations of the earnings ranging upward from 10 percent to just over 30 percent of the base figure. See footnotes to Table IV-5.

Figure 8

RELATIVE INCOMES OF MIGRANTS FROM AND TO APPALACHIA

WHITE MALES, ALL AGES

1965-1970



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income of Northern Appalachian outmigrants exceeded that of nonmigrants by over $1,000. On the average, outmigrants from Central and Southern Appalachia realized large increases in income but did not reach the 1970 income level of nonmigrants in their respective origins. Central Appalachians who migrated to the North Central subregion achieved income levels which were above those of nonmigrants in Central Appalachia. Central Appalachians who went to the North Central region were the only ones, to more than double their income. Southern Appalachian migrants to the North, including Northern Appalachia and the western United States had income levels above those of nonmigrants. Those who migrated to regions in the South averaged $7,190 in 1970, substantially less than for the former group.

Relative Incomes of Migrants. As noted, all migrants substantially improved their economic circumstances from 1965-1970. Absolute incomes rose and in the case of Central Appalachia migrants to North Central, their incomes more than doubled. But what about their standing in their destination regions? By and large, all migrants improved their relative status as well. Exceptions are those few cases with an index less than 1 in Table IV-2. The relative income positions of white male migrants from Appalachia are shown graphically in Figure 8. The solid line charts the premigration (1965) income position of migrants from particular Appalachian subregion relative to the 1965 income of nonmigrants in that subregion. An income position above the index line of 1.00 (i.e., nonmigrant wages in the respective Appalachian region in 1965) indicates that the premigration incomes of migrants to that region were higher than those of nonmigrants at origin. An income position below the index line indicates that the migrants average premigration income was less than that of nonmigrants at their region of origin.

The dashed (red) lines show the postmigration (1970) income positions of Appalachian migrants relative to the 1970 incomes of nonmigrants in the subregions to which they moved. In this case, the index line of 1.00 references the income of nonmigrants at destination.

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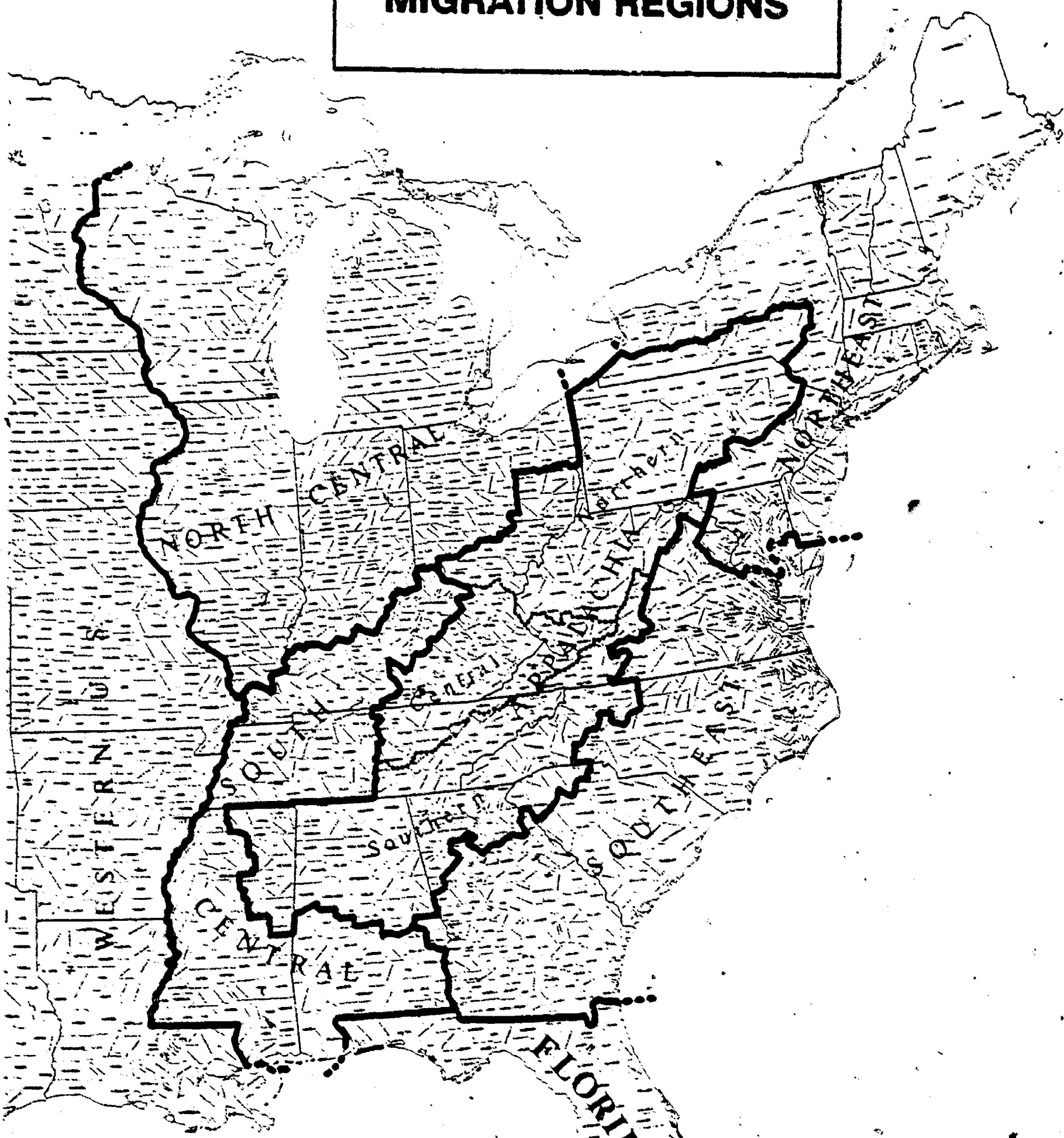
Inmigrants to Appalachia from other subregions of the United States had premigration (1965) incomes which, on the average, were below the income of nonmigrants in the places from which they moved, as well as below the incomes of migrants who went to non-Appalachian regions (Table IV-5). Migrants to Northern Appalachia had incomes which averaged 88 percent of the nonmigrants' incomes in the regions from which they came. The figures for Southern and Central Appalachia were 76 and 65 percent, respectively. Despite their relatively low income outside of Appalachia, inmigrants generally improved their income position in each of the Appalachian regions.

The premigration (1965) relative income position of migrants underscores the generalization that migrants have below average premigration incomes. Compared with migrants from other regions in the eastern United States, the poverty of Central Appalachian migrants is obvious, as premigration incomes were by far the lowest of any region of origin.

Migrants from other regions clearly improved their relative income position by 1970. Northern Appalachian migrants had done almost as well; Southern Appalachian migrants had mixed results, although the overall shift was an improvement in their position. In the case of Central Appalachia, migrants improved their general position significantly despite the relative loss in position for selected streams. Southern and Central Appalachian outmigrants had significant income gains, and moved closer to parity with nonmigrants at their destinations. However, their improvement was less than that of migrants from all other regions, including Northern Appalachia. Despite the gains in relative income to Appalachian migrants, they generally did not achieve 1970 income levels equivalent to those of migrants from other parts of the United States who moved to the same regions.

MIGRATION REGIONS

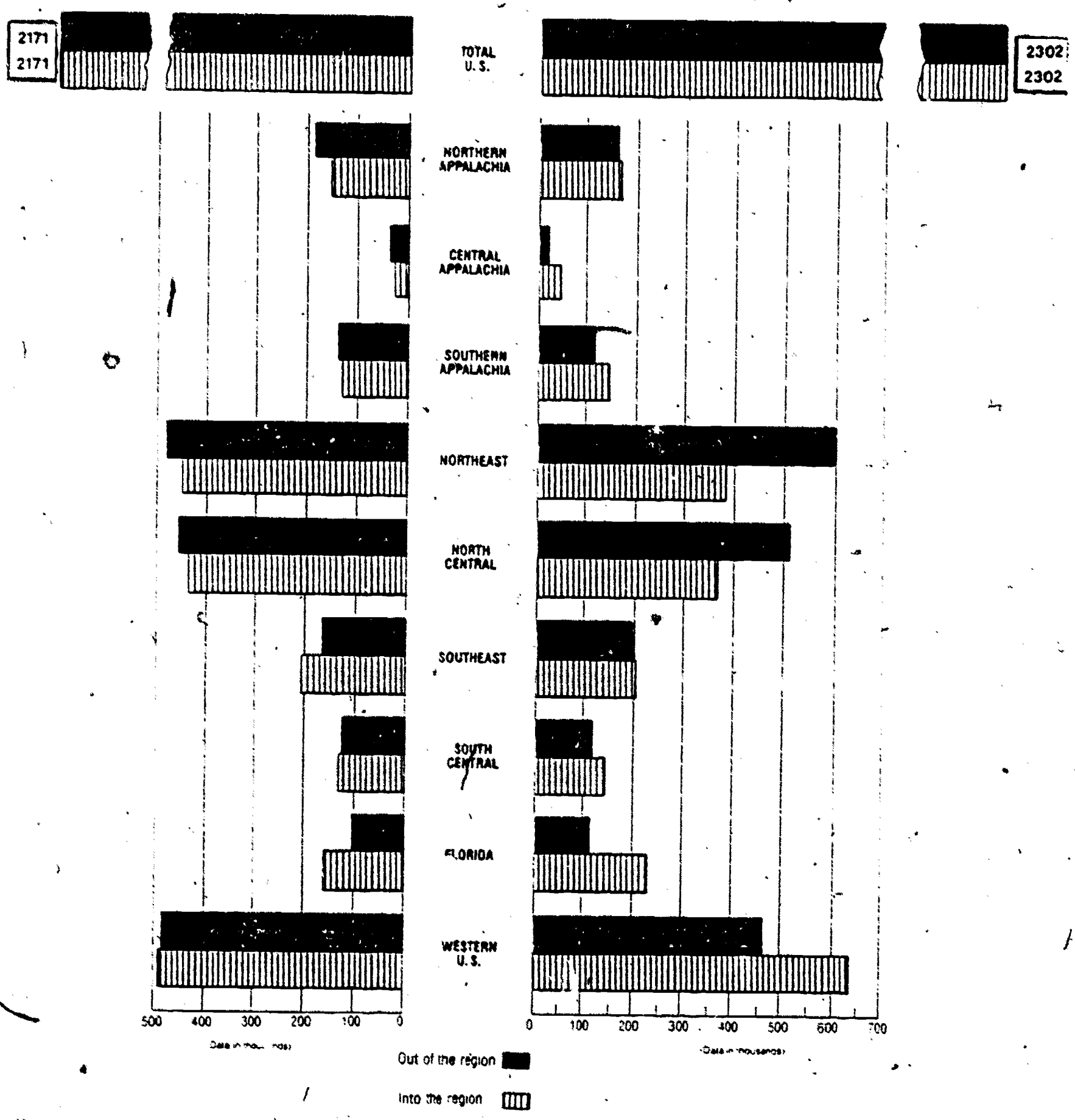


NOTE: Lincoln County, WV, part of Central Appalachia, is included with the Northern Appalachia subregion; and, Anderson County, TN, part of Central Appalachia, is included with the Southern Appalachia subregion.

Both of these counties have heavy 1970 commuting flows within the subregions to which they have been reassigned for migration study purposes.

Figure 10

INTERREGIONAL MIGRATIONS of white males



*Data are for white males in the covered work force. Social Security in the first quarter of both years, 1970 and 1975. These constituted 78 percent of the estimated total of all migrants.

Data are for white males in the covered work force. Social Security in the first quarter of both years, 1965 and 1970. These constituted 78 percent of the estimated total of all migrants.

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Period 2: 1970-1975

The average premigration (1970) incomes of white male migrants in the United States continued to be lower than those of nonmigrants in their respective regions of origin (Tables IV-3 and IV-6). Central Appalachia continued to have the largest income differential between outmigrants and nonmigrants although, in 1970, the premigration incomes of outmigrants were about 82 percent of the nonmigrant average. There was no significant change in the general regional income characteristics of Appalachian migration; that is, those with above average premigration incomes continued to move to northern regions and western U.S.; those with below average incomes went south.

