

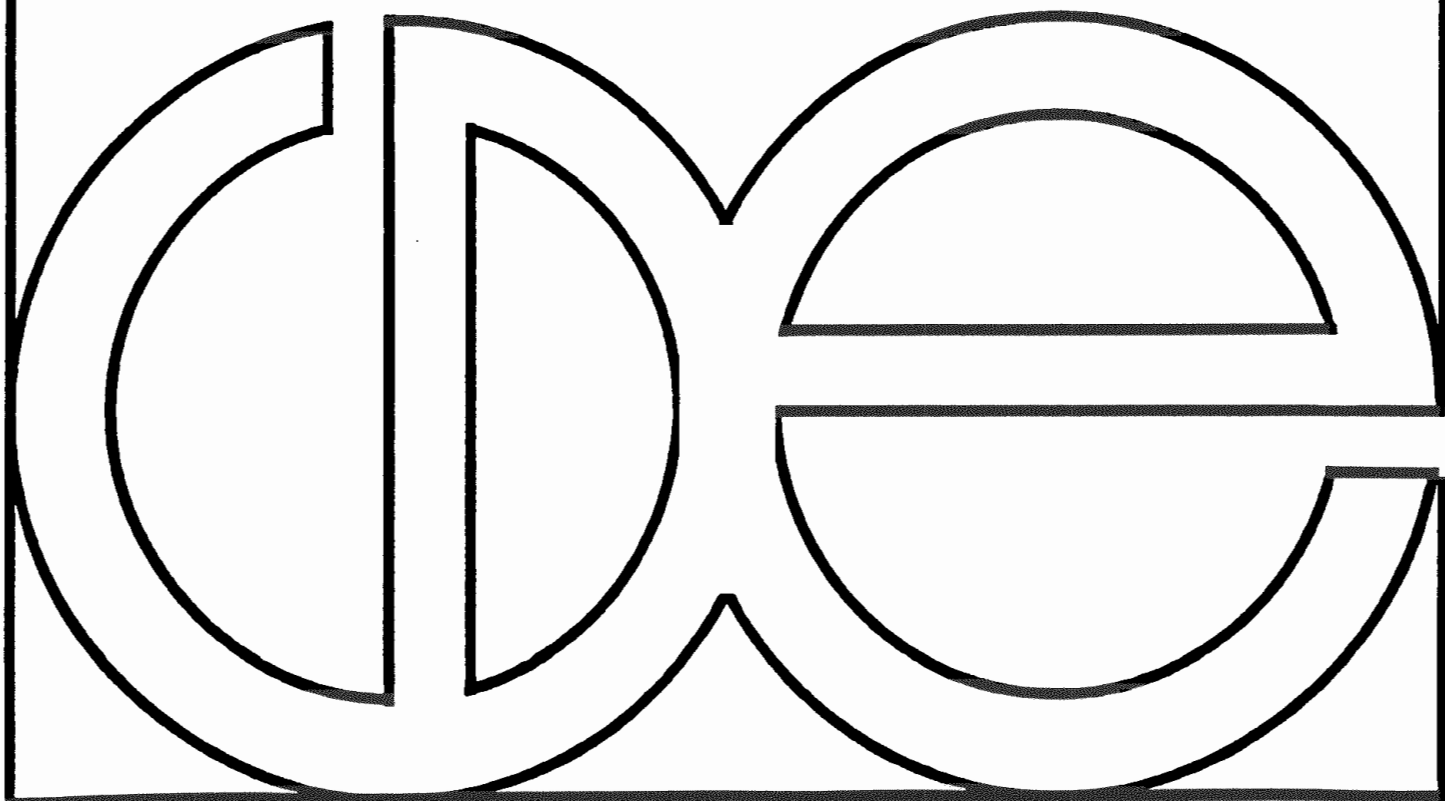
Center for Demography and Ecology

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**THE IMPACT OF MIGRATION ON THE NONMETROPOLITAN
POPULATION AGE STRUCTURE, 1960-1990**

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ABSTRACT

In this paper we examine the short-run impact of migration on age composition. Age structure, and changes in age structure can have important consequences at the local level, and the influence of migration is particularly notable because it is highly age-graded, with different migration patterns found in various types of nonmetropolitan communities. Here we compare counties with colleges, commuting counties, agricultural and retirement counties, across the last three decades. We conclude that several factors influence the impact of migration on age structure. Impacts will be more in smaller than in larger population groups, in areas that specialize in economic functions that impinge on a particular age group. Differential impacts may be lessened in periods, such as 1970-80, when substantial population redistribution is underway. Nevertheless, prior and present fertility and mortality trends, and the cumulative history of migration will exceed the impact of migration on age in any ten-year interval.

THE IMPACT OF MIGRATION ON THE NONMETROPOLITAN POPULATION AGE STRUCTURE 1960-1990

Over the past 30 years there have been three dramatic shifts in the pattern of rural and nonmetropolitan population change. In contrast to previous decades, the “nonmetropolitan turnaround” of the 1970s was a period of renewed and widespread nonmetropolitan growth, which overall, was at a higher level than metropolitan growth. This unanticipated trend generated a great deal of interest and research activity, but most observers were unprepared for yet another change, the “turnaround reversal” of the 1980s, during which nonmetro growth slowed considerably and was once more outpaced by the growth of metropolitan areas (Beale, 1990; Fuguitt, 1992; Long and De Are, 1988). The most recent evidence indicates that nonmetro growth has rebounded since the middle 1980s so that metro and nonmetro net migration rates are now about equivalent (Hansen, 1993; Johnson and Beale, 1994).

During the 1950s and 1960s concern about the effect of rural population decline and outmigration fueled calls for rural development efforts and population distribution policies which would encourage further deconcentration (Mazie, 1972). These emphases subsided, however, with the nonmetropolitan turnaround, and indeed tended to be replaced with the opposite concerns for the challenges of rapid population growth in boom towns and with the compatibility of “newcomers” and “oldtimers” (Frankena, 1980). More recently there has been a renewed interest in the problems of rural population decline, sometimes associated with other trends such as the farm crisis of the 1980s. Although the paramount concern has been with the declining population size of areas, population composition has also been an

important issue. Now, at least for the present, nonmetropolitan growth and net migration gain have become more prevalent again. These fluctuations in migration and population change patterns continue to challenge efforts to develop general explanations or confident predictions. What is certain is variation in migration levels, over time and across subareas of nonmetropolitan America, that should have important consequences that need to be better understood.

Our objective is to examine the impact of migration on age composition. Age composition is of interest for several reasons. First, age structure can have important consequences for economic viability, for the provision of services, and more generally for the ability of communities to organize to meet challenges at the local level. For example, younger populations are characterized by labor force expansion, higher fertility, school enrollment, expansion of housing and associated concerns. In contrast, older populations have to deal with a different set of needs and constraints arising from changing income, household size, health, and related life cycle changes.

