

Components of Change in Migration and Destination-Propensity Rates for Metropolitan and Nonmetropolitan Areas: 1935–1980

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This article focuses on components of change in out-migration and destination-propensity rates of metropolitan and nonmetropolitan areas. The results indicate that changes in subgroup-specific rates were the driving force behind the changing patterns between and within these two areas. Composition effects played a secondary role, mainly counteracting the negative impact of changing rates. Although the rate of change in out-migration from metropolitan areas has been reduced and out-migration from nonmetropolitan areas declined during the most recent period, the propensity to select metropolitan areas increased over the period studied. Finally, rate-specific changes vary by age and education, indicating a change in migration's impact on population composition at origin and destination.

Introduction

The primary purpose of this article is to explore further the contribution of changing migration rates and population composition to the volume of movement between metropolitan and nonmetropolitan areas. Results from previous studies indicate that an increased rate of out-migration from metropolitan areas and a decreased rate of out-migration from nonmetropolitan areas were largely responsible for the reversal in migration flows that occurred between these sectors in the 1970s. Fuguitt's (1985) review of the literature indicates that although all subgroups seem to have been involved in the migration reversal, changes in age and socioeconomic status selectivity did occur.

Although much has been learned about the demographic forces causing changes in the migration rates connecting metropolitan and nonmetropolitan areas, two important areas need further exploration. First, discussion of the changing volume of movement between these areas has focused almost exclusively on changes in migration rates, and little attention has been given to changes in population composition. As is well known, changes in the volume and the general rate of migration can reflect the influence of both rate-specific and population-composition changes. For example, changes in the age and education composition of the U.S. population during the 1960s and 1970s were favorable to migration, because the baby-boom cohorts were coming of age and their educational attainment levels were higher than those of previous cohorts (see Featherman and Hauser, 1978; Long and Hansen, 1979; Wilson, 1983). Results from a recent analysis reported by Warner (1985) clearly indicate that changes in the total out-migration rate for metropolitan and nonmetropolitan areas and the rates of migration between these sectors were differentially affected by area- and age-specific rates and composition changes.

Warner (1985) reported that approximately 62 percent of the increase in out-migration rates for metropolitan areas between the 1965–1970 and 1975–1980 intervals was due to

favorable changes in age structure and increases in metropolitan territory, and the remaining 38 percent was due to rate-specific changes. In contrast, 58 percent of the decrease in out-migration from nonmetropolitan areas was due to age and territory composition changes, and 42 percent was due to rate-specific changes (Warner, 1985:31, table 6). Decomposition of changes in the metropolitan/nonmetropolitan exchange migration rates between the two periods indicates that the increased rate of metropolitan to nonmetropolitan migration was due primarily to changes in migration-specific rates (Warner, 1985:39, table 8).

A second aspect of metropolitan and nonmetropolitan migration trends needing further exploration is the relative contribution of changes in the destination-propensity rates of movers. Changes in exchange rates of migration (e.g., metropolitan to nonmetropolitan rates and vice versa) can occur even if the total out-migration rate for either area remains constant or changes in the opposite direction, because they are a function of changes in both the total out-migration rate of residents and the destination-propensity rates of migrants (see Frey, 1978).¹ This was demonstrated by Alonso (1978) and Wilson (1987), whose results indicate that the reduction in out-migration from nonmetropolitan areas reflected a disproportionate decline in the share of all movers going to another nonmetropolitan area. In other words, while the rate of out-migration declined, the proportion of nonmetropolitan residents moving to metropolitan areas increased. Similarly, while the number of out-migrants from metropolitan areas increased, the share of all movers going to a nonmetropolitan destination declined (see Wilson, 1987). This poses an important question for future research: Why have metropolitan areas remained the favored destination of most migrants even though in the aggregate these areas, in the '70s, lost more population to nonmetropolitan areas than they gained?