Although the pattern of migration was similar to the previous period, the relative changes in income which resulted were not. The average postmigration (1975) incomes which outmigrants achieved did not reach the income levels of nonmigrants in Appalachia. The absolute increases in migrant incomes were larger in many cases, but only selected migrant streams reached parity with nonmigrant Appalachians in each region. Northern Appalachians who migrated to the North Central, and Southern Appalachians who moved to Whe west, clearly surpassed the incomes of nonmigrants in their respective subregions of origin. In Central Appalachia, the average postmigration income fell below the average income level of nonmigrants in 1975, although the average dollar gain for 1970-1975 was comparable. Central Appalachia, which had the lowest nonmigrant income level a decade earlier, now had higher <u>average</u> nonmigrant income levels for white males in 1975 than Southern Appalachia, the Southeast and the South Central regions.

The relative income positions of Appalachian migrants also changed as a result of the moves (Figure 11 and Table IV-4). Compared with 1965, the premigration income position of outmigrants in 1970 had remained similar in Northern and Southern Appalachia, but had increased significantly for

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Table IV-3
AVERAGE ANNUAL EARNINGS OF WHITE MALES, U.S. REGIONS, MIGRANTS COMPARED WITH NONMIGRANTS, 1970-1975

Regions of Origin	Regions of Destination: Appalachia — Northern		Northern — Northeast	Northern — North Central	Southern	Western	Total,× Out-Migrants (Average)	Non-Migrants (Average)
	Northern	Central and Southern						
Appalachia								
Northern (Number)†	(55.0)	*(6.8)*	(63.9)	(40.6)*	(19.9)*	(30.4)*	(161.6)	(960.8)
1970	$ 6,463	$ 7,091	$ 8,034	$ 7,937	$ 6,839	$ 8,859	$ 7,978	$ 8,146
1975	10,830	11,432	12,629	13,764	10,610	13,094	12,702	12,591
Gain, 1970–1975	$ 4,367	$ 4,341	$ 4,595	$ 5,827	$ 3,771	$ 4,325	$ 4,724	$ 4,445
Central and Southern (Number)	*(6.3)*	(59.3)	*(8.7)*	*(14.0)*	(85.0)	(18.9)*	(132.9)	(683.5)
1970	$ 6,882	6,183	6,785	6,411	6,070	7,183	$ 6,350	$ 7,233
1975	14,191	10,435	12,414	10,611	9,951	12,933	10,807	10,935
Gain, 1970–1975	$ 7,309	4,252	5,629	4,200	3,881	5,750	$ 4,457	$ 3,702
Northern								
Northeast (Number)	(71.2)	(18.1)*	(427.2)	(108.9)	(158.4)	(241.9)	(598.5)	(5,058.3)
1970	$ 8,093	8,523	8,492	10,057	7,888	9,327	$ 8,908	$ 9,490
1975	12,180	11,407	13,214	15,598	11,013	13,984	13,198	13,958
Gain, 1970–1975	$ 4,087	2,884	4,722	5,541	3,125	4,657	$ 4,290	$ 4,468
North Central (Number)	(51.1)	(32.4)*	(92.0)	(414.3)	(108.1)	(230.6)	(514.2)	(4,296.0)
1970	$ 8,360	7,504	9,532	8,075	7,811	8,195	$ 8,328	$ 9,389
1975	13,393	10,064	15,588	12,378	10,212	12,302	12,418	13,821
Gain, 1970–1975	$ 5,033	2,560	6,056	4,303	2,401	4,107	$ 4,090	$ 4,432
Southern (Number)	(16.2)*	(91.3)	(69.4)	(50.4)	(286.5)	(115.3)	(342.6)	(1,974.5)
1970	$ 9,215	6,331	7,718	6,917	6,304	7,535	$ 7,240	$ 7,795
1975	13,686	10,105	12,320	12,476	10,218	12,078	11,736	11,636
Gain, 1970–1975	$ 4,471	3,774	4,602	5,559	3,914	4,543	$ 4,496	$ 3,841
Western U.S. (Number)	(19.8)*	(24.8)*	(149.6)	(153.3)	(113.9)	(452.3)#	(461.4)	(6,786.4)
1970	$ 7,503	9,048	9,212	7,898	7,516	7,522	$ 8,274	$ 8,395
1975	12,666	13,397	14,666	12,814	11,843	11,726	13,192	12,885
Gain, 1970–1975	$ 6,237	4,351	5,454	4,916	4,297	4,204	$ 4,918	$ 4,490
Total, Inmigrants (Number)	(164.6)	(173.4)	(383.6)	(367.2)	(485.3)	(637.1)	(2,211.2)	(19,759.5)
1970	$ 8,169	$ 7,198	$ 8,767	$ 8,352	$ 7,422	$ 8,507	$ 8,161	$ 8,779
1975	12,840	10,756	14,072	13,615	10,819	12,957	12,609	13,157
Gain, 1970–1975	$ 4,671	$ 3,558	$ 5,305	$ 5,263	$ 3,397	$ 4,450	$ 4,448	$ 4,378

Italics indicate sample size with standard deviation of earnings more than 10 percent of the values shown; as follows: 140 (10 percent); 87 (12½ percent); 68 (14 percent); 63 (14½ percent).

*Indicates sample size with standard deviations between 5 and 10 percent: 500 (5 percent); 400 (6 percent); 300 (7 percent); 200 (8½ percent); 150 (10 percent). This implies that in about one-third of cases, the average earnings differ from a complete census by more than the stated percentage.

†Number in thousands; if the decimal point is omitted, the number is the number of cases in the 1 percent sample.

×Outmigrants and inmigrants refer to interregional migrants, excluding migrants within the same region. Intraregional migrants (within the same region) are migrants between zones within each region. Nonmigrants are white males in the covered labor force who were working in the same zone in 1965 and 1970.

#In the Western U.S.: migration between the four census divisions (W.N. Central, W.S. Central, Mountain, and Pacific).

Source: Special tabulations of 1% Continuous Work History Sample data by migration zones and regions, Bureau of Economic Analysis, U.S. Department of Commerce, for the Appalachian Regional Commission. Data summarized and tabulated by ARC staff.

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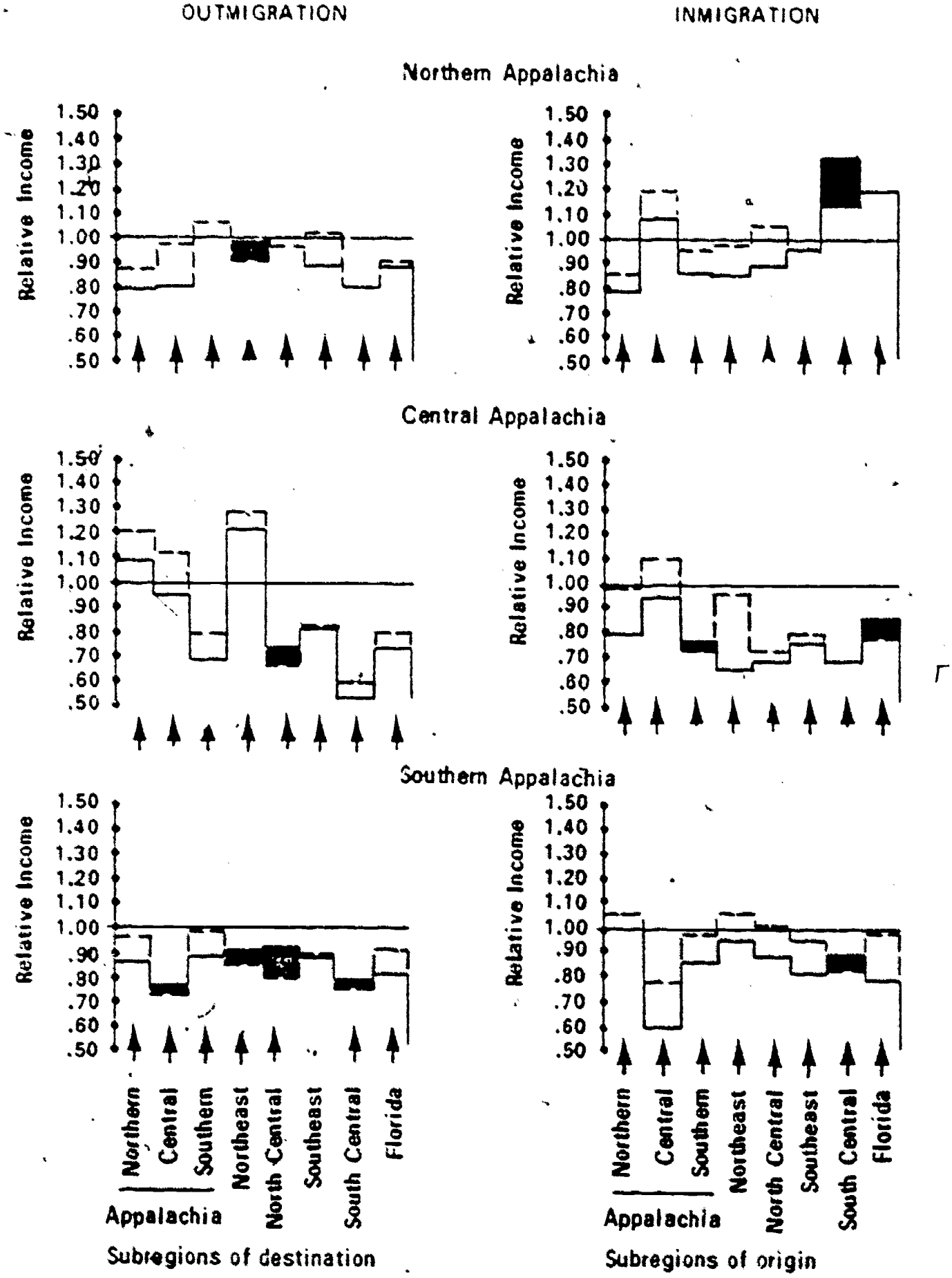
Table IV-4

RELATIVE GAIN IN RELATIVE INCOME POSITIONS OF WHITE MALE MIGRANTS, ALL AGES, 1970-1975
REGION OF DESTINATION

Region of Origin	Appalachia			Northern		Southern			Western U.S.
	Northern	Central	Southern	Northeast	North Central	Southeast	Florida	South Central	
Northern Appalachia	1.08	(1.2)	(1.1)	0.92	1.02	(1.2)	(1.0)	(1.0)	0.93
Central Appalachia	(1.1)	(1.2)	(1.2)	(1.0)		(1.0)		(1.1)	(0.9)
Southern Appalachia	(1.1)	(1.0)	1.11	(0.9)	(0.9)	1.02	(1.0)	1.10	1.03
Northeast	1.13	(1.5)	(1.1)	1.06	1.07	1.31	0.96	1.25	1.10
North Central	1.19	(1.1)	1.15	1.16	1.04	1.23	0.88	1.11	1.09
Southeast	(1.0)	(1.0)	1.16	0.87	0.96	1.11	0.94	1.08	0.92
Florida	(0.9)		(0.9)	0.96		1.11	1.09	1.04	1.03
South Central	(1.0)	(0.9)	1.25	(0.9)	1.00	1.15	(0.9)	1.13	1.02
Western U.S.	1.13	(1.2)	1.14	0.96	0.99	1.19	1.04	1.15	1.02

NOTE: Data enclosed in parentheses are based on small sample numbers which have standard deviations of the earnings ranging upward from 10 percent to 30 percent of the base figure. See footnotes to Table IV 6.

RELATIVE INCOMES OF MIGRANT FROM AND TO APPALACHIA
WHITE MALES, ALL AGES
1970 - 1975



Central Appalachian migrants to the Northeast and the Southeast. The relative income positions of Northern Appalachians to the North Central region also increased, but decreased among migrants to the South. Southern Appalachian outmigrants generally fell below parity at their destinations.

The general shortfall of Appalachians' postmigration (1975) income relative to the level of nonmigrants' at their destinations was in contrast to the previous period. Northern Appalachians were about at parity with nonmigrants in the North Central and southeast regions, but those who went to the Northeast -- still the destination of the largest number of outmigrants from Northern Appalachia -- had a lower relative income position. The relative income gains for Northern Appalachian migrants in their traditional destinations were less in 1970-1975 despite premigration income positions which were similar to 1965. Central Appalachians had similar experiences. Migrants to the North Central subregion began with higher relative incomes in 1970 than did their predecessors in 1965, yet they too had a lower relative position in the North Central region by 1975. The gains in relative income position were also much smaller by 1975 than was the case from 1965 to 1970. Migrants from Southern Appalachia failed to reach income parity with nonmigrants in any region to which they moved. In fact, their relative income position was lower in three of the five non-Appalachian regions. The decline of the fortunes of Southern Appalachians in the North continued, this time associated with a drop in the relative income position of outmigrants in 1970-1975 (see Table IV-6).