Second, migration is highly age-graded. Migration probabilities peak in the early twenties when leaving home, entering college, and beginning a career are common. Mobility declines sharply after the twenties, but rises slightly in the primary retirement ages. Just as migration affects age composition, so changing age composition of the population has altered patterns of migration (Plane and Rogerson, 1991; Plane, 1992; Plane, 1993)

Third, functional specialization in rural areas is closely linked to age-specific migration rates. One of the oldest generalizations in migration research is the well-known tendency for young people to leave rural areas for cities, resulting in a deficit of the young in

rural areas and a corresponding surplus in the city. Although this tendency has been widespread across recent decades, there are variations by type of nonmetropolitan area. The continued decline in labor needs for agriculture, for example, means that areas dependent on this activity have had relatively greater losses of young people. Conversely, many young people have moved to selected nonmetro counties such as those having institutions of higher learning. Even more visible has been the movement of retirement age migrants to specific nonmetro areas, particularly those offering recreational amenities (Heaton, et al., 1981; Hart, 1984; Longino, 1990; Fuguitt and Beale, 1993).

On the other hand, some facets of migration limit the impact of migration on age composition. In any given period, only a fraction of the population moves between types of areas such that aging in place has a greater impact than migration. Reverse flows also counter the impact of major migration streams. Finally, growing areas generally attract migrants of all ages and the converse is true for declining areas. To the degree that age-specific rates are positively correlated, all age groups are similarly affected and the net impact on age structure is minimized.

A large majority of studies on changing age composition have focused on fertility and mortality; migration has received much less attention. Frey (1976, 1979) examined the implications of migration and residential mobility on the age structure of metropolitan cities and suburbs. Wilson (1985) considered the impact of interregional migration on the population composition of metro and nonmetro areas, based on an analysis of the 1940, 1970, and 1980 Census Public Use Microdata files. He concluded that interregional migration had little effect on the age structures of either metro or nonmetro areas in any

region. Rogerson (1984) used 1975-80 metro-nonmetro gross migration flows to examine the consequences of the turnaround period. Through a projection model, he gauged the effect the turnaround pattern of metro-nonmetro migration would have had, if it had continued through the year 2000, in increasing the nonmetro mean age and dependency ratios.

As noted above, we anticipate that the impact of migration is varied across nonmetro areas as well as over time. Studies treating nonmetro areas as an aggregate will thus understate the consequences in those types of areas where age-selective migration is most pronounced. Several trends imply diversity in nonmetropolitan age-selective migration, over time and space. Mueser et al. (1988) showed this in a systematic way with age-specific county net migration data for 1950-80, and Frey (1992), concentrating on metro areas but including a nonmetro component, concluded that due in part to migration, the distributions of the elderly and nonelderly have taken diverse paths over the past 30 years. This diversity over time and space makes it important to avoid facile assumptions about the impact of recent trends on age structure, but rather to monitor this impact with the means available. We will address four basic questions here concerning the impact of net migration on the age structure: (1) How did the impact vary across the three census decades since 1960? (2) How did the impact vary across the age span? (3) How did the impact vary by metropolitan and nonmetropolitan residence? (4) How did the impact vary by major economic functions of nonmetropolitan counties?

The fourth question requires some classification of counties by function. The importance of functional classification in examining demographic structure has a long tradition (Duncan and Reiss, 1956; Frisbee, 1984; Bender et al., 1985), but no single

classification scheme exists. In order to assess variation in age impacts, we select four different characteristics of counties that should reflect a range of age-specific migration patterns. First, we examine counties with a high volume of commuting to metropolitan centers. Commuting counties should experience migration of people in mid life cycle who are changing housing or employment, but who are economically attached to metropolitan centers. There may also be a secondary influence on age structure because these migrants are in the childbearing years and so may bring children with them. Second, counties with a major college or university should be characterized by migration of young adults who are entering and, at a somewhat higher age, exiting school. Third, retirement counties are characterized by net immigration of older people. Finally, agricultural counties are marked by net outmigration of young people. Agricultural counties, with limited alternative opportunities, would be expected to experience the most marked net migration losses of young adults, and retirement counties should be distinctive in showing high net migration gains of more mature adults and the elderly. The effect of either young out-migration or elderly in-migration should be to increase the proportional concentration of population in the older age groups (Wiseman, 1979; Lichter et al., 1981; McCarthy, 1983; Bohland and Rowles, 1988; Fuguitt and Beale, 1993).

Data and Procedures

This analysis utilizes age-specific net migration estimates to examine the effect of migration on age structure for 1960-70, 1970-80, and 1980-90. County net migration estimates were obtained from machine-readable files by Bowles et al. (1975) for 1960-70,

and by White et al. (1987) for 1970-80. We prepared the estimates for 1980-90. Each set of migration estimates was derived by subtracting a measure of natural increase from population change over the period. Because of differences across decades in completeness of enumeration, our estimates, and those of White, Mueser, and Tierney, were adjusted for underenumeration, using age-sex-race estimates based on the demographic methods that were made available by the Census Bureau (Passel and Robinson, 1985; Robinson et al., 1991).

The metropolitan-nonmetropolitan county designation of 1983 is used throughout the analysis (1). The impact of migration is determined by comparing the population in each age group at the end of the period (adjusted for underenumeration according to procedures followed for the 1970-80 and the 1980-90 net migration estimates) with the population expected at that time if no migration had occurred.

We will compare metropolitan and nonmetropolitan areas as a whole and in addition groups of counties classed as having substantial commuting to metro areas, or having a four-year college, or, according to the USDA functional classification, identified as destinations of elderly migrants, or specializing in agriculture (Bender et al., 1985). (2)

We begin by showing age-specific net migration rates over each decade by metropolitan status and, by functional specialization for nonmetro. Then we consider the effect of migration on the relative population age structure, as shown by a) the percent distribution across the age span in five-year groups of the observed population contrasted with the population expected without migration, and b) dependency ratios. We also contrast overall migration impact with the effect of aging in place, and examine selected individual counties. Finally we look at the impact of migration on individual broad age groups, as seen

by the percentage change in the population of each group that could be attributed to migration.

Results

Net Migration Rates

The general patterns of net migration by age are as expected for metro and nonmetro counties (Figure 1). In each decade metro areas gain young adults at the expense of nonmetro areas. Nonmetro rates are higher at every age during the turnaround decade (1970-80), testifying to the inclusive character of this trend. The most recent decade is intermediate between the 1960s and the 1970s, indicating that the 1980s were not a return to the 1960s in level of net migration. (See Footnote 1). The most striking difference in the turnaround period is the net migration gain of people in their thirties and forties. In contrast, the peak in net migration gain in the 1960s and the 1980s is among those 65-69 years of age.