Current Study

The current study uses data for 1935–1940, 1955–1960, and 1975–1980 to (1) assess the relative contribution of age- and education-specific rates and composition to the total rates of migration to and from metropolitan and nonmetropolitan areas and (2) conduct a multivariate analysis of factors associated with migration and metropolitan destination-propensity rates. The primary objective is to determine whether metropolitan and nonmetropolitan migration rates for population subgroups have changed since the 1935–1940 period. Since 1940 the pattern and tempo of in-migration between and within metropolitan and nonmetropolitan areas have changed dramatically. This analysis attempts to capture certain aspects of this change, but unlike most previous investigations, the period in which the metropolitan/nonmetropolitan turnaround occurred is not the explicit focus. Rather, the study takes a long-term view of migration trends and asks what roles population subgroups have played in shaping migration patterns within and between metropolitan and nonmetropolitan areas.

The primary sources of data are the Public Use Microdata (PUMS) files from the 1940 (1/100), 1960 (1/1000), and 1980 (1/100) decennial censuses. The PUMS files provide a complete breakdown of the U.S. population on the basis of metropolitan/nonmetropolitan residence, which is used to classify the nonblack population 18 years of age and over according to their migration status during a five-year interval. The peculiarities and limitations of these files are discussed elsewhere (see Wilson, 1986, 1987).² Migrants are classified as metropolitan to metropolitan, metropolitan to nonmetropolitan, nonmetropolitan to metropolitan, and nonmetropolitan to nonmetropolitan. Nonmigrants are defined as individuals who (1) did not move during a five-year interval, (2) moved, but within the standard metropolitan statistical area of residence or nonmetropolitan county of residence, and (3) did not report their previous place of residence. Since internal migration is the

primary focus of this analysis, persons who were abroad (including U.S. possessions) during the five-year interval preceding the census are excluded.

Results

Component Changes in Rates

As noted previously, the total out-migration and destination-propensity rates for metropolitan and nonmetropolitan areas can change because of changes in population composition and the rate at which subgroups migrate. Table 1 presents the results of an attempt to assess the impact of these sources of change in rates over three time intervals. Data presented are percentages of the nonblack population 18 years and over who migrated from either a metropolitan or nonmetropolitan area during these intervals, the percentage migrating to metropolitan areas, and a decomposition of the difference in percentages between adjacent time intervals, using Kitagawa's component difference in rates technique (Kitagawa, 1955). The percentage of the population of metropolitan areas migrating increased during each intercensal interval, from 7.22 in 1935–1940 to 13.43 in 1955–1960 to 15.74 in 1975–1980. The percentage migrating from a nonmetropolitan area, on the other hand, increased during the first two intervals but declined by 2 percentage points between the second and third intervals. Even with this decline, however, the percentage migrating from nonmetropolitan areas to all destinations is 3 percentage points higher than for the metropolitan sector. These changes are in accordance with other reported changes in the rates of migration for the two sectors (see Tucker, 1976, 1981; Warner, 1985; Wilson, 1987).

The results from the decomposition exercise provide insight into the sources of these changes. For both sectors, changes in the migration percentages between the first two intervals were primarily due to increases in the age- and education-specific rates; and in both instances, the contrasting effects of age and education composition canceled each other out, resulting in little impact of composition on the total percentage differences between the two periods. The decompositions of differences for the 1955–1960 and 1975–1980 intervals show substantial differences between metropolitan and nonmetropolitan areas in the relative impact of changes in age- and education-specific migration rates versus changes in age and education composition. Education composition increased the percentage of persons migrating from both areas, reflecting a shift in the educational distribution favoring those subgroups most prone to migrate (mainly college graduates). For the nonmetropolitan sector, the increase in the percentage migrating due to education composition was completely counteracted by an even greater decline in the age- and education-specific migration rates. In other words, had the education distribution of nonmetropolitan areas not been favorable to migration, the decline in the overall rate would have been even greater.