The general income characteristics of inmigrants to Appalachia remained stable through 1975. On the average, the premigration (1970) incomes of migrants to the Region were less than those of nonmigrants both in their origins as well as their destinations in Appalachia. Their incomes were also below those migrants from any given region to other places, with some exceptions; and Central Appalachia continued to be the destination of migrants with the lowest absolute incomes. Within this framework, however, significant changes occurred in the relative income position of inmigrants, especially to Central and Southern Appalachia.

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The relative income position of migrants to Central Appalachia increased significantly (Figure 11). Although none was above average, all inmigrants had premigration incomes that were closer to parity with nonmigrants in their regions of origin in 1970 than in 1965. Inmigrants from the North fared better than those from the South. By 1975, the relative income position of inmigrants was, on the average, higher than for outmigrants. Compared with outmigrants from Appalachia, the inmigrants, on the average, had slightly higher relative income positions in 1970 and, with the exception of Central Appalachians, had improved them as a result of migration.

The pattern of relative gain in the relative income positions of Appalachian migration reflects the changes which occurred from 1970 to 1975. One important point in discussing income "benefits" of migration in the later (1970-1975) period in contrast to the earlier (1965-1970) period is the secular recession of 1974-1975 which impacted the later period. It may well have had a depressing effect on the 1975 incomes, therefore biasing downward all income comparisons with the earlier period. Another important consideration is the growing relative economic position of Appalachia. As its average income rose, it is reasonable to expect a decreased economic advantage to be associated with leaving the Region.

Table IV-5

AVERAGE ANNUAL EARNINGS OF WHITE MALE MIGRANTS, COMPARED WITH NONMIGRANTS, 1965–1970

	Region of Destination										
	Appalachian			Northern		Southern					
Region of Origin	Northern	Central	Southern	Northeast	North Central	Southeast	Florida	South Central	Western U.S.	Outmigrant[2] Average	Nonmigrant[3] Average
Appalachian											
Northern (Number)[1]	(58.7)	(5.7)	(3.4)	(90.5)	(52.6)	(6.2)	(8.7)	(2.8)	(23.5)*	(192.8)	(1,046.9)
1965	$ 4,827	$ 5,394	$ 7,031	$ 5,956	$ 5,287	$ 5,884	$ 5,881	$ 9,027	$ 5,860	$ 5,796	$ 6,088
1970	8,648	8,138	9,883	9,950	9,196	9,485	8,152	11,583	10,136	9,648	8,590
Gain, 1965–1970	$ 3,213	$ 2,744	$ 2,862	$ 4,003	$ 3,909	$ 3,601	$ 2,471	$ 2,536	$ 4,276	$ 3,863	$ 2,530
Central (Number)	(4.7)	(2.6)	(4.7)	(7.5)	(9.5)	(3.7)		(2.6)	(7.5)	(32.1)*	(36.7)*
1965	$ 5,041	3,698	3,493	4,136	3,403	3,293		3,441	4,958	$ 3,736	$ 4,840
1970	8,532	7,175	8,756	8,632	8,054	6,358		8,358	8,146	7,298	7,440
Gain, 1965–1970	$ 3,491	3,515	3,283	2,496	4,653	3,065		2,915	3,188	$ 3,562	$ 2,600
Southern (Number)	(2.5)	(2.0)	(51.8)	(14.7)	(14.3)	(54.0)	(8.6)	(21.5)*	(15.8)*	(133.4)	(599.8)
1965	$ 5,135	4,082*	4,441	5,518	5,129	4,458	4,403	4,153	5,509	$ 4,726	$ 5,198
1970	9,505	8,315	8,675	8,953	8,740	7,317	7,342	6,809	9,600	7,867	7,583
Gain, 1965–1970	$ 4,371	3,515	2,234	3,435	3,611	2,859	2,939	2,656	4,091	$ 3,141	$ 2,386
Northern											
Northeast (Number)	(70.4)	(7.7)	(72.4)	(414.2)	(108.9)	(45.0)*	(54.2)	(78.5)	(172.9)	(478.0)	(5,700.0)
1965	$ 5,841	4,260	5,711	6,314	7,102	6,624	5,809	6,597	6,954	$ 6,611	$ 6,751
1970	8,996	5,812	8,483	10,167	11,365	10,328	8,096	10,191	10,842	10,234	9,942
Gain, 1965–1970	$ 3,155	1,552	2,772	3,853	4,263	3,704	2,287	3,594	3,888	$ 3,623	$ 3,191
North Central (Number)	(42.3)*	(7.0)	(17.0)*	(113.3)	(464.3)	(20.7)*	(34.1)*	(32.6)*	(192.4)	(458.1)	(4,508.1)
1965	$ 6,468	4,368	5,682	7,514	5,841	7,194	5,668	5,355	6,116	$ 6,412	$ 6,879
1970	9,391	5,444	8,971	11,818	9,333	10,714	7,163	7,738	9,588	9,703	9,898
Gain, 1965–1970	$ 2,922	1,076	1,279	4,304	3,492	3,560	1,495	2,383	3,480	$ 3,291	$ 3,019
Southern											
Southeast (Number)	(6.4)			(45.2)*	(40.5)*	(15.4)*	(128.3)	(19.5)*	(8.7)	(28.3)*	(166.1)	(962.1)
1965	$ 5,313			$ 4,847	$ 5,698	$ 5,558	$ 4,678	$ 4,735	$ 5,138	$ 5,118	$ 5,127	$ 5,421
1970	9,171			7,458	9,645	9,497	7,582	7,998	8,419	8,953	8,618	8,006
Gain, 1965–1970	$ 3,858			$ 2,808	$ 3,947	$ 3,939	$ 2,906	$ 3,261	$ 3,281	$ 3,835	$ 3,489	$ 2,584
Florida (Number)	(3.3)	(6.0)	(7.7)	(21.9)*	(21.1)*	(18.3)*	(27.3)*	(8.0)	(26.6)*	(107.5)	(453.2)
1965	$ 4,408	3,674	4,377	4,777	5,456	4,861	4,818	5,221	5,095	$ 4,996	$ 5,837
1970	7,681	6,338	6,944	6,979	9,230	6,119	7,519	8,017	8,943	8,581	8,877
Gain, 1965–1970	$ 3,273	2,664	2,567	4,202	3,774	3,258	2,983	2,796	3,848	$ 3,595	$ 3,040
South Central (Number)	(2.7)			(20.5)*	(20.7)*	(28.8)*	(9.6)	(7.7)	(82.1)	(30.8)*	(124.5)	(512.5)
1965	$ 6,075			4,211	5,648	4,640	4,928	4,082	4,217	5,201	$ 4,846	$ 5,347
1970	9,232			7,708	9,680	8,632	9,306	7,989	7,975	8,892	9,653	7,812
Gain, 1965–1970	$ 3,157			3,496	4,040	3,992	4,377	3,907	2,958	3,691	$ 3,808	$ 2,565
Western U.S. (Number)	(21.0)*	(2.4)	(15.3)*	(149.3)	(178.5)	(50.0)*	(29.1)*	(35.0)*	(482.8)*	(479.6)	(8,745.1)
1965	$ 5,433	4,206	5,311	6,371	5,886	7,078	6,525	4,849	5,463	$ 6,125	$ 6,207
1970	10,741	7,261	8,052	10,653	9,838	10,501	9,140	7,309	8,778	9,908	9,139
Gain, 1965–1970	$ 4,308	3,066	2,741	4,282	3,952	3,425	2,615	2,460	3,316	$ 3,784	$ 2,932
Outmigrant Average	(151.9)	(24.8)*	(128.2)	(452.4)	(428.9)	(206.7)	(162.1)	(127.7)	(491.6)	U.S.	(2,171.1)[4]
1965	$ 6,012	$ 4,374	$ 4,907	$ 6,368	$ 5,928	$ 5,932	$ 5,601	$ 5,068	$ 6,207	$ 5,838	(1965)
1970	9,324	6,515	7,812	10,521	9,947	9,318	8,013	7,738	9,940	8,813	(1970)
Gain, 1965–1970	$ 3,312	$ 2,140	$ 2,706	$ 4,153	$ 4,021	$ 3,386	$ 2,412	$ 2,670	$ 3,733	$ 3,077	(Gain)
Nonmigrant Average										All U.S. Migrants[5]	

(Figures indicate sample size with standard deviation of earnings greater than 10% of the value shown. This implies that in about one-third of all instances, average earnings differ from a complete census by more than the following percentages (sample size): (10) 37%; (15) 30%; (20) 26%; (30) 21%; (40) 18%; (50) 16%; (70) 14%; (100) 12%; (150) 10%.

[1] Indicates standard deviations of earnings values between 5 and 10%. (200) 8%; (300) 7%; (400) 6%; (800) 5%.

[2] Number in thousands. If the decimal point is omitted, the number is the number of cases in the 1% sample.

[3] Outmigrants and immigrants refer to interregional migrants, excluding migrants within the same region. Intra-regional migrants (within the same region) are migrants between zones within each region. Nonmigrants are white males in the covered labor force who were residing in the same zone in 1965 and 1970.

[4] In the Western U.S. migration between the four census divisions.

Source: Special tabulations of 1% Continuous Work History Sample data by migration zones and regions, Bureau of Economic Analysis, U.S. Department of Commerce, for the Appalachian Regional Commission. Data summarized and tabulated by ARC staff and Prof. Gary Fowler.