Commuting counties experience a loss of residents in their early twenties comparable to all nonmetro counties, but they have net immigration of people over age 30 in all three decades. Not surprisingly, college counties have a heavy immigration of people in their early twenties, but net outmigration in the late twenties and early thirties. Agricultural counties are quite similar to the total nonmetro sector in their pattern, except that losses of young adults are considerably higher (note the difference in scale). Nonmetro retirement counties, on the other hand, show a very distinctive pattern, with the downturn at the younger ages followed by the highest levels of net immigration for ages over 30, culminating in a peak for

the 60-year group. The widespread nature of the turnaround, and of its reversal is seen by the fact that migration rates in 1970-80 were highest, or equal to the highest at each age, and for each nonmetro subgroup considered in this work.

Migration and the Relative Age Distribution

In Figure 2 the percentage distribution of the observed population ("with migration") is compared with the expected population ("no migration") for the metropolitan and nonmetropolitan segments in 1990, 1980, and 1970. The movement of the baby boom cohort dominates the changing shape of all distributions, with a peak at 5-14 in 1970, 15-24 in 1980, and 25-34 in 1990. In each year, the difference between the expected and observed distribution is small for metro areas, as would be expected, since the nation was about 75 percent metropolitan in 1983. Without migration there would be slightly lower percentages for young adults and slightly higher percentages for ages 50 and over. The reverse is true on the nonmetro side where migration creates a loss of young adults along with a relative gain across the more mature years. Because of a smaller population base, the migration impact is greater in nonmetro than in metro areas.

Somewhat similar patterns are shown for commuting, retirement and agricultural counties in Figure 3. The loss of younger people is particularly evident in agricultural counties. In retirement counties, a highly selective migration of the elderly is reflected in the relatively large gains in the age groups over 65. Migration leads to a loss in the relative concentration in the young adult years in retirement counties, despite the fact that for 1970-80 and 1980-90 there was net migration gain for all age groups. College counties, with the

most distinctive pattern, have more residents in their early twenties and fewer in their late twenties than would be expected if no migration occurred. The lack of a peak in the expected population aged 25-34 in 1970 is curious. Perhaps the increase in college enrollment in the 1960s had not yet aged sufficiently to show up by 1970.

Dependency Ratios

We summarized the observed and expected age distributions by calculating youth, elderly, and total dependency ratios (3). Comparing the two columns for each decade in Table 1 reveals the effect of migration on dependency as measured by these ratios. Migration has a small effect for metro areas that is in the expected direction, as migration gains of the adult years lower both youth and elderly dependency. Conversely, in nonmetro areas, migration has a somewhat larger effect of increasing both youth and elderly dependency, primarily because the net migration loss of young adults lowers the denominator. In general, dependency ratios are most affected in the 1960s, followed by the 1980s, and the effect is quite small in the turnaround decade, when nonmetro adult net migration levels were the highest.

Across all periods, agricultural counties show the largest impact due to migration. In these counties, migration had the effect of raising the total dependency ratio about 12 percentage points, from 61.8 to 73.6 in the 1960s. The increase was less than six percentage points in the 1970s and rose again to almost nine percentage points in the 1980s.

Commuting counties show higher migration effects than do college or retirement counties in raising youth dependency ratios. This is most likely because many migrants to

these areas are adults with children. College counties had slight losses due to migration in both youth and elderly dependency in the 1960s and the 1970s, and only a slight gain in the 1980s. We would not expect dependency ratios to be greatly affected by migration in college counties because new students and graduates both fall in the adult age group. As expected, migration raises the elderly dependency ratio in retirement counties, but only slightly in the 1970-80 decade, and less than in agricultural counties over any decade, where migration losses of young adults raises the proportion 65 and over.

Overall Impact

For an overall measure of impact, we turned to the index of dissimilarity, which is one-half the sum of the absolute difference between corresponding groups in two percentage distributions. Values range from 0 to 1, where 1 is obtained if the distributions are the same, and the index is sometimes interpreted as the proportion of cases that would have to change categories to make the two distributions identical. The DELTA's in Table 2 are the indices showing the impact of migration, for they compare the expected and observed percentage distributions at the end of each decade. Results are about as expected, with more impact in nonmetro than metro areas, and the most impact in agricultural and college counties. Over time the impact in agricultural counties has declined while the impact in college counties has grown. Measured this way, however, impact is seen to be generally small, especially in retirement and commuting counties, with all DELTA's less than 8.0.

The DELTAE's compare the percentage distributions by age of the observed distributions at the beginning of the decade with the expected distributions at the end, to

indicate the impact of aging and natural increase on the age structure across each decade. DELTAE's indicate greater impact in nonmetropolitan areas in the first two decades. For 1980-90, however, the impact of aging and natural increase is greater for metropolitan than for nonmetropolitan areas. Among the specialized nonmetro counties the college group had the highest impact of aging and natural increase after 1970. This is no doubt because these counties have a very high concentration of population in a 10-year (age 15-24) range, which is expected to move into the next two highest age groups. Of most interest here, however, is the comparisons of the two indices. DELTAE's are often more than twice the size of corresponding DELTA's. The results of this table demonstrate that the impact of migration on residence groups overall is not large, and furthermore it is considerably smaller than the impact of shifts in age structure due to aging in place.

Individual Counties

Despite these small overall impacts for residence groups there is a fair amount of variation among individual counties in DELTA values. Table 3 gives statistics for individual counties. The pattern of county means is similar to the aggregate deltas in Table 2, but values are considerably larger, indicating that counties with fewer people tend to have larger delta values. (For nonmetropolitan counties in 1980-90, the correlation between delta and 1990 population was -.2). Variances are similar for metro and nonmetro counties, and given the larger nonmetro means the coefficients of variation are consequently smaller. Variances and coefficients of variation tend to be somewhat larger in the turnaround decade for all

groups of counties, suggesting a more selective migration impact across counties during this period of overall migration gain.

With individual counties again one must conclude that the impact of migration over a single decade is rather small. For 1980-90 only about seven percent of metropolitan or nonmetropolitan counties had deltas greater than 10, and results are similar for the other two decades. There were, however, 181 such high impact nonmetro counties in the 1980s, and the situation of these outliers is worth attention. Just as college counties overall had the highest impact scores in this decade, so fully 45 of the top 100 and 37 of the top 50 are distinguished by having state institutions of higher learning. Their high impact was due to a large net immigration, particularly in the 20-24 age group, that mostly did not remain part of the expected population in the next decade. The top graph in Figure 4 is for Whitman County, Washington, the nonmetro county with the largest delta (28) for 1980-90. The extreme concentration of young adults is obvious in this county which had only 39,000 inhabitants in 1990, but these included students and others associated with Washington State University, with a enrollment of about 16,000.