The bottom half of Table 1 reports a similar analysis of changes in the percentage of metropolitan and nonmetropolitan migrants choosing a metropolitan destination.³ The percentage of metropolitan-origin migrants choosing a metropolitan destination increased from 58.1 percent during the 1935–1940 period to 73.8 percent during the 1975–1980 period; and for nonmetropolitan-origin migrants, the percentage choosing metropolitan destinations increased from 36.7 percent to 56.1 percent during the same period. Although the attractiveness of metropolitan areas appears to have increased rather than diminished over the 45-year period, the metropolitan-destination percentages were also affected by the changing population basis of the two areas. The reclassification of territories from nonmetropolitan to metropolitan increased the metropolitan and decreased the nonmetropolitan destination flows (see Warner, 1985; Wilson, 1987). Thus the increased propensity of migrants to choose a metropolitan destination is in part an artifact of the incorporation of territories into the metropolitan universe.

Table 1. Component Difference Analysis of Changes in the Percentage of Persons Migrating From Metropolitan and Nonmetropolitan Origin: 1935-1980

Variable	Metropolitan				Nonmetropolitan				
	1935-1940	1955-1960	1975-1980	1935-1940	1955-1960	1975-1980	1935-1940	1955-1960	1975-1980
% of residents outmigrating (total)	7.22	13.43	15.74	13.08	20.30	18.53			
Difference (total)	6.21	2.31	7.22	7.22	7.22	-1.77			
Decomposition of differences									
Rate	5.75	-0.65	7.40	7.40	7.40	-4.812			
Composition	0.46	2.96	-0.17	-0.17	-0.17	3.042			
Age	-1.00	0.65	1.87	1.87	1.87	0.286			
Education	1.46	2.31	-2.04	-2.04	-2.04	2.756			
% of migrants selecting metropolitan destination (total)	58.14	62.18	73.70	36.72	50.99	55.86			
Difference (total)	4.05	11.52	14.27	14.27	14.27	4.88			
Decomposition of differences									
Rate	2.04	8.93	11.56	11.56	11.56	1.66			
Composition	2.02	2.59	2.71	2.71	2.71	3.22			
Age	-0.07	-0.11	0.06	0.06	0.06	0.32			
Education	2.09	2.70	2.49	2.49	2.49	2.90			

The bottom half of Table 1 also reports a component difference analysis of changes in metropolitan-destination percentages. Between the 1935–1940 and 1955–1960 intervals, rate and composition effects were of the same magnitude for metropolitan areas, with the latter resulting from changes in the educational distribution; for nonmetropolitan areas, increased migration to metropolitan areas was primarily due to rate-specific changes. The impact of rate-specific changes on the destination-propensity rate between the 1955–1960 and 1975–1980 intervals differs from that between the 1935–1940 and 1955–1960 intervals. Slightly more than 70 percent of the change in destination propensity for metropolitan areas was due to rate-specific changes, whereas the latter only accounted for 34 percent of the change in the destination-propensity rate of nonmetropolitan areas. For nonmetropolitan areas the implications of these changes are fairly obvious. Although the rate of increase in the metropolitan-destination percentage of nonmetropolitan residents in the second interval was only a third of the increase during the first interval, it would have been only 12 percent had changes in the education distribution not been favorable to migration.

In general, the results reported in Table 1 for both types of rates indicate that changes in age and education subgroup-specific rates have been the driving force behind the changing volume of movement between metropolitan and nonmetropolitan areas. In addition, and perhaps of greater significance, the rate-effect changes between the 1955–1960 and 1975–1980 intervals are negative for the total out-migration rates and positive for the destination-propensity percentages. The positive change in destination-propensity percentage for nonmetropolitan areas was probably not sufficient to compensate for the decline in the total out-migration rate, suggesting that nonmetropolitan areas were better able to retain their population (see Fuguitt, 1985). Indeed, the retention capacity of nonmetropolitan areas would have been greater were it not for the favorable effects of changes in the education distribution on both rates.