Table IV-5

AVERAGE ANNUAL EARNINGS OF WHITE MALE MIGRANTS, COMPARED WITH NONMIGRANTS, 1970-1975

		Regions of Destination										
		Appalachia			Northern		Southern					
	Regions of Origin	Northern	Central	Southern	Northeast	North Central	Southeast	Florida	South Central	Western U.S.	Outmigrant* Average	Nonmigrant* Average
Appalachia	Northern (Number)†	(58.0)	(4.5)	(2.7)	(83.9)	(40.8)*	(7.7)	(9.2)	(3.0)	(30.4)*	(181.8)	(960.8)
	1970	$ 8,463	$ 6,538	$ 8,178	$ 8,034	$ 7,937	$ 7,140	$ 6,500	$ 7,108	$ 8,859	$ 7,978	$ 8,148
	1975	10,838	11,432	11,432	12,629	13,764	11,535	9,950	10,264	13,094	12,702	12,581
	Gen. 1970-1975	$ 4,367	$ 4,898	$ 3,257	$ 4,595	$ 5,827	$ 4,395	$ 3,450	$ 3,156	$ 4,235	$ 4,724	$ 4,445
	Central (Number)	(4.7)	(5.1)	(3.4)	(2.9)		(2.9)		(5.0)	(7.5)	(19.9)*	(90.9)
	1970	$ 7,188	6,299	4,518	5,729		4,893		4,975	8,035	$ 5,542	$ 6,736
	1975	15,147	13,224	8,384	11,233		8,779		9,070	10,032	10,581	11,779
	Gen. 1970-1975	$ 7,958	6,844	3,866	5,504		3,886		4,095	3,997	$ 5,039	$ 5,043
	Southern (Number)	(7.1)	(4.0)	(46.8)*	(8.0)	(77.8)	(47.0)*	(6.7)	(23.4)*	(17.4)*	(120.4)	(592.6)
	1970	$ 8,269	5,581	6,332	6,858	6,687	6,334	5,742	6,013	7,282	$ 6,407	$ 7,310
	1975	12,279	8,649	10,432	11,924	10,897	10,033	9,349	10,292	13,183	10,704	10,808
	Gen. 1970-1975	$ 6,010	3,058	4,100	5,266	4,210	3,699	3,607	4,100	5,901	$ 4,297	$ 3,498
	Northeast (Number)	(71.2)	(3.3)	(14.8)	(427.2)	(108.9)	(52.3)	(69.1)	(17.0)*	(241.9)	(558.5)	(5,058.3)
	1970	$ 9,083	6,169	9,048	8,482	10,057	8,285	7,791	7,235	9,327	$ 8,908	$ 9,490
	1975	12,180	11,275	11,436	13,214	15,598	12,959	9,903	10,840	13,364	12,198	13,956
	Gen. 1970-1975	$ 4,087	5,106	2,388	4,722	5,541	4,694	2,112	3,605	4,857	$ 4,290	$ 4,466
Northern	North Central (Number)	(51.1)	(72.4)	(20.0)*	(92.0)	(414.3)	(23.3)*	(53.1)	(31.7)*	(230.6)	(514.2)	(4,296.0)
	1970	$ 8,380	6,346	8,222	9,532	8,875	8,628	7,748	7,319	8,196	$ 8,328	$ 9,388
	1975	13,293	8,623	10,958	15,588	12,378	12,904	9,106	10,087	12,302	12,418	13,821
	Gen. 1970-1975	$ 5,033	2,277	2,736	6,056	4,383	4,278	1,358	2,768	4,107	$ 4,090	$ 4,432
Southern	Southeast (Number)	(5.0)			(47.5)*	(36.4)*	(15.9)*	(124.4)	(20.4)*	(17.8)*	(50.7)	(198.0)	(951.2)
	1970	$ 7,490			$ 6,401	$ 7,901	$ 8,186	$ 8,211	$ 6,849	$ 7,073	$ 8,920	$ 7,583	$ 7,817
	1975	12,111			10,288	12,286	13,803	10,083	10,352	11,032	13,538	11,875	11,393
	Gen. 1970-1975	$ 4,621	(4.9) $ 5,822		$ 3,887	$ 4,120	$ 5,637	$ 3,862	$ 3,503	$ 3,959	$ 4,618	$ 4,292	$ 3,576
	Florida (Number)	(7.3)	9,073		(8.8)	(23.7)*	(15.0)*	(18.3)*	(27.9)*	(7.0)	(32.0)*	(113.3)	(487.0)
	1970	$10,698	$ 3,251		7,115	7,201	6,846	7,928	8,380	6,226	6,857	$ 7,143	$ 8,041
	1975	14,411			9,008	12,030	12,714	10,877	10,832	9,108	11,325	11,432	12,388
	Gen. 1970-1975	$ 3,713			1,894	4,829	6,068	3,549	4,252	2,883	4,468	$ 4,289	$ 4,367
	South Central (Number)	(2.7)	(8.2)		(21.9)*	(9.3)	(19.5)*	(77.5)	(8.4)	(61.8)	(32.6)*	(114.5)	(526.3)
	1970	$ 8,949	6,481		5,922	8,323	6,106	6,315	5,814	6,812	6,045	$ 6,347	$ 7,522
	1975	14,925	9,251		10,743	13,192	11,210	11,029	9,154	9,944	10,548	10,884	11,364
	Gen. 1970-1975	$ 5,976	2,770		4,821	4,869	5,104	4,714	3,240	4,132	4,501	$ 4,537	$ 3,832
	Western U.S. (Number)	(19.8)*	(2.3)		(21.9)*	(149.8)	(153.3)	(40.2)*	(38.3)*	(35.2)*	(482.3)#	(461.4)	(6,786.4)
	1970	$ 7,503	6,331		9,405	9,212	7,898	8,042	7,087	7,383	7,522	$ 8,274	$ 8,385
	1975	12,566	10,313		13,905	14,886	12,914	12,976	10,894	11,490	11,726	13,192	12,885
	Gen. 1970-1975	$ 5,237	3,982		4,408	5,454	4,916	4,914	3,807	4,127	4,204	$ 4,918	$ 4,490
	*Immigrant Average	164.6)	(48.2)*		(140.8)	(283.8)	(367.2)	(202.3)	(226.3)	(139.9)	(837.1)	U.S.	(2,381.8)†
	1970	$ 8,169	$ 6,241		$ 7,381	$ 8,787	$ 8,352	$ 7,524	$ 7,378	$ 8,928	$ 8,507	$ 8,888	(1970)
	1975	12,848	9,482		11,009	14,072	13,615	11,888	9,873	10,803	12,967	12,519	(1975)
	Gen. 1970-1975	$ 4,671	$ 3,221		$ 3,648	$ 5,305	$ 5,263	$ 4,364	$ 2,496	$ 3,875	$ 4,450	$ 4,421	(Gen)

All U.S. Migrants*

†Since this cell sample size with standard deviation of earnings greater than 10% of the value shown, this implies that in about one-third of all instances, average earnings differ from a complete census by more than the following percentages (sample size): (100) 37%; (150) 30%; (200) 26%; (300) 21%; (400) 18%; (500) 16%; (700) 14%; (1000) 12%; (1500) 10%.

‡Indicates standard deviations of earnings values between 5 and 10%. (2000) 8%%; (3000) 7%; (4000) 6%; (6000) 5.1%.

*Number in thousands. If the decimal point is omitted, the number is the number of cases in the 1% sample.

**Outmigrants and immigrants refer to interregional migrants, excluding migrants within the same region. Intra-regional migrants (within the same region) are migrants between zones within each region. Nonmigrants are white males in the covered labor force who were working in the same zone in 1969 and 1970.

#In the Western U.S., migration between the four census divisions.

Source: Special tabulations of 1% Continuous Work History Sample data by migration zones and regions, Bureau of Economic Analysis, U.S. Department of Commerce, for the Appalachian Regional Commission. Data summarized and tabulated by ARC staff and Prof. Gary Fowler.

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FOOTNOTES

[1]In addition to masking regional differences in migration within Appalachia, Hirschberg considered migration from the Appalachian Region to neighboring (ring) counties and the remainder of the United States as the distinction between short- and long-distance migration. The measure of distance is crude.

[2]Several studies (e.g., Levine and Addleman, 1973; Rutman, 1970; and Sanders, 1971) use net migration data. Net migration data ignore important differences in migration flow by direction. Furthermore, migrants do not move "on net." These and other studies also use income data for areas rather than individuals or households. Consequently, one can make no inferences about income characteristics and migration behavior.

[3]Tables IV-5 and IV-6 are constructed from the Continuous Work History Sample migration summary tables. The absolute average annual incomes of outmigrants to all other subregions are in the rows; the absolute average annual incomes of inmigrants to a subregion from all other subregions are in the columns. The incomes of intraregional migrants are in the main diagonal of the matrix, and the average annual incomes for total outmigrants and inmigrants are at the right and bottom. A separate column for nonmigrants identifies those people who remained within the same zone, and also within the same region. Premigration (1965 and 1970) incomes are distinguished from postmigration (1970 and 1975) incomes in order to calculate the change in income through time for various groups of migrants and nonmigrants. The relative income ratios are based upon the information contained in these matrices.

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[4]The relative income index numbers in Figures 9 and 11 are determined by ratios (1) and (2); see page 43. The absolute incomes which each relative income index represents are those of nonmigrants, as listed in Tables IV-5 and IV-6. See footnotes to tables relating to reliability of data based on the 1 percent sample. Because some values in Tables IV-5 and IV-6 have standard deviations as high as 30 percent (because of the small sample size, Tables IV-1 and IV-3 have been added, combining selected regions.

CHAPTER 5

FINDINGS AND CONCLUSIONS: APPALACHIAN MIGRATION AND PUBLIC POLICY.

The Appalachian Regional Commission was established to build the foundation for a diversified, self-sustaining economy that would afford a wide range of social and economic opportunities for the people of the Region. The lack of sufficient employment, low levels of income and education, and other "deficits" were considered to be determinants of the high rates of outmigration which characterized the Region. Consequently, policies and programs which were established to alleviate these problems, and thus achieve the Commission's objectives, were expected to reduce outmigration and increase levels of urbanization by redirecting migrants to growth centers in the Region. The Appalachian Region is no longer a net exporter of people. From 1970 through 1975, Appalachia gained an estimated 810,000 people; 36 percent of the increase was from net inmigration, the majority newcomers to the Region.

Findings

There is no unique way to define the status and welfare of Appalachian migrants. Migration itself is a means of increasing status and welfare. Appalachian migrants probably consider getting a job, or a better job; earning a higher income; and enjoying better living conditions to be important goals. "Adjustment" problems are assumed to accompany migration, if only because people are moving into a relatively unfamiliar, uncertain environment. Various studies have explored dimensions of the adjustment of Appalachian migrants in order to determine the relative success, or failure, of the move.

The Appalachian's job, income, position and other indices of socioeconomic status are frequently used as ways to assess the effects of migration. The definition of status and welfare by a single measure of personal earnings as is done in this report has advantages and disadvantages. Although it is

a standard component of socioeconomic status, the relationship of income to personal characteristics such as education, age, sex and race is sometimes ambiguous. How well income represents other aspects of status and welfare, such as behavior, and attitudes, and intangible cultural values is not known.

The income measure used in this study places some limitations on the interpretations of the results. First, the CWHS data are for labor force migration, not population migration. However, people in the labor force are the most mobile members of the population and are particularly responsive to income differentials. Secondly, the earnings are based upon income covered by social security. They do not include transfer payments or asset incomes. Third, the data are not good descriptions of people who have unstable employment patterns. The nature of the data will not fully reflect the experiences of the unemployed poor, entrants into the labor force, and the old.

The analysis of the income characteristics of white male Appalachian migrants is instructive. Specifically,

1. <u>The premigration incomes of Appalachian outmigrants were below those of nonmigrants in each Appalachian subregion in both periods (1965-70 and 1970-75).</u>

   Central Appalachian migrants had the lowest incomes. Northern Appalachian migrant incomes were nearest to parity with nonmigrants.

2. <u>Most Appalachian outmigrants at their destinations equaled or exceeded the incomes of nonmigrants in the Region in 1965-1970.</u>

   Northern Appalachians were most successful in that sense. Central Appalachians, despite large gains, did not reach parity with nonmigrants in Appalachia. The largest migration streams had the highest rates of increase.

3. Most Appalachian outmigrants at their destinations did not achieve the income level of nonmigrants in the Region in the period 1970-1975.

Outmigrants continued to increase their incomes, but intraregional migrants and nonmigrants in Appalachia reached higher levels in 1975. The effects of recession and of the relative improvement in the Appalachian economy on this result are unknown.

4. Appalachian migrants improved their income position relative to nonmigrants living in the areas to which they moved in 1965-1970.

Northern Appalachians had the best record and Central Appalachians going to the North Central region made significant gains as well. Southern Appalachians lost ground relatively in the North, and made modest improvements in relative income positions elsewhere.

5. Appalachian migrants made smaller gains in relative income position in 1970-1975.

There was a general failure to reach parity with nonmigrants at their destinations. Some large, traditional outmigrations lost the relative advantage earlier migrants achieved. The extent to which these changes were affected by the recession cannot be determined from the available data.

6. Migrants to Appalachia in both periods had incomes which were less than the incomes of nonmigrants in the subregions from which they moved.

Those who went to Central Appalachia had the lowest incomes, the Northern Appalachia inmigrants had the highest.

7. Migrants to Northern Appalachia (in 1970-1975) had postmigration incomes which were slightly above those of nonmigrants in the subregion.

   Migrants from the northeast to Southern Appalachia also exceeded the incomes of nonmigrants, and others came close to parity.

8. Most inmigrants to Appalachia had higher premigration incomes in both periods than outmigrants from Appalachia. Outmigrants achieved higher income levels at the end of each period.

   This pattern was more widespread in 1970-1975.

Despite rising income levels for Appalachian outmigrants, a decline in relative income status may make migration less attractive and less beneficial. Central Appalachia is the most striking example of this change. When interregional income differentials decrease, a shift in locational preferences toward the home area may be expected of potential migrants.

Current Policy Issues

Recent population trends suggest selected policy issues which may be particularly important to Commission policy and programs. The issues are based upon the probable impact of demographic changes and population redistribution resulting from migration.

Inmigration

The proportion of the migrants to Appalachia who are return migrants is not known. The impression is that a larger number of previous outmigrants have been returning in response to improved opportunities in Appalachia

compared with recent changes in socioeconomic conditions elsewhere in the United States, especially in the North. The analysis of work history data provides some indirect support for this interpretation despite the lack of definition of who is returning and who is a "new" migrant to the Region. It is clear that in the later period (1970-1975), the inmigrants were not "failures" in the usual sense of the word. They had relatively high incomes compared with nonmigrants in their places of origin and in the Appalachian subregion to which they moved. This suggests that inmigrants may be able to compete successfully with nonmigrants in Appalachia for expanding job opportunities in the Region.

The impact of large-scale inmigration upon local economies is a major policy issue. Studies have indicated that when the expansion of job opportunities is the result of new industry, inmigrants, especially newcomers, had an advantage over local Appalachian people (cf. Gray, 1968; Hansen, 1968; and Yulshin, 1969). Inmigrants are not likely to take the majority of the jobs but they have predominated in those at higher skill levels and income. They may also take a large proportion of employment from induced economic activity. In the long run, the availability of more and better jobs may reduce outmigration.