A few other top counties have temporary young populations, including military bases and penal institutions. (The highest ranking county overall in the 1980s is Chattahoochee, GA, a metro county which includes Ft. Benning). Two such counties in Colorado were identified as ski resorts, Summit and Eagle. The highest ranking of these, Summit, is shown in figure 4. This county is the home of Keystone Resort, and shows a somewhat broader concentration in the younger age groups than does Whitman, peaking five years later at 25-29 years.

There are only four retirement counties in the top 100 and all are in Florida: Flagler, Highlands, Citrus, and Charlotte. As Florida literally "fills up" with retirees, the turn of these nonmetro counties for rapid retirement growth came in the 1980s. Flagler, north of Daytona Beach and east of Gainesville, is shown in the figure, and has a large population in excess of that expected from age 55 to 70. This county was the site of a particularly large residential development in the past decade, and by 1993 was reclassified as metropolitan.

Only one in five of the top 100 counties were considered to be primarily farming counties, and only one of these, Emmons, North Dakota, fell in the top 50, and so was included in Figure 4. (Loving County, Texas, with a 1990 population of only 109, is excluded from this analysis). Emmons County, in the south central part of North Dakota, suffered in the farm crisis of the early 1980s and in the late 1980s from a severe drought. With a German-Catholic population, it seems likely that earlier high fertility levels generated the extremely large expected population in the 20-24 and 25-29 age groups in 1990, which contrasts with the population observed due to high levels of net outmigration of young people. The 1980-90 net migration rate per 100 for 20-24 year-olds was -73. Commuting counties, individually or as a group, had the lowest deltas, and none were in the top 100 counties.

The Impact of Migration Within Age Groups

The preceding analysis is based on overall percentage distributions by age and so shows the impact of migration on the age structure as a whole. Following Frey (1979) we have also calculated the percent change in the end-of-period population that can be attributed to net migration within five broad age groups (Table 4). In metro areas, net migration is not very large relative to the population at the end of the decade. Net gains of young adults, the age group with the largest percentages, were less than 10 percent in the 1960s and 1980s and about 5 percent of the end-of-period population in the 1970s. In nonmetro areas, however, the negative migration effect for young adults is quite high, in the 1960s and the 1980s, and this effect is amplified in agriculturally dependent areas. Note that in agricultural counties the net migration loss in the 1960s was more than one-half of the end-of-period population and was more than one third of this population in the most recent decade. Since many migrants are young adults it is hardly surprising that the largest impacts tend to be within the 15-29 group. There are exceptions, however. For example, during the turnaround, the largest migration effect is for adults 30-44 in nonmetropolitan counties as a whole and in nonmetro retirement and commuting counties.

In commuting counties, migration reduces the population aged 15-29, but there are gains in each other group, with most gain for 30-44 and 0-14 years. As expected, college counties gain young adults, but lose them again a few years later. Nonmetro retirement counties clearly are those with the most migration impact within the older age group. In the turnaround decade net migration is one-fifth of the total end-of-period population in retirement counties. The importance of elderly migration has declined over the last decade,

however, increasing from 14 to 22 percent in the first two periods, but declining to 11 percent in the 1980-90 decade. Nevertheless, retirement counties are still gaining considerable proportions of adults aged 30 to 44 and 45 to 64 through migration, and indeed the impact for both of these age groups is actually higher than the 65 and over group for 1970-80, and this is true for the 45-64 group over 1980-90. Many of the older adults are no doubt early retirees or making pre-retirement moves, with others taking advantage of the growth in service employment attendant to consumption needs of retired residents.

Conclusion

This paper examines the impact of net migration on age structure. This impact is often minimized because (1) gross migration flows in and out may cancel, and (2) patterns of migration that are consistent across all age categories have little influence on age structure. Moreover, we have only examined the impact of migration within three ten-year periods. Thus, it is not surprising that migration does not greatly alter age structure. Yet some patterns of influence are evident.

In general, migration adds younger people to metro areas and older people to nonmetro areas. Because nonmetro areas include fewer people, they are more influenced by migration between metro and nonmetro areas. But these effects vary by period and major activity of the area. Migration effects tended to be greater in the 1960s when large numbers of young people were still leaving nonmetro areas and smaller in the turnaround period of the 1970s, when net migration levels were highest, and differed the least across all nonmetro age

groups. Nevertheless, the pattern of losing youth while gaining older people is evident in each decade. The primary economic activity in the county also affected migration patterns and their impact on age structure. The effect of migration on middle- and older-age groups is particularly evident in retirement counties, but the loss of younger people is more obvious in agricultural counties. College counties gain young adults, but the impact is short lived as students finish college and move on. Commuting counties tend to attract more adults in the working years, along with their attached children, such that two age groups are effected.

In sum, several factors influence the impact of migration on age structure. Impacts will be more evident in smaller as compared to larger areas, in areas that specialize in functions that impinge on a particular age group (i.e., young out-migration from agricultural areas and elderly in-migration to retirement areas). Differential impacts on specific ages may be lessened in periods when substantial population redistribution is underway. Nevertheless, the large impacts of prior and present fertility, mortality, and the cumulative history of migration over prior years well exceed the impact of migration on age in any ten-year interval.

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Footnotes

(1) An alternative procedure would be to classify counties as metropolitan and nonmetropolitan as of the beginning or the end of each decade considered. Because of our primary interest is in nonmetro areas, we opted for looking at the same territory over the 30-year period, although there are advantages in making metro-nonmetro comparisons using a metro designation current at each time. Actually Figure 1 was recalculated in that way using the 1974 designation for 1960-70 and the 1993 designation for 1980-90. It showed that the nonmetro net migration pattern by age for 1960-70 was closer to that for 1980-90 than with a constant 1983 designation. This might be expected, since many counties nonmetro in 1963 had transferred to the metro side by 1983, and presumably were therefore faster growing through migration. Major patterns were not affected, however, and for figures 2 and 3 results were almost identical. Earlier we showed that major metro-nonmetro growth patterns are revealed regardless of metropolitan designation, and we would not expect any of our findings to be modified significantly using an alternative designation approach (Fuguitt, Heaton and Lichter, 1988).

(2) Commuting counties were those with more than 15 percent of their workers commuting to central counties of metropolitan areas in 1980. College counties were those having a senior state college in 1974. Because the post-war period of establishing new state institutions had largely ended by that time and virtually no state college has ceased functioning, we believe this measure would well reflect the situation in the early 1980s or

even today. The USDA classification of retirement counties included all those that, for the 1970-80 period, had net immigration rates for people aged 60 and over of 15 percent or more of the expected 1980 population 60 and over. Agricultural, or farming-dependent, counties were those in which farming contributed a weighted average of 20 percent or more of total labor and proprietor income over the five years from 1975 to 1979.

Because there was some overlap in the classification, we first identified the commuting counties (264 in 1980), then other counties that had senior state colleges (151), then other counties that were classed as retirement (389), and among the remaining counties those that were agricultural or farm-dependent (542). There were 1,028 nonmetro counties which fell in none of these groups, making up 43 percent of the total.