Subgroup-Specific Rate Changes

The next aspect of the analysis involves focusing in greater detail on the changing rates of migration for population subgroups. The primary objective is to identify the relevant subgroups that experienced changes in out-migration and destination-propensity percentages. In this regard, Goodman's (1972) log linear model for the analysis of cross-classification tables is used to derive net or adjusted estimates of out-migration rates and destination-propensity percentages. The rationale for the adjustment is really no different from that advanced for performing a multiple regression analysis; namely, the adjusted rates are used to assess the impact of an individual variable on migration status net of the effect of other variables. For example, rates based on expected cell frequencies derived from a log linear model allow the determination of whether and to what extent they vary across age categories net of the variation across education, sex, and marital status.⁴

Tables 2 and 3 present the adjusted migration rates and metropolitan destination-propensity percentages for metropolitan and nonmetropolitan areas, based on parameters specified in a log linear model. The values for the total population represent what the rates and percentages would be, assuming that they did not vary systematically with age, education, marital status, and sex. These are the average rates of migration for the population, assuming no selectivity. The rates given for each subgroup, on the other hand, are the result of increments or decrements to the average rates due to membership in a given category.

Table 2 presents adjusted out-migration rates for metropolitan and nonmetropolitan areas for three time periods. Rates of out-migration to all destinations are considerably higher for nonmetropolitan than metropolitan areas. The difference declined noticeably, however, by the most recent period. The associations of age and education with migration are

Table 2. Adjusted Out-migration Rates for Metropolitan and Nonmetropolitan Areas: 1935-1980

Attribute	Metropolitan					Nonmetropolitan				
	Rates per 1,000 population		Change		1955-1960/ 1935-1940	Rates per 1,000 population		Change		
	1935-1940	1955-1960	1975-1980	1975-1980/ 1955-1960		1935-1940	1955-1960	1975-1980	1955-1960/ 1935-1940	1975-1980/ 1955-1960
Total population	71	112	110	2	41	122	180	138	58	-42
Age										
<30 yrs	92	241	217	-24	149	196	412	313	216	-99
30-39 yrs	95	144	155	11	49	163	222	192	59	-30
40-49 yrs	69	94	91	-3	25	117	151	114	34	-37
50-59 yrs	58	69	69	0	11	93	112	84	19	-28
≥60 yrs	53	72	73	1	19	75	102	75	27	-27
Education										
<9 yrs	43	87	84	-3	44	88	129	109	41	-20
9-11 yrs	62	93	91	-2	31	110	158	109	48	-49
High school	77	107	107	0	37	129	169	126	40	-43
College	126	184	180	-4	58	180	295	243	115	-52
Marital status										
Married	80	118	118	0	38	134	182	133	48	-49
Single	64	106	104	-2	42	112	178	144	66	-34
Sex										
Male	74	117	112	-5	43	124	184	136	60	-48
Female	68	107	108	1	39	121	176	140	55	-36

consistent with those reported in previous studies—namely, migration is inversely related to age and positively related to education. The variations in migration by both sex and marital status are small in all instances, with the rates in the last two time periods being slightly higher for married individuals and males among metropolitan residents and for single individuals and females among nonmetropolitan residents.

Changes in the selectivity of migration between the three time periods are perhaps of greater importance. For metropolitan areas, the rate increased between the 1935–1940 and 1955–1960 periods but did not change significantly between the 1955–1960 and 1975–1980 periods for most of the subgroups. The decline of 24 per 1,000 for persons less than 30 and the increase of 11 per 1,000 for persons in the 30–39 age range are the two possible exceptions. The rates for nonmetropolitan areas also increased between the first two time intervals but declined substantially between the second and third time intervals. The declines were greater for the youngest age group and for persons with one or more years of college, which had the effect of reducing the selectivity of migration by age and education. Thus even though the rate of out-migration for all subgroups declined, nonmetropolitan areas were better able to retain those individuals who were at a higher risk of migrating.

Table 3 presents adjusted metropolitan destination-propensity percentages for metropolitan and nonmetropolitan residents. Trends in the metropolitan destination-propensity percentage are important, because they play a major role in altering the distribution of the population between the two areas.