The recent experience of the East Tennessee Development District provides an example of the complexity of the issues involved. The following statement was in response to a request for information concerning the impacts of the Campbell County (Tennessee) Demonstration Project upon migration patterns:[1]

> In conducting the Campbell County project, one expectation was that by attracting new jobs to the county, the unemployment rate would fall dramatically. The county's outmigration, which had been extremely high since 1950, seemed to be slowing in the late 1960s and it was anticipated that new jobs would stabilize the county's population

and, eventually, start an inmigration of population. Initially, everything seemed to be going well. A few hundred new jobs were created in the county in 1970 and the unemployment rate fell from 14.9 in 1969 to 9.5 in 1970. By 1973 employment in the county had increased more than 1,500 persons over 1969, but the unemployment rate was still 8.2. The reason was because the work force had increased by nearly 1,200 persons. Yet the age and labor force participation rate structure of the county in 1970 was such that a net addition to the work force of only 300 to 400 persons would have been expected. Some 800 to 900 additional workers (and presumably their families) had suddenly come from some place.

It appeared that in estimating the probable impact of new jobs the staff failed to take into account the tremendous desire of former residents of the area to return 'home.' Between 1950 and 1970 there had been a net outmigration from Campbell County of over 12,000 people. Most had left to find jobs elsewhere. They left an extended family behind them and they stayed in touch with that family. As new jobs opened in the county, or even in the general area..., the family told their distant relatives (of these new jobs) and many former migrants returned home in the hope of finding employment. These returnees swelled the work force and kept unemployment rates higher than would have been expected considering the number of new jobs in the county.

In late 1973 the 'energy crisis' precipitated a serious recession. Many former residents of Appalachia in general and Campbell County in particular found themselves unemployed in Detroit, Cincinnati, and elsewhere. They decided to return home. In Campbell County, according to Bureau of Census estimates, there was a net inmigration of 1,600 persons between July 1973 and July 1975. (A total inmigration of 3,600 persons since 1970.) Unemployment jumped to an

annual rate of 17.5 with a monthly peak in 1975 of 25 percent. While 500 jobs were lost in the county in 1975, the major cause of the high unemployment was an increase of 1,200 more workers between 1973 and 1975 (a total increase of 2,400 since 1969).

The implication for policymakers is clear, it is not enough to plan for job creating programs for current county residents. One must also plan for programs for former residents who will return to the area when new job opportunities become available.

An additional problem presented by these return migrants is that they return with a recent work record and, often, better skills than the unemployed workers still in the county. Therefore, they are better able to compete for the jobs that are available so that the unemployed who have been in the county may remain unemployed even with new jobs available.

A less spectacular, but nonetheless potentially serious, migration trend came to light when net migration by age group was estimated for Tennessee counties between 1960 and 1970. While for the Development District overall outmigration continued for the under 40 age groups, starting with the 40 to 49 year olds a slight inmigration trend was noted, it strengthened in the 50 to 59 year olds and was very significant for the 60 year olds and over. In Campbell County there was a net outmigration of 4,400 persons under age 60, but a net inmigration of 300 persons age 60 and older. Former residents who had migrated in the 1940s and 1950s were reaching retirement age and returning 'home' to retire. Since most of the migrants who left the area were in their 20s and 30s, this migration data by age may represent the beginning of a later flood of older people back to rural counties which are least able to cope with their problems.

Residents from similar areas of eastern Tennessee and other parts of Appalachia generally have a favorable attitude toward rural industrialization and the newcomers who are expected to accompany it. They assume that the expansion of job opportunities will mean economic growth to all, especially if unemployment is high and incomes are low. Their attitudes and evaluations, however, may underestimate the true impacts of such activities upon local socioeconomic well-being.

The ability (or inability) of local people to compete successfully with inmigrants for new jobs is an obvious problem. Deaton (1972) has suggested that education, especially vocational education, and job training programs would improve the job opportunities of local Appalachians in such circumstances. There is evidence from southeastern Ohio that this may be the case.[2]

Energy Development and Local Impacts

The impact of energy development upon Appalachia also promises to raise policy issues related to population redistribution in the Region. Estimates of the direct and indirect employment impacts under different energy development scenarios indicate that a significant expansion of job opportunities can be expected over the next several decades.[3] This may result in accelerated inmigration to Appalachia, although the relationship of energy development to migration is not clear.

The popular impression is that "King Coal" is responsible for the Central Appalachian renaissance, including large-scale inmigration.[4] States such as Kentucky share this view, although they are more cautious in their assessment (State of Kentucky, 1975, p.40):

> The initial reaction to the widespread turnabout in population growth in the area was to attribute it largely to the mining expansion. Closer analysis has identified a number of other contributing

factors, including: returning service personnel; a stimulus to migration brought about by substantial increases in social security payments and black lung payments to Appalachians; higher unemployment rates and housing shortages in the large metropolitan areas that traditionally have attracted Appalachian migrants; continued growth of non-mining employment in the region; and growth of recreation and retirement homes. While the population growth is generally viewed as a positive indicator for the area, it appears to be an economically mixed picture, containing certain numbers of the unemployed and those on strictly limited incomes.

West Virginia (Appalachian Development Office, State of West Virginia, 1976) has generally agreed, although the emphasis upon the direct and indirect employment from expanded mining is considered to be much greater than in Kentucky.

The research literature concerned with migration and current energy development in the Appalachian Region is sparse and often contradictory. The question of the impact of increased coal production upon return migration is a case in point. Sanders (1969) reported that approximately one-third of the return migrants to the eastern Kentucky coal fields found work in unionized mines at wages above those they had earned in the city. Bain (1974 and 1978), on the other hand, reports that a majority (62 percent) of the miners employed in new deep mines in southeastern Ohio are local people, many of whom were trained as miners at the Hocking Valley Technical Institute, which the Commission supports. Most inmigrants were experienced miners and technical and management personnel from West Virginia who first commuted, and then moved to Ohio. There was no evidence of any significant number of return migrants in the mines' labor force.

Information on the local impacts of constructing new power generation facilities is also sparse. Battelle Columbus Laboratories has conducted a cursory examination of the impacts associated with siting new facilities in

the Region; and Braid and Kyle's have completed a detailed analysis of the expected local public service impacts of inmigration during the construction phase of the Clinch River breeder reactor plant.[5]

Newman has argued persuasively that now is the time to plan for energy development in Appalachia in order to avoid the bust and boom cycles of the past.[6] His argument is timely. The Commission has programs, notably its energy impacted areas assistance program, to help communities address the local issues associated with energy-related development and to anticipate problems which may be associated with such activity.

The association of the expansion of mining employment with the recent (1970-1975) extraordinary changes in migration patterns and income growth in the coal fields of eastern Kentucky, southwestern Virginia and West Virginia underscores the importance of resource (i.e., coal) extraction in Appalachian development in these areas. In this sense, Appalachia has followed national patterns of population growth and redistribution. Analyses of local impacts from energy development in other parts of the United States generally acknowledge that migration is the principal determinant of population growth, and thus the source of many if not most local problems in affected areas. The impacts may be magnified if they occur in sparsely populated, relatively poor areas of Appalachia.

Settlement Patterns

From the earliest days of the Appalachian regional effort concern has been expressed for the pattern of urbanization or settlement that exists in the Region. The authors of the report of the President's Appalachian Regional Commission in 1964 were convinced that the dispersed settlement pattern that characterized much of the Region had two profoundly negative effects -- it made it prohibitively expensive to deliver basic public services and it impeded the creation of a diversified base of economic opportunity. The programs pursued by ARC in the intervening years have been directed at the manifestations of these problems. They have focused on delivering those services and providing the base for widened opportunities.

During these 15 years there have been important changes occurring in the public and private sectors of the nation and the Region. Among them has been an apparent change in residential preference patterns that has led to population growth in areas of long-term decline and to decline in areas (particularly larger urban areas) that had grown for decades. Associated with this has been a tendency for population growth to occur outside the political boundaries of large and small urban places.

A variety of public concerns have resulted. Among them are the appropriateness of public policies that affect this pattern of physical development and of the various financial policies that affect the flow of public funds to these areas. These require a careful examination that focuses on the specific policies at all levels of government that affect the cost and availability of public services and the sharing of those costs among various levels of government.

ARC has had a history of concern for migration and urbanization or settlement problems. The present study focuses on one of these elements. It is timely that the other issue also be examined.

Outmigration

The recent turnabout in Appalachian migration should not disguise the fact that 1.4 million people left the Region between 1970 and 1975. Although the rate of domestic outmigration had declined, the number was only one-eighth less than in the previous five years. The majority of the migrants made significant income gains relative to those who remained in Appalachia; and they imposed no extraordinary public costs at their destinations. However, the current analysis suggests that their income position relative to people at their destinations was less favorable than in the 1965-1970 period in the case of selected migration streams. These were the same streams in which migration to Appalachia increased. Whether this represented a return migration of former Appalachians is not known.

Continued outmigration poses the familiar dilemma for Appalachian public policy. The Commission's policies are a determinant in the decision to leave the Region and influence the skills and resources which Appalachian people have in order to help them make a better life for themselves wherever they choose to live.

Past and current Commission policies and programs probably have been one factor in reducing outmigration and encouraging inmigration throughout the Region. However, these recent changes to net inmigration in Central and Southern Appalachia and in portions of Northern Appalachia underscore new public concerns, although some areas of Northern Appalachia, especially western Pennsylvania, may continue to experience net outmigration. Current issues include the impact of newcomers as well as return migrants upon Appalachian communities and the resulting requirements for improved and additional public facilities and services. Policy issues related to the growth area strategy of development will remain important, especially with limited public financial sources available to meet demands of a changing population. Successful policies and programs need to be based upon an understanding of regional population systems, including the process of migration, and should be defined explicitly in such a way that they can be evaluated. The evaluation of policies affecting population distribution, or interrelated with migration, past, current, and prospective, is especially needed.

Conclusions

1. Viewed from the standpoint of the Appalachian outmigrant, migration generally produces a favorable result. On the average, increases in both absolute income and relative status occur. The data available strongly support the conclusion that those who migrate are personally advantaged by the move in economic and social terms. Though the data suggest some reduction in the advantages of migration in the later period, the cause is unclear. One possibility is the state of the national economy in 1975. Another is the relative improvement in the Appalachian economy during the study period.

2. The outmigrants from Appalachia had below average earnings records in their areas of origin. At their destination regions, their earnings rose rather quickly to the average of their new area. This strongly suggests that Appalachians are not, on the average, ill prepared for their new settings. It also tends to confirm earlier conclusions that Appalachian migrants have been motivated by lack of opportunities at home to fully utilize their capabilities. As the Appalachian economy develops, the outmigration rate should fall. This is exactly what recent data indicate.

3. The people who moved into each region of Appalachia had higher earnings at their area of origin than did the Appalachians who left those regions. However, at their origin area, their earnings were below the average then existing in their destination area. In a substantial number of cases, and more evident in the later period, their earnings five years later equal or exceed the average for their region in Appalachia. This strongly suggests that through the process of migration, Appalachia as well as other parts of the U.S. are obtaining a labor force that is better adapted to the opportunities that exist in each region. On balance, the Appalachian net change is toward a labor force that is able to achieve a higher level of earnings.

4. No study can demonstrate precisely connections between specific public policies or the policies of specific agencies such as ARC in Appalachia and changes in migration or the status of migrants. However, it is safe to conclude:

   a. There is evidence that, in general, Appalachian migrants have received the health and education and other services from the public and private sectors in the Region that enable them to compete successfully at their destinations.

b. There is evidence that public policy has encouraged the widened opportunities for skill development which facilitate satisfactory postmigration income and employment experience.

c. No evidence has appeared which casts doubt upon the health and education priorities of regional public policy.

d. The health and education programs of ARC appear to have been appropriate when examined in the light of the experience of migrants.

5. It is time for a thorough study to be initiated of the changing pattern of urbanization in the Region to ascertain the appropriateness of present public policies in facilitating desired settlement patterns.

FOOTNOTES

[1]Personal correspondence from John W. Anderson, Jr., Executive Director, East Tennessee Development District, dated September 29, 1977.

[2]Nancy R. Bain, "Residential Mobility in a Rural Area," paper presented at the Annual Meeting of the Association of American Geographers, New Orleans, April 9-12, 1978. Bain also points out that the "new" miners generally live within easy commuting distance of the mines and therefore do not migrate to growth centers.