(3) Youth dependency ratio: Number less than 15 divided by population aged 15-64 times 100; elderly dependency ratio: Number 65 and over divided by population aged 15-64 times 100; total dependency ratio: sum of youth and elderly dependency ratios.

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TABLE 1

**DEPENDENCY RATIOS, METROPOLITAN AND NONMETROPOLITAN
COUNTIES 1970, 1980, 1990 (1)**

Dependency Ratios	1970		1980		1990	
	No Mig. 1960-70	Mig. 1960-70	No Mig. 1970-80	Mig. 1970-80	No Mig. 1980-90	Mig. 1980-90
<u>Metropolitan</u>						
Youth	47.0	45.7	33.6	33.1	33.1	32.5
Elderly	15.8	14.9	16.6	15.8	18.5	17.5
Total	62.8	60.6	50.2	48.9	51.6	50.0
<u>Nonmetropolitan</u>						
Youth	44.7	48.0	36.5	37.3	33.7	35.9
Elderly	17.5	19.7	20.3	20.5	21.3	23.0
Total	62.2	67.7	56.8	57.8	55.0	58.9
<u>Commute</u>						
Youth	44.4	49.3	36.1	37.7	33.0	35.8
Elderly	18.4	20.1	20.4	20.0	20.9	21.4
Total	62.8	69.4	56.5	57.7	53.9	57.2
<u>College</u>						
Youth	46.0	42.3	34.3	32.4	30.9	31.6
Elderly	15.9	15.6	16.5	16.1	16.9	17.8
Total	61.9	57.9	50.7	48.5	47.9	49.4
<u>Retirement</u>						
Youth	44.5	47.1	38.4	36.3	35.0	34.9
Elderly	19.1	22.6	23.5	24.0	25.2	27.4
Total	63.6	69.7	61.9	60.3	60.2	62.3
<u>Agriculture</u>						
Youth	43.7	50.8	35.6	39.8	35.6	40.5
Elderly	18.9	23.5	22.9	24.8	24.2	27.6
Total	62.6	74.3	58.5	64.6	59.8	68.1

(1) Ratios in no migration columns are based on the population of the end of the period less net migration. Ratios in migration columns are based on the reported end-of-period population. Youth dependency ratio: number less than 15 divided by the population 15-64 times 100. Elderly dependency ratio: number 65 and over divided by the population 15-64 times 100. Total dependency ratio: sum of youth and elderly dependency ratios.

TABLE 2
INDICES OF DISSIMILARITY BY RESIDENCE AND YEAR (1)

Metro-non & USDA Fns	1970		1980		1990	
	DELTA	DELTAE	DELTA	DELTAE	DELTA	DELTAE
Metro	1.4	6.9	1.3	7.9	1.7	8.1
Nonmetro	3.8	8.4	2.5	8.7	2.8	7.1
Commute	4.7	9.0	3.6	8.6	3.6	6.1
College	6.2	5.8	7.4	12.5	7.9	13.4
Retirement	5.3	8.6	5.3	8.7	4.3	6.4
Agriculture	7.4	10.7	5.1	10.4	5.0	6.4

(1) DELTA AND DELTAE are indices of dissimilarity. DELTA is one half the sum of the absolute differences between the observed and expected percentages at the end of each decade for the five-year age groups. Similarly, DELTAE compares the observed age distribution at the beginning of the decade and the expected distribution at the end of the decade. Thus, DELTA is a measure of the overall impact of migration, and DELTAE is a measure of the overall impact of aging and natural increase in the absence of migration.

TABLE 3
DELTA STATISTICS FOR COUNTIES BY RESIDENCE AND YEAR (1)

Metro-non & USDA Fns	1960			1980			1990		
	Mean	C.V.	Max	Mean	C.V.	Max	Mean	C.V.	Max
Metro	5.1	67	28.7	5.3	70	25.9	4.9	66	29.7
Nonmetro	7.6	42	45.3	6.4	55	35.0	6.2	48	28.0
Commute	6.8	35	14.1	6.1	50	22.3	5.7	35	14.3
College	8.9	63	32.0	9.8	62	29.9	9.7	64	28.0
Retirement	7.9	35	24.7	7.2	43	25.3	6.2	38	19.2
Agriculture	8.9	27	28.6	7.0	34	22.4	7.3	33	29.8

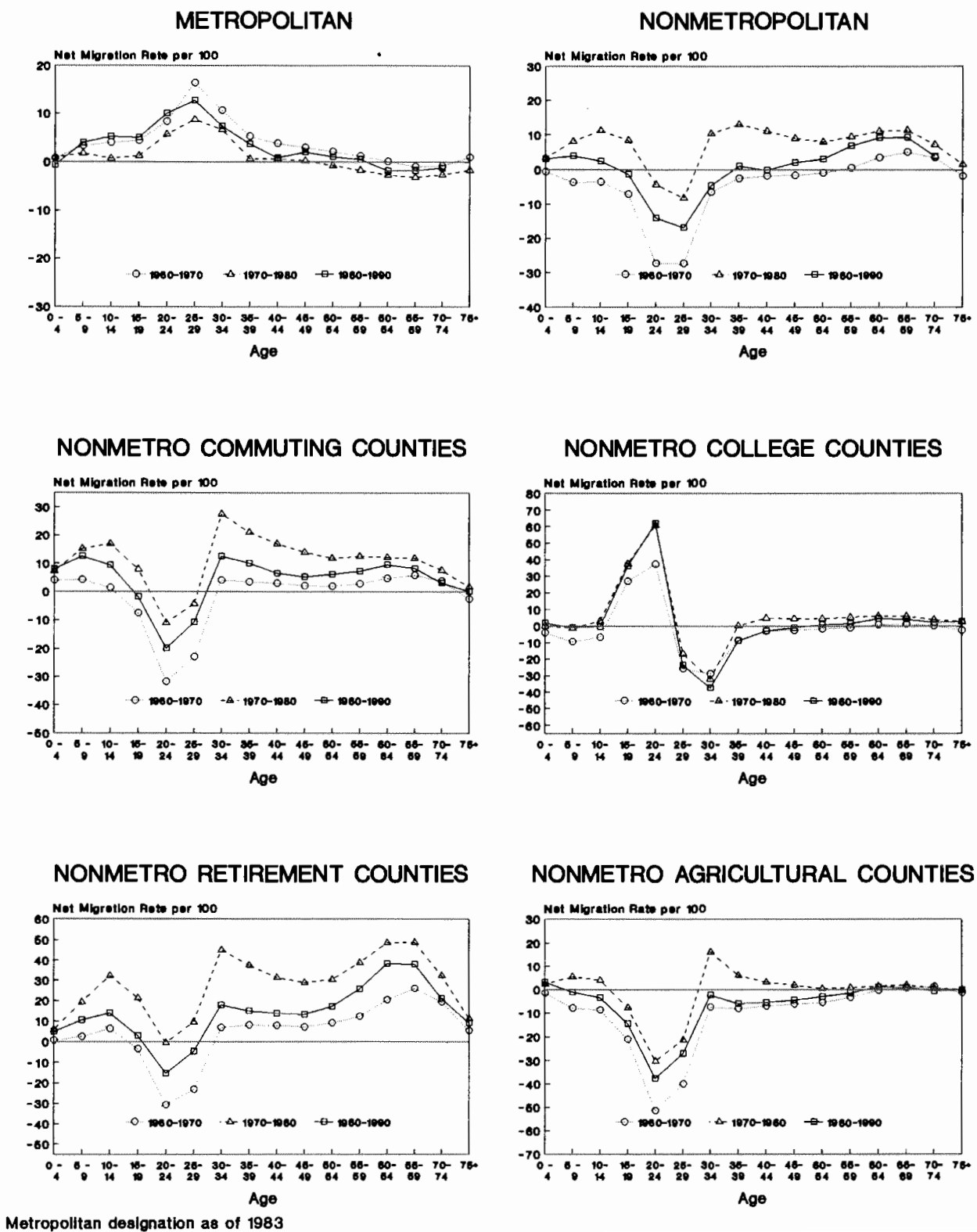
(1) C.V. is the standard deviation divided by the mean times 100.
Max = maximum county value. Minimum values not shown but none was greater than 2.5.