A number of interesting patterns are exhibited in this table. First, as one would expect, the rates are higher for metropolitan-origin individuals, suggesting the strong influence exerted by similarity between origin and destination areas on the direction of migration flows. Second, metropolitan destination selectivity has increased since the 1935–1940 period, with the change greater between the 1935–1940 and 1955–1960 periods for nonmetropolitan-origin migrants and between the 1955–1960 and 1975–1980 periods for metropolitan-origin migrants. Changes in metropolitan geography between censuses, however, affect the destination percentages by increasing the number of metropolitan destination movers and decreasing the number of nonmetropolitan destination movers (see Warner, 1985; Wilson, 1987). Wilson (1987), for example, reported that if the metropolitan geography had remained constant between the 1970 and 1980 censuses, the metropolitan destination percentages for both metropolitan- and nonmetropolitan-origin migrants would have been less than those based on the 1980 census metropolitan geography. Whether the current percentages are sufficient to maintain the share of population concentrated in metropolitan areas is unclear, since they must be assessed in conjunction with the size of the base population of both areas and the percentage migrating from each.

Finally, subgroup variations in destination percentages are also evident in Table 3, particularly with respect to age, education, and marital status. Age is inversely related to migration to a metropolitan area, whereas education and being single are positively related to migration to a metropolitan area. The differences among age and (particularly) education subgroups increased over time. It is not clear, however, to what extent these changes are due to changes in metropolitan geography. Moreover, the observed association of age and education with metropolitan destination selection are consistent with previous findings that metropolitan areas offer more opportunities for employment and other pursuits (see Alonso, 1978).

Discussion

The results indicate that changes in the rate at which population subgroups have been moving played an important role in the changing volume of migration between and within metropolitan and nonmetropolitan areas since the 1935–1940 period. This is true particu-

Table 3. Adjusted Metropolitan Destination-Propensity Percentages for Metropolitan and Nonmetropolitan Areas: 1935-1980

Attribute	Metropolitan						Nonmetropolitan					
	Rates			Change			Rates			Change		
	1935-1940	1955-1960	1975-1980	1935-1940	1955-1960	1975-1980/1955-1960	1935-1940	1955-1960	1975-1980	1935-1940	1955-1960	1975-1980/1955-1960
Total population	58.04	62.58	69.97	4.54	7.39	7.39	38.97	50.05	52.03	11.08	11.08	2.02
Age												
<30 yrs	59.03	59.22	72.15	0.19	12.93	12.93	40.68	52.97	54.93	12.29	12.29	1.96
30-39 yrs	61.34	63.20	71.36	1.86	8.16	8.16	39.54	52.77	50.38	13.23	13.23	-2.39
40-49 yrs	60.34	66.55	71.85	6.16	5.30	5.30	38.82	49.73	51.85	10.91	10.91	2.12
50-59 yrs	55.63	66.36	66.77	10.73	0.41	0.41	37.99	47.58	51.36	9.59	9.59	3.78
≥60 yrs	54.22	58.04	67.89	3.82	9.85	9.85	37.89	47.47	51.74	9.58	9.58	4.27
Education												
<9 yrs	50.58	49.36	60.67	-1.22	11.31	11.31	32.56	42.36	43.06	9.80	9.80	0.70
9-11 yrs	56.73	63.46	62.63	6.73	-0.83	-0.83	39.12	52.63	48.19	13.51	13.51	-4.44
High school	64.88	65.76	72.69	0.88	6.93	6.93	43.78	53.01	54.54	9.23	9.23	1.53
College	60.96	74.50	86.77	13.54	12.27	12.27	41.36	53.10	64.76	11.74	11.74	11.66
Marital status												
Married	56.06	58.47	65.75	2.41	7.28	7.28	36.36	47.66	48.88	11.30	11.30	1.22
Single	60.09	66.97	74.46	6.88	7.49	7.49	41.77	52.56	55.38	10.79	10.79	2.82
Sex												
Male	56.30	62.65	68.40	6.35	5.75	5.75	37.63	50.58	50.36	12.95	12.95	-0.22
Female	59.83	62.51	71.57	2.68	9.06	9.06	40.35	49.52	55.38	9.17	9.17	5.86

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