[3]See: Regional Planning Associates, Energy Supply/Demand Alternatives for the Appalachian Region - Executive Summary. NTIS No. PB 242 944. The report is summarized by Ora Spaid, "Forecast: Doubled Coal Producion in Appalachia," Appalachia 8 (June-July 1975), pp. 1-10.

[4]State of Kentucky. Appalachian Kentucky: Past and Promise. Frankfort: State of Kentucky, Office of the Governor, January 1975.

[5]Robert B. Braid, Jr. and Stephen D. Kyles, The Clinch River Breeder Reactor Plant: An Analysis of Its In-migrant Construction Workers on Local Public Services. Clinton, Tenn.: East Tennessee Energy Projects Coordinating Committee, May 1977.

[6]Monroe Newman, "Task Force II: Energy and Its Socioeconomic Impacts", Appalachia, 11, No. 2 (Oct.-Nov. 1977), pp. 28-29.

APPENDIX A

THE CONTINUOUS WORK HISTORY SAMPLE (CWHS) DATA BASE*

The Social Security Administration's (SSA) Continuous Work History Sample (CWHS) is a uniquely detailed source of information on work force characteristics and the components of work force change, including migration, for states and substate areas for intercensal years. Each file contains a sample of earnings records for individual workers, based upon employers' reports to the SSA. The sample is selected on the basis of specified digits in the workers' social security numbers so that the same persons are included in the sample each year. Thus, individual records for selected time periods can be grouped to form work histories which specify sex, race, year of birth and, for each time period, the state, county and industry (by Standard Industrial Classification (SIC) code) as well as an estimate of annual wages earned from each social security covered job. The files monitor changes in worker characteristics on a quarterly or annual basis. As long as an individual is working in covered employment, one can trace a worker's movement from job to job, and place to place as well as into and out of the labor force. Inferences can also be made about the causes and consequences of migration as well as process of economic and demographic change in an area.

The Appalachian Regional Commission's CWHS migration files are based upon the one percent sample of first quarter earnings for 1965-1970-1975. The data are available in two standard tabulations, migration summary and the structure of migrants, nonmigrants, entrants and exits.

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*, See: U.S. Department of Commerce, Bureau of Economic Analysis. Regional Work Force Characteristics and Migration Data: A Handbook on the Social Security Continuous Work History Sample and Its Application. Washington, D.C.: U.S. Government Printing Office, December 1976.

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1. Migration Summary. The migration summaries display the components of work force change for a specified region. They show the origins of inmigrants and the destination of outmigrants as well as the mean annual wages for each group of workers at the beginning and end of each time period.

Migration summary tabulations for ARC are cross-classified by race, sex and age cohort for each migration "zone" for the time periods 1965-1970 and 1970-1975. The geographical definition of origins and destinations is according to the migration zones defined in Appendix B.

The terms used in the summary tables are defined as follows:

Inmigrants: individuals whose major jobs were in a known location outside of a study area (zone) at the beginning of the time period and whose major jobs were in the area (zone) at the end of the same time period.

Outmigrants: workers whose major jobs were in a known outside location at the end of the time period.

Net military and others: the net flow of workers between a study area (zone) and unknown locations (both military and nonmilitary).

Entrants: workers who were not in covered employment at the beginning of the time period.

Exits: workers who were not in covered employment at the end of that time period.

2. Structure of Migrants, Nonmigrants, Entrants and Exits. The structure tables describe total inmigrants and outmigrants of an area in terms of their demographic and economic characteristics, in

contrast to the migration summary tabulations, which show migration by origin and destination classifications. Structure tables from the one percent first quarter sample are available for each geographical area in the Appalachian Region for 1965, 1970 and 1975; see Appendix B. Since structure tables show the differential characteristics of those workers entering and leaving an area of study, the impact of migration on the total work force structure can be assessed. These differentials can be substantial, even for areas with near-zero net migration.

Migration structures, including those showing relative gains in mean wages, can be compared with structures of nonmigrants and work force entrants, or exits of the same area. Age, unless otherwise specified, is computed as of the end of each time period (i.e., 1970 and 1975). Industry and wage classes for outmigrants and work force exits are those existing at the beginning of each period (i.e., 1965 and 1970); for inmigrants and work force entrants, they are those existing at the end of the period; and for nonmigrants, those existing at both the beginning and end.

The definition of terms is the same as in the migration summary tables.

There are certain limitations in the use of the CWHS data in general, and the one percent sample in particular. Coverage is limited in scope and content to the labor force which is covered by the social security program. In 1975, the CWHS files accounted for about 82 percent of the people in paid (i.e., salaries and wages) employment. The largest groups which were excluded were employees of state and local government units which have opted against SSA coverage and federal service workers. Noncovered, self-employed people, retirees and the unemployed were also excluded.

The one percent first quarter sample in particular includes large numbers of unknowns. It also excludes certain industries, such as farm workers, which have strong regional employment patterns. This sample will understate local area labor force estimates and migration, and may also bias wage rates downward. The annual file has more workers in all categories (especially paid farm workers; women and people 25 years of age or less; blacks; and part-time or short-time workers) and lower mean wages. In the ARC files, the certainties which are inherent to the annual sample are sacrificed for the ability to better separate wages before and after migration in the one percent sample of first quarter earnings.

Sampling variability is another limitation in the use of the CWHS data. The sample is drawn from social security numbers in a stratified (by state and time period issued) clustered (by blocks of 1,000 numbers) probability sample. Variability increases as sample size decreases; see Table A-1. Sample size restricts the analysis of the migration of female and black Appalachian workers, as well as small-scale analysis of inter-zonal movement; see tables in Appendix D.

Third, errors in reporting may result because of the location of establishments or the assignment of workers. The CWHS data are recorded by place of employment, not place of residence. Multi-establishment firms may report all workers at a single location, resulting in spurious migration flows. The extent to which this may affect Appalachia is unknown, although it is likely to be minimal, at least in the case of the Central and Southern subregions.

Finally, migration data are lacking for entrants to and exits from the labor force, and military and other workers. Entrants to an area's labor force are considered to be inmigrants to that area from a hypothetical pool of workers; people who leave the labor force (exits) are considered to be outmigrants from that area to another hypothetical pool of workers. Net military and others (unclassified workers) are considered inmigrants

TABLE A-1

Approximate Standard Errors of Estimated Percentages of Persons (1-percent CWHS)

Size of covered work force (base of percentage)	Estimated percentage				
	2 or 98	5 or 95	10 or 90	25 or 75	50
2,500	2.9	4.5	6.2	9.0	10.4
5,000	2.1	3.2	4.4	6.4	7.4
10,000	1.5	2.3	3.1	4.5	5.2
50,000	.7	1.0	1.4	2.0	2.3
100,000	.5	0.7	1.0	1.4	1.7
1,000,000	.2	0.2	0.3	0.5	0.5

(unless there is a net loss) from a hypothetical pool of military and unclassified workers. The rates of entrants, exits, military and other workers are specific to an area. Neither the origins or inmigrants nor the destinations of outmigrants defined in this context are known. The net effect is to underestimate the extent of labor force migration.

This report uses data from the migration summary tabulations for subregions in the Appalachian Region and the rest of the United States. Migration summaries were selected rather than structure tabulations in order to define income changes by migration stream, including migration between Appalachian subregions and within the same subregion. Also, sample size restricts the analysis to white male workers.

APPENDIX B

DEFINITION OF APPALACHIAN MIGRATION STUDY AREAS

Migration occurs when there is a change in one's place of residence. Within the United States, migration may be local (within the same neighborhood, or city, or county), or to a different county (the Census definition of migrant in usual usage), state or region. For purposes of the Appalachian migration study, an interregional migrant is a person who leaves the Appalachian Region or who moves into it from another part of the United States. International migration is not of great importance to the Appalachian Region. Furthermore, data for migrants moving into the Region from outside the United States are available in this study from the 1970 Census only. Migration data from the 1970 Census are for the 1965-1970 period, whereas the Continuous Work History Sample (CWHS) data were requested for the Census study period (1965-1970) and the succeeding five years (1970-1975).

The definition of areas is critical for the study of Appalachian migration, as it determines what constitutes migration. From the point of view of regional development, migration which results in a change in the place of work as well as the place of residence is most important. Local migration may be excluded, and intercounty migration may be valid only if it represents moving to a different economic area, as well as to a different county. Obviously, movement to a suburban county constitutes movement within the same economic area and may not even entail a change of work location.

Because of the limitations of existing definitions, migration zones were defined for the Appalachian migration study. A migration zone is large enough to include local, suburban, and nearby migration within a single area, but small enough to distinguish migration among different socioeconomic areas. The principal migration zones (in terms of population

concentration) are nodal zones. They include one or more national and regional centers as the foci of each zone, and the territory surrounding these centers which are linked to them by daily commuting, newspaper, radio, and television media, and market forces including trade, services, and finance.

Less-densely populated "rural" zones haye smaller nodes. These "rural" zones tend to be larger in geographic extent, and have lower population densities and lower per capita incomes than the nodal zones. However, it is necessary to define them in order to have population base large enough to yield a data sample. In some non-Appalachian regions of the eastern United States which receive relatively small numbers of Appalachian migrants, relatively large zones with numerous nodal centers are defined.

The eastern United States is divided into 145 zones. Forty-four zones are within the Appalachian Region; 49 are in the non-Appalachian North and 52 are in the non-Appalachian South (see maps, Figures B-1 and B-2 and Table B-1). The western United States was subdivided into four large subregions which represented important migration destinations. The 24 states west of the Mississippi River were not included in the special project tabulations, as they represented a destination for relatively small numbers of Appalachian migrants (only about 12 percent of the total). They are represented as origins of migrants in the 1965-1970 period, tabulated by 1970 zone of residence in the eastern United States.

The Continuous Work History Sample data are reported by place of work from employer records. For this reason, and because of the limitations of computer processing by the Bureau of Economic Analysis, the number of zones was reduced (Figures B-3 and B-4). Smaller, or central zones were merged with outer zones; and residual, or rural zones which were contiguous and similar in characteristics were combined. In a few cases, closely related nodal zones were also combined. This was desirable in order to eliminate "false" migration where the work place moved to a nearby area, and to

FIGURE B-1

MIGRATION ZONES

LEGEND

- ☆ GREAT NATIONAL METROPOLIS
- ☆ NATIONAL METROPOLIS
- ★ LARGE REGIONAL CENTER
- ★ Regional Center
- □ Metropolitan Zonal Center

CANADA

NW

SC

CA

SE

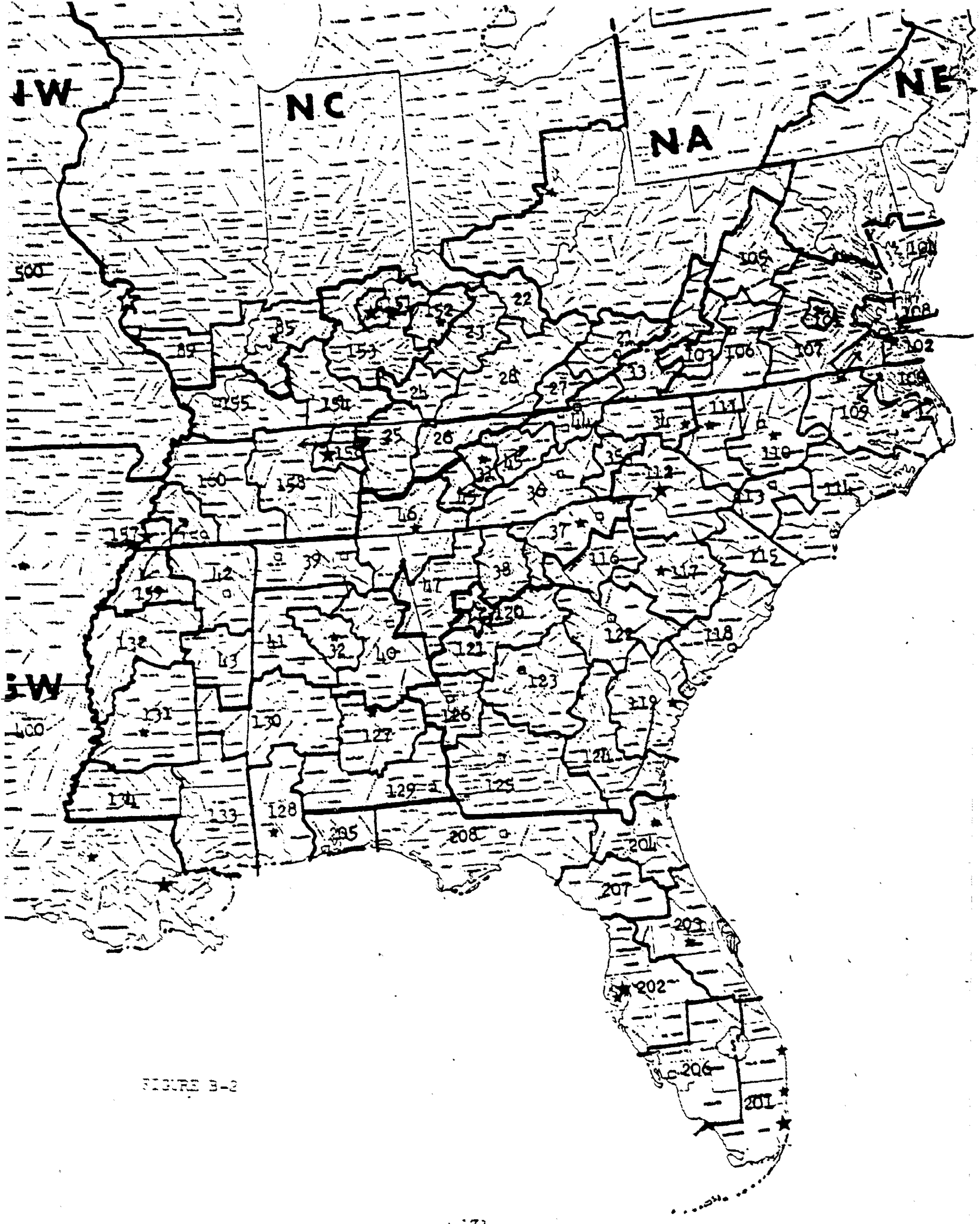

FIGURE B-2

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TABLE B-1. ZONAL REGIONS AND MIGRATION ZONES FOR APPALACHIAN MIGRATION STUDY