TABLE 4

NET MIGRATION AS A PERCENT OF
END-OF-PERIOD POPULATION
BY AGE, 1960-70, 1970-80, 1980-90

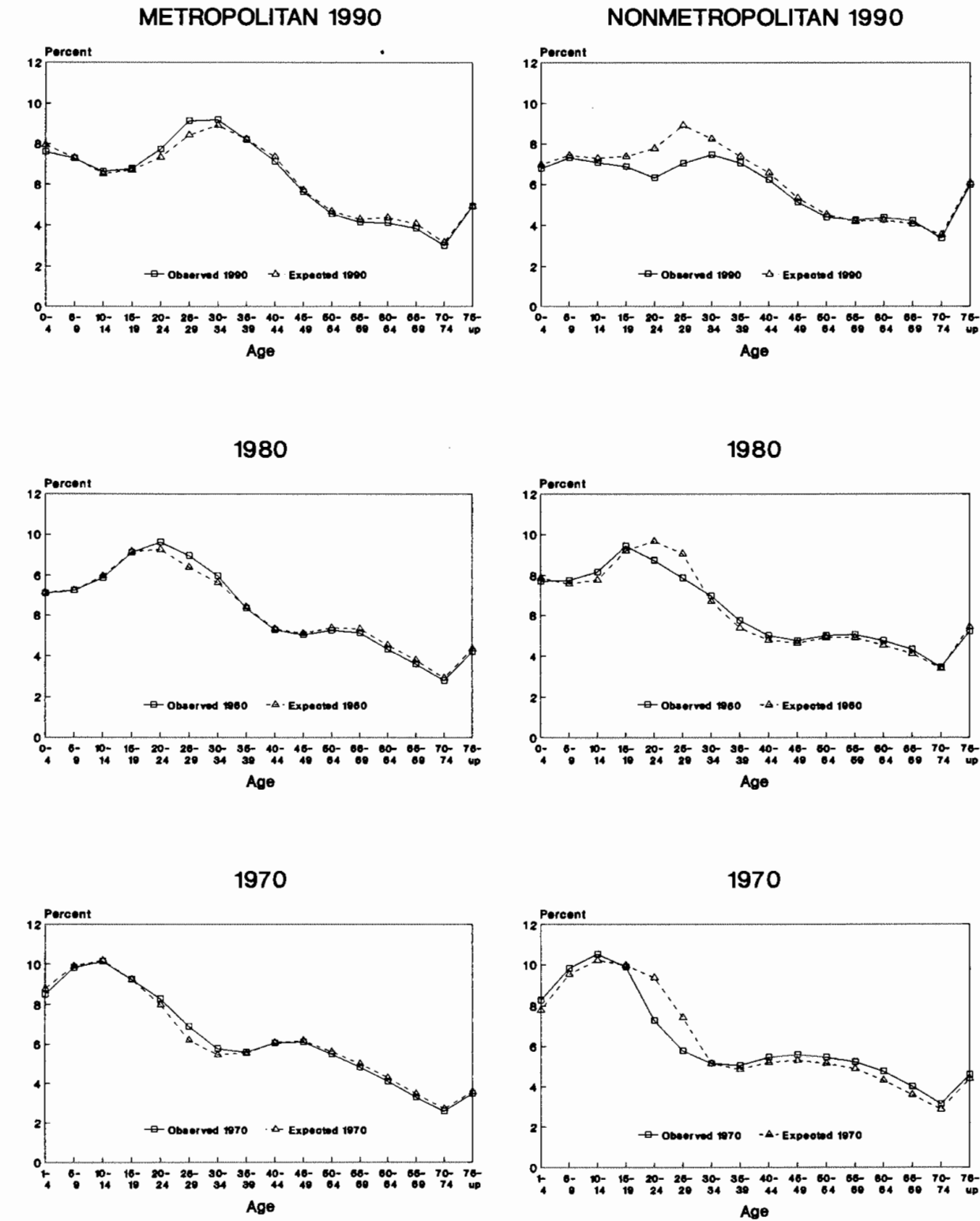
Age	1960-70	1970-80	1980-90	1960-70	1970-80	1980-90
----- Metropolitan -----			----- Nonmetropolitan -----			
0-14	2.7	1.1	3.0	- 2.8	7.0	3.0
15-29	8.1	4.9	9.2	-24.6	- 1.4	-12.6
30-44	6.0	2.9	3.9	- 3.7	10.2	- 1.5
45-64	1.7	- 1.2	- .1	.3	8.6	4.2
65 up	- .2	- 2.4	- .6	1.9	5.9	4.1
TOTAL	4.1	1.7	3.7	- 6.8	5.6	- 1.0
----- Nonmetro Commuting -----			----- Nonmetro College -----			
0-14	3.0	11.7	9.2	- 7.4	.6	.2
15-29	-25.4	-2.5	-13.0	12.1	19.1	15.1
30-44	3.4	18.3	8.9	-17.6	-18.1	-25.5
45-64	2.7	11.2	6.6	- 1.1	4.8	1.2
65 up	1.8	6.1	3.4	- .5	3.9	2.8
TOTAL	- 3.4	8.5	3.2	- 1.2	4.6	- .7
----- Nonmetro Retirement -----			----- Nonmetro Agricultural -----			
0-14	3.2	15.7	8.8	- 7.0	3.8	- .6
15-29	-23.0	9.0	- 6.3	-58.7	-25.2	-36.4
30-44	7.0	27.8	13.4	- 8.1	8.1	- 4.8
45-64	10.6	26.8	18.6	- 4.2	1.1	- 2.2
65 up	13.6	22.0	17.0	- .1	.7	- .1
TOTAL	1.3	19.5	10.1	-16.1	- 3.5	- 8.6

FIGURE 1. Net Migration Rates by Age 1960-70, 1970-80, 1980-90



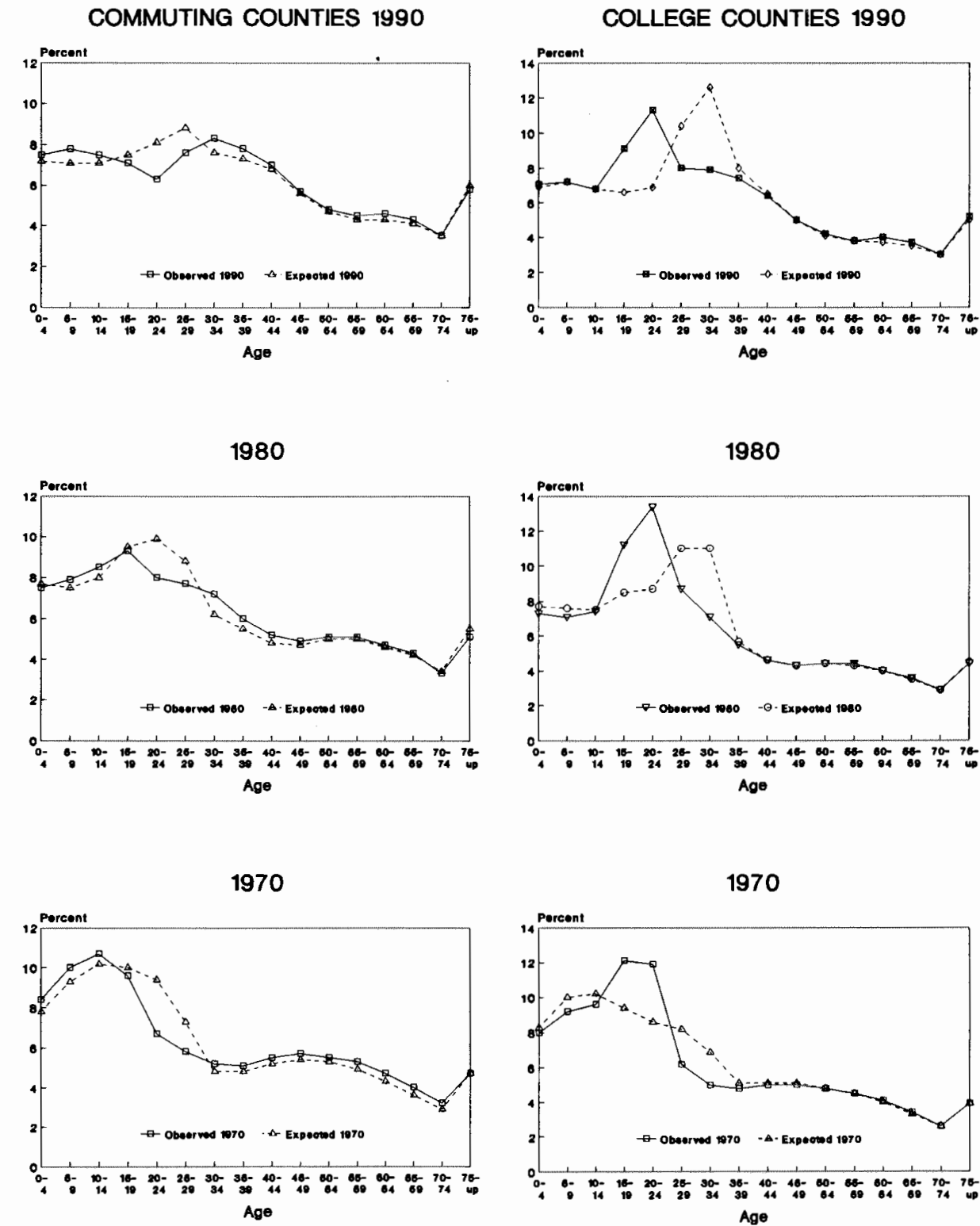
Metropolitan designation as of 1983

FIGURE 2. Percent Distribution by Age, Observed and Expected If No Migration, Metropolitan and Nonmetropolitan 1970, 1980, 1990