I. NORTHERN APPALACHIA REGION

1. Pittsburgh (SMSA)
2. Pittsburgh Outer Zone
3. Erie-Northwest Pa.
4. (Buffalo) Appalachian Zone-Jamestown-Olean
5. Elmira Zone
6. Binghamton-Catskill Plateau
7. North Central Pa. Plateau
8. Southern Alleghenies
9. (Harrisburg) Mid-Susquehanna Appalachian Zone
10. Wilkes-Barre-Scranton Zone

11. Upper Ohio Valley
12. Upper Potomac Valley
13. (Cincinnati) Appalachian Outer Zone
14. Southern Ohio Hills
15. Tuscarawas Valley-Zanesville
16. Huntington-Portsmouth
17. Parkersburg Zone
18. Clarksburg Zone
19. Charleston (WV) Zone

II. CENTRAL APPALACHIAN REGION

21. Bluefield-Beckley Zone
22. Ashland Zone
23. (Lexington) Appalachian Outer Zone
24. Lake Cumberland Zone
25. (Nashville) Appalachian Outer Zone
26. (Knoxville) Appalachian-Cumberland Plateau
27. Kingsport-Bristol Plateau Zone
28. Cumberland Plateau & Mountains

III. SOUTHERN APPALACHIAN REGION

31. Knoxville (SMSA)
32. Birmingham (SMSA)
33. (Roanoke) Appalachian Outer Zone
34. Winston-Salem Zone
35. Blue Ridge Slopes
36. Asheville Zone
37. Greenville-Upper Piedmont
38. (Atlanta)-Appalachian Mountain Zone
39. Middle Tennessee Valley
40. East Alabama

41. West Alabama
42. Tupelo-(Memphis) Appalachian Zone

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43. East Mississippi
44. Tri-Cities Valley Zone
45. (Knoxville)-East Tennessee Valley Zone
46. Chattanooga Zone
47. (Atlanta)-Northwest Georgia Zone

IV. NORTHEAST REGION

49. Northern New England
50. Boston Zone
51. Southern New England
52. Utica-Rome (SMSA)
53. New York City Region
54. Albany-Troy-Schenectady Zone
55. Syracuse Zone
56. Rochester (NY) Zone
57. Buffalo Zone
58. Mid-Hudson Zone

59. Northern New York
60. Northern New Jersey Zone
61. Philadelphia (SMSA)
62. South Jersey
63. Allentown-Reading Zone
64. Harrisburg-Pa. Piedmont Zone
65. Baltimore (SMSA)
66. Washington Zone
67. Northern Delmarva

V. NORTH CENTRAL REGION

70. Cleveland (SMSA)
71. Cincinnati (SMSA Core)
72. Dayton Zone
73. Columbus (OH) Zone
74. Cleveland Outer Zone
75. Northeastern Ohio Metropolitan Zone
76. Toledo Zone
77. North Central Ohio
78. Western Ohio
79. Cincinnati Outer Zone

80. Fort Wayne Zone
81. South Bend Zone
82. Indianapolis Zone
83. North Central Indiana
84. South Central In.-Wabash Valley
85. Evansville Zone
86. Chicago (CSMSA)
87. East St. Louis-Alton Zone
88. Central Illinois
89. Southern Illinois

90. Detroit Zone
91. Flint-Saginaw Bay Zone

92. Southern Michigan Metropolitan Zone
93. Northeastern Lower Peninsula
94. Northwestern Lower Peninsula
95. Michigan Upper Peninsula
96. Mulwaukee Zone
97. Southeast Wisconsin
98. Northern & Western Wisconsin
99. Northern Illinois-Rock Valley

VI. SOUTHEAST REGION

101. Richmond (SMSA)
102. Norfolk (SMSA)
103. Roanoke-Valley of Virginia
104. Southern Delmarva
105. Shenandoah-Blue Ridge
106. Virginia Piedmont
107. Richmond Outer Zone
108. Newport News-Hampton Zone
109. Norfolk Outer-NC Coastal Sounds

110. Raleigh Zone
111. Greensboro-High Point Zone
112. Charlotte Zone
113. Lumber River Zone
114. Cape Fear-Pamlico Coastal Plain
115. Pee Dee River
116. (Greenville)-Lower Piedmont
117. Columbia (SC) Zone
118. Charleston (SC) Zone
119. Savannah Zone

120. Atlanta (SMSA Core)
121. (Atlanta) Lower Piedmont
122. Augusta (GA) Zone
123. Macon Zone
124. Southeast Ga.Coastal Plain
125. South Ga. Coastal Plain
126. Columbus (Ga) Zone

VII. SOUTH CENTRAL REGION

127. Montgomery Zone
128. Mobile Zone
129. South Al. Coastal Plain
130. Alabama-Mississippi Prairie
131. Jackson (MS) Zone
132. Ms. Delta & Bluff Hills
133. Southeast Mississippi
134. Southwest Mississippi

151. Louisville (SMSA)
152. Lexington Zone
153. Louisville Outer Zone
154. Lower Ohio Valley-Pennyroyal
155. Rivers Confluence Zone
156. Nashville (SMSA)
157. Memphis (SMSA Core)
158. Nashville Outer Zone,
159. Memphis Outer Zone
160. West Tennessee

VIII. FLORIDA REGION

201. Miami-Fl. Gold Coast & Keys
202. Tampa-St. Petersburg Zone
203. Orlando-Fl. East Coast
204. Jacksonville Zone
205. Pensacola Zone
206. South Florida Suncoast & Glades
207. Northern Florida Citrus
208. Northwestern Florida

IX. WESTERN U.S. REGION

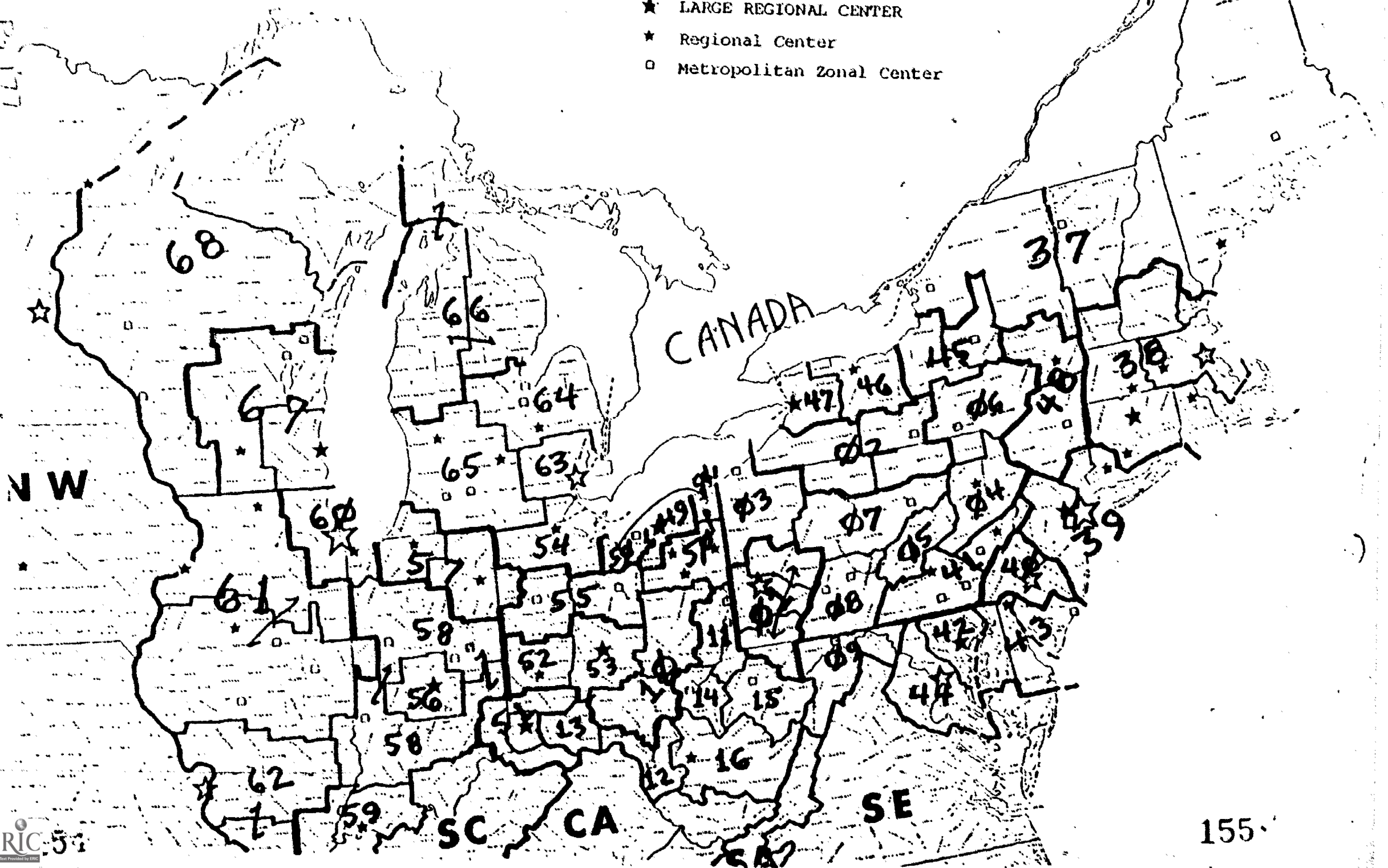
300. California Zone (Excludes L.A.)
301. Los Angeles Zone
400. Southwestern U.S.
500. Northwestern U.S.

FIGURE B-3.

MIGRATION ZONES (BEA)

LEGEND

- ☆ GREAT NATIONAL METROPOLIS
- ☆ NATIONAL METROPOLIS
- ★ LARGE REGIONAL CENTER
- ★ Regional Center
- ▫ Metropolitan Zonal Center



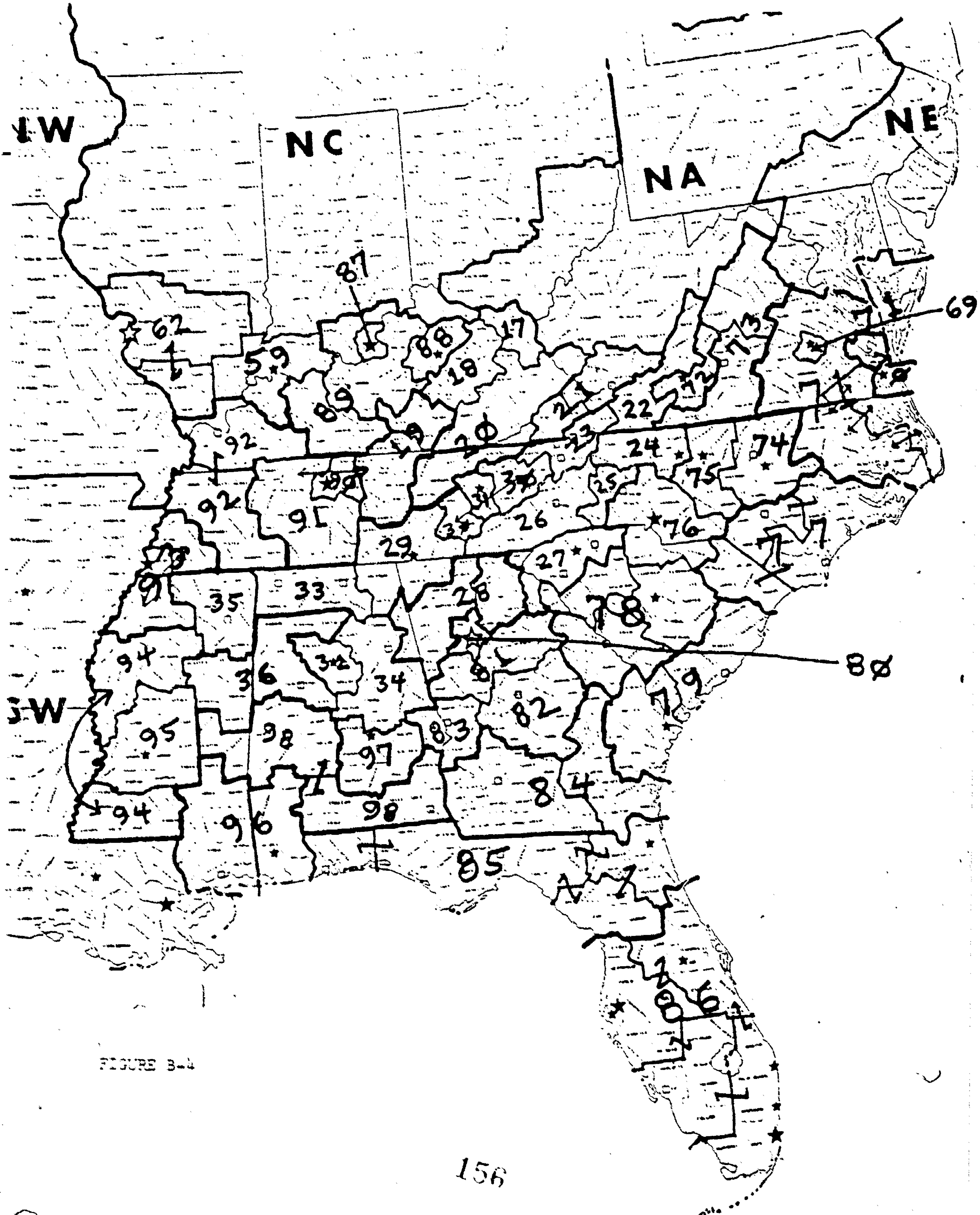


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FIGURE B-4

accommodate the much smaller sample size of the CWHS. For the CWHS data, the Appalachian Region has 35 zones (the two Knoxville zones were collapsed into a single zone because of data discontinuities); 32 zones are in the North, and 30 zones are in the South. The western United States was treated as a single zone and information was obtained on CWHS migrants both to and from the West from the 97 zones defined in the eastern United States.

The following sources were used in defining the migration zones:

1. State Economic Areas. State economic areas of the U.S. were defined originally for use in connection with the 1950 Census.[1] The areas were strongly based on land use and agricultural regions. Metropolitan areas (within state boundaries) were defined as areas if the population was 100,000 or more, and separately coded with alphabetic letter designations. These were associated with a particular economic area, but this was not necessarily a nodal region. In Bogue and Beale (1961), the data from the 1960 Census were provided for these areas, along with a comprehensive enclyclopedic text summarizing the characteristics of each area.[2]

2. Migration Between State Economic Areas. A supplementary report was published for both the 1960 and 1970 Censuses which presents the total matrix of migration between state economic areas in the U.S., with subtotals at the state level, for the five-year migration periods 1955-1960 and 1965-1970, respectively.[3] The data were based on a 25 percent sample in the 1960 Census, and a 15 percent sample in the 1970 Census. Unfortunately, the published volumes gave only a very small amount of data on the characteristics of area in- and outmigrants in the 1970 Census, in total aggregate, and no data at all on characteristics of state or area migrant flows, though another volume provided limited data on state migration. In addition, SEA boundaries do not conform to the Appalachian Region boundary; a total of 21 SEAs were split by the regional boundary (1970 Census).

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3. Commuting Data. The 1970 Census provided detailed intercounty commuting data available in largely unpublished tabulations, with a matrix of 20 coded destinations for the residents of each county. These data were basic for the identification of close commuting linkages. Because of the general trend of increasing commuting, flows as small as 10 percent of the workers from the county of residence to the county (or area) of destination were examined. The work of Forstall was helpful in this analysis.[4]

4. Newspaper Circulation. Comprehensive circulation data by county of almost all Sunday and daily newspapers in the U.S. is published in the annual circulation volume compiled by American Newspaper Markets, Inc.[5] Sunday newspapers were used to define market areas for zonal study, and a 20 percent (newspaper circulation as a percentage of households in the county) threshold was used as an outer boundary. Where newspapers from two or more centers each had more than 20 percent coverage, the county was assigned to the center originating the larger circulation. Where no Sunday newspaper was published in the center, daily newspaper circulation was used, applying the same general rule.

5. Television Markets. The Area of Dominant Influence (ADI) defined a television market area which is exclusive of other ADI areas, based on viewing patterns. These are published annually in Broadcasting Yearbook.[6] A total of 208 market areas were defined in the United States; quite a few of these have more than one center identified in the same viewing area.

6. Rannally Trading Areas. These are presented on a map in the annual Commercial Atlas of the United States, published by Rand McNally & Company, along with selected data for these areas. A total of 494 basic trading areas in the United States were defined. Some of these contain only a single county, or two counties, and are obviously

smaller than the desired size of a migration zone. In addition, the criteria for definition are not readily apparent, but wholesale trade, and newspaper coverage appear to have been factors, along with others not identified.

7. Metropolitan Service Areas. Unpublished data were prepared by Pickard (1977) for the use of the Federal Committee on Standard Metropolitan Statistical Areas. The population served by each center was defined in terms of population number by a combination of (a) newspaper 20% market area (see 4, above); (b) 1972 wholesale trade volume (converted to population by a per capita formula; merchant wholesalers only); and (c) 1970 air passengers enplaned (total population equivalent). Certain adjustments were made in data series to account for special factors, and centers were ranked in groups according to population served. All centers (whether or not metropolitan) were so ranked if 100,000 or more population were served by the center (1970-72). Though the principal purpose of this work was to develop a hierarchy (both nationally and regionally), it was helpful in ranking centers by their relative importance, though the statistical method used did not provide an areal definition for the average population served.

After the first set of zones for migration study was drawn up, they were entered into the computer files at ARC and selected data runs made on their characteristics. These characteristics for counties in each zone were tabulated and the zone was analyzed to make certain that the data reflected the assumed relationships:

(a) Population density (1970 Census)
(b) Per capita income (1969)
(c) Net migration rate, 1960-1970
(d) Bank deposits per capita (1970)
(e) Retail trade per capita (1967)
(f) Wholesale trade (merchant wholesalers) per capita (1967)
(g) Ratio between wholesale trade (f) and retail trade (e)
(h) Selected service receipts per capita (1967)

All of these data were available from U.S. Bureau of the Census published sources, excepting a few items which were not published for disclosure reasons.

As a final step, maps were prepared, showing zones, and identifying counties by statistically measured "center" characteristics. In general, within a nodal zone, 1970 population densities and per capita incomes diminished in moving outward from the center toward the periphery. Exceptions occurred in the case of counties containing secondary centers, or those with special characteristics (such as concentrations of mining, for example).

Two additional sources were used for background information in zonal definition. The first was the map of economic areas of the United States prepared by the Bureau of Economic Analysis, which defined 173 economic areas for the United States.[7] These were nodal regions which served as a sort of guidepost, but many of the regions were far too extended to serve as migration zones, especially in the Appalachian Region and in many of the areas which received Appalachian migrants.

The second source was the work of Brian Berry (1968) which developed a set of over 300 functional economic areas in the United States, based on an analysis of 1960 Census data which used metropolitan areas and commuting data (at the county level) to create nodal areas.[8] These were defined for smaller centers in the less-densely populated parts of the nation. In a later work, Berry (1973) published the results of his analysis of the U.S. urban hierarchy, in which centers were listed and ranked on a national scale of hierarchical importance.[9] Both of Professor Berry's studies were useful, and the higher level centers (metropolitan and wholesale-retail) were mapped and compared with the zones prepared for this migration study as a double-check on the definition of the migration zones.

Migration Regions. Eight regions were defined in the eastern United States based on characteristics of the zones composing each region, their

geographical location, and the Census regions and divisions into which the nation has traditionally been divided (see Figure 1 in Introduction). The Appalachian Region was specifically defined within its designated boundary of 397 counties and 5 independent cities (in Virginia). Within Appalachia, each of the three subregions, Northern, Central, and Southern, was used as a migration region, with the transfer of 2 counties from Central Appalachia (1 each to Northern and Southern) which had heavy commuting linkages to the other subregions.

The Northeast and North Central regions, named after a Census region and one Census division (the East North Central) are separated by the Appalachian Region. The Northeast is separated from the Southeast by a very sharp drop in per capita income and population density between the Washington and Northern Delmarva zones, and the zones immediately to the South. The North Central and South Central regions are separated by the assignment of nodal zones. Cincinnati and Evansville are included in the North; Paducah, Louisville, and Lexington are included in the South. All of these zones except Lexington cross the Ohio River and thus diverge from the Census interregional boundary. The Southeast and South Central regions are separated by the Georgia-Alabama boundary, with the exception of two Alabama counties which are included in the Columbus, Georgia, zone, in the Southeast.

Florida was set apart as a separate migration region because of its unique characteristics and the very large inmigration flows into the state in the 1965-1970 period which gave it an importance in migration much greater than either its geographic extent or population size would suggest.

The entire 24-state area west of the Mississippi River, including Alaska and Hawaii, is considered a single region, the western U.S.

Zone-region migration summary data for all 145 zones, and zone to zone migration flows for over 3,000 pairs of zones are available for further

research and analysis for the needs of the Commission or the states, or the studies of researchers. Some zonal data is planned for inclusion in a separate report on the characteristics of migrants, based on the 1965-1970 period, and the 15 percent Census sample. A computerized data file is being prepared at the Commission by the data processing staff to provide access to these special tabulations from the 1970 Census.

FOOTNOTES

[1]Donald J. Bogue, State Economic Areas. Washington: U.S. Bureau of the Census, 1951. Contains large map and detailed explanation of methods used in defining these areas, along with 1950 Census data.

[2]Donald J. Bogue and Calvin L. Beale, Economic Areas of the United States. New York: The Free Press of Glencoe, Inc., 1961

[3]U.S. Bureau of the Census, U.S. Census of Population: 1960. Migration Between State Economic Areas (Subject Reports PC(2)-2E) Washington: Government Printing Office, 1967

U.S. Bureau of the Census, Census of Population: 1970. Migration Between State Economic Areas (Subject Reports PC(2)-2E) Washington: Government Printing Office, 1972

[4]Richard L. Forstall, of the Population Division, U.S. Bureau of the Census, has made special studies of commuting for several years, and very kindly provided the basic information on counties commuting to metropolitan areas.

[5]American Newspaper Markets, Inc., Circulation '71. Northfield, Ill.: American Newspaper Markets, Inc., I971

[6]Broadcasting Publications, Inc. Broadcasting Yearbook 1975. Washington: Broadcasting Publications, Inc., 1975

[7]The map, with projection data for each BEA economic area, may be found in Volume 2 of 1972 OBERS Projections: Regional Economic Activity in the United States. Washington: U.S. Water Resources Council, April 1974

[8]Brian J.L. Berry, Peter G. Goheen, and Harold Goldstein. Metropolitan Area Definition: A Re-Evaluation of Concept and Statistical Practice. (Bureau of the Census Working Paper 28) Washington: U.S. Bureau of the Census, June 1968

[9]Brian J. L. Berry, Growth Centers in the American Urban System. (2 volumes) Cambridge, Mass.: Ballinger Publishing Co., 1973