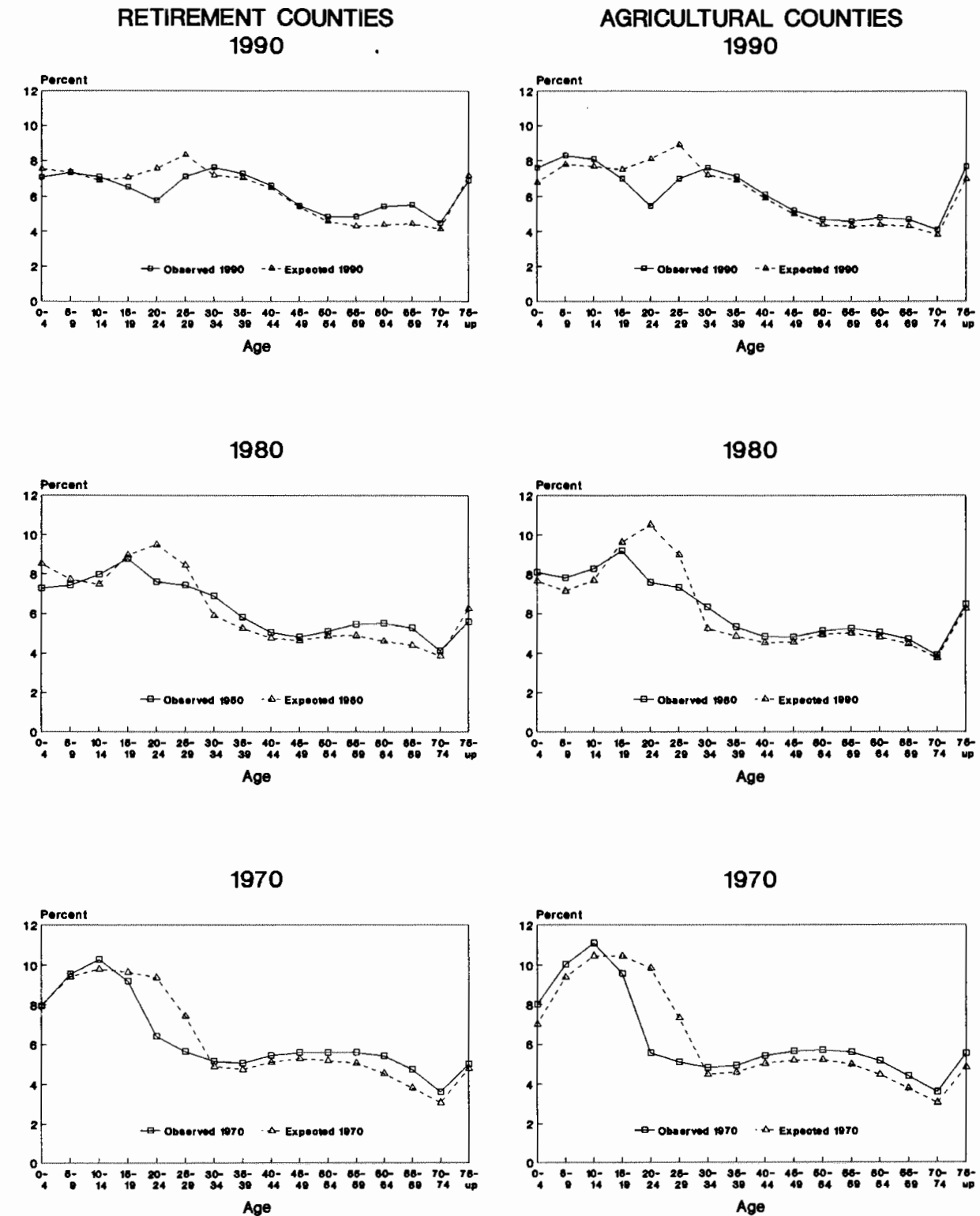
Metropolitan designation as of 1983

**FIGURE 3. Percent Distribution by Age, Observed and Expected
If No Migration, Nonmetropolitan Commuting
and College Counties 1970, 1980, 1990**



Nonmetropolitan as of 1983

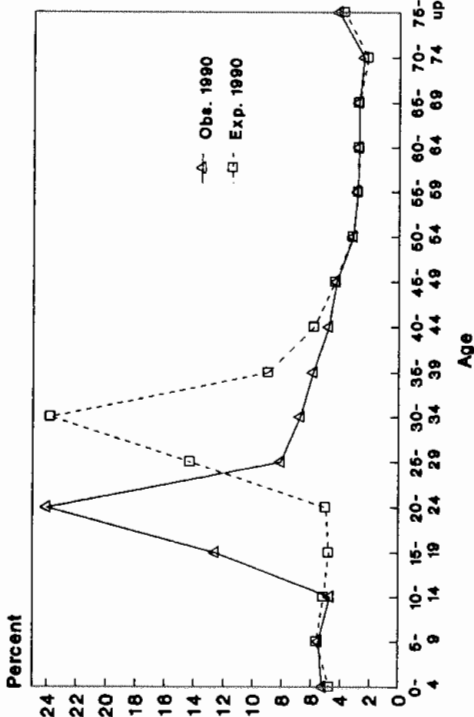
FIGURE 3, continued. Percent Distribution by Age, Observed and Expected If No Migration, Nonmetropolitan Retirement and Agricultural Counties 1970, 1980, 1990



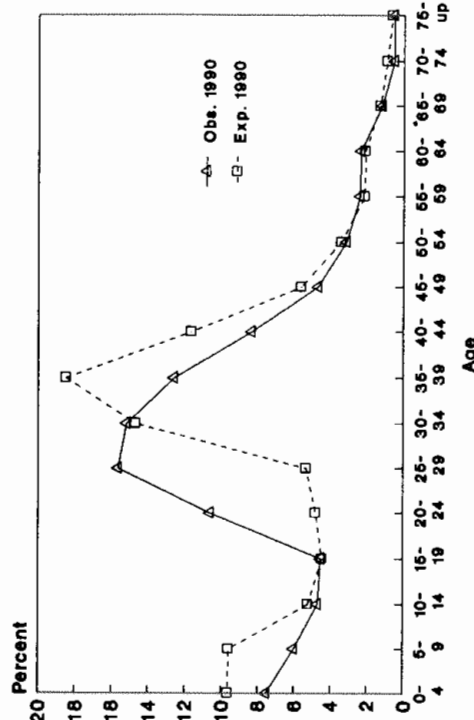
Metropolitan as of 1983

FIGURE 4. Selected Counties with High Migration Impact 1980-90

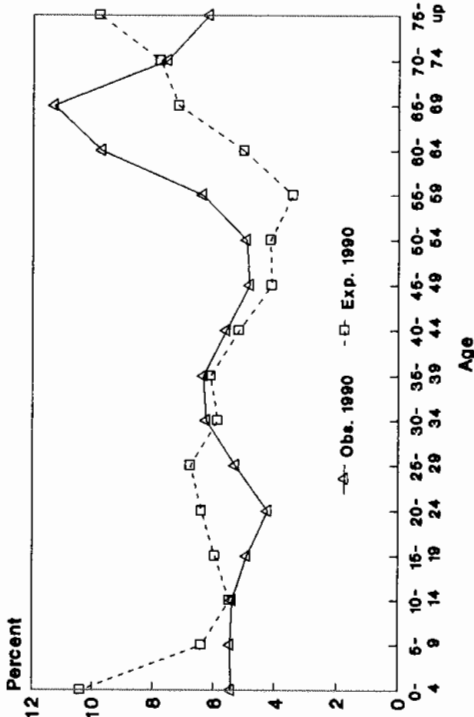
WHITMAN COUNTY WA 1990
Rank 1 Delta 28 Population 38775



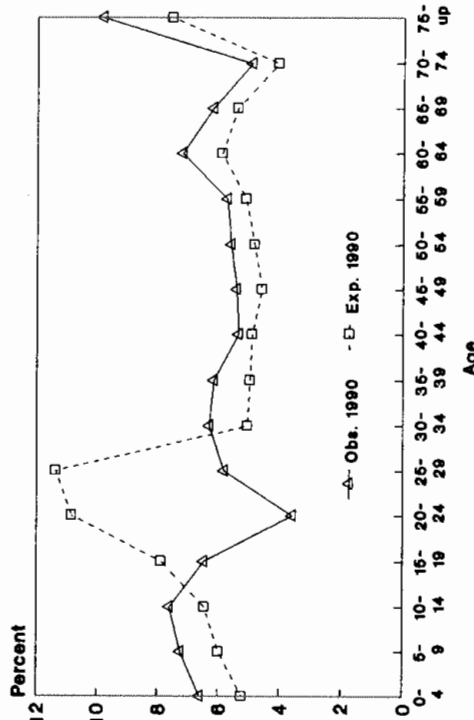
SUMMIT COUNTY CO 1990
Rank 26 Delta 17 Population 12881



FLAGLER COUNTY FL 1990
Rank 46 Delta 14 Population 28701



EMMONS COUNTY ND 1990
Rank 48 Delta 14 Population 4830



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