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ABSTRACT

This report simultaneously examines alternative mobility decisions and changes in the demographic determinants of residential mobility over the period 1940-80. Alternative mobility decisions are defined as the choice to move locally, to migrate within a state, or to migrate between states. Determinants of mobility include age, race, sex, and educational attainment. A polychotomous multivariate model of mobility was used to analyze data drawn from the public use microdata samples (PUMS) of the decennial censuses of 1940, 1960, 1970, and 1980. Conclusions include the following: (1) educational attainment promotes migration, but not local mobility; (2) the influence of education declines with age up to age 30; (3) blacks are less mobile and migratory than the rest of the population; (4) there is no discernible time trend in racial differentials; (5) females are slightly more locally mobile than males and less migratory with no apparent time trend; and (6) home ownership has a stronger limiting effect on migration than on local mobility. Statistical data are included on five tables. A list of 42 references and three tables of statistical data on geographic mobility by age, education, and race are appended. (FMW)

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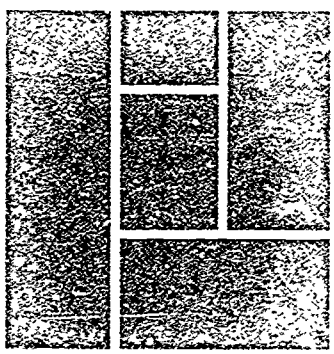

THE URBAN INSTITUTE

Project Report

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A rule of thumb regarding population mobility in the United States is that about one-fifth of all Americans change residence in a given year, and that over the course of five years, about half of all persons change residence. While this generalization has remained roughly true over the last few decades (the five-year mobility proportion has declined from 60 percent to 45 percent), there have been wider shifts in the relative distribution among types of moves. The balance between short and long moves has shifted in favor of the latter (Table 1). In 1980, according to the decennial census, over one fifth of the mobile adult population (those aged 18 and over who had changed residence since 1975) made interstate moves. By contrast, in the 1940 census, only one in nine moved between states.

During this same time, the demographic composition of the population changed appreciably. Observed migration may reflect such changes. The growth in longer distance moves may be partly due to increased levels of education, and the wider migratory horizons associated with more schooling.

Conversely, shifts in migration patterns may signal a change in migration regimes, and we may ask whether there has been a realignment in the manner in which population characteristics are associated with mobility choices. The propensity to move for individuals with given demographic traits may have altered, perhaps indicating a change in the underlying determinants of migration. We seek to discover the patterns of such changes in the residential mobility of the population. Below, we develop our notions more formally.

It is important to recognize that residential mobility must be viewed as a multidimensional phenomenon. An individual is at risk of making several

Table 1

Residential Mobility and Migration,
by Decade, Ages 18 and Over

	1940	1950*	1960	1970	1980
Stay	53.2	84.24	50.7	56.9	54.3
Intrastate move	40.0	13.4	39.9	33.5	35.5
Interstate move	5.8	2.4	9.4	9.6	10.2
Number	4,942	4,931	5,000	4,966	5,000

*One-year mobility interval.

types of residential moves in a given period of time. Whereas most studies of population movement look only at a binary decision of making a local move versus staying (migrants omitted), or of migrating versus staying or making a local move, our integrated approach treats these outcomes jointly. Since the choice of migration defining boundary is not obvious — in fact there is evidence that the appropriate migration-defining boundary has itself shifted over time (White and Mueser, 1988) — several levels of movement are examined simultaneously.[1]

Previous work on the change in the determinants of residential mobility and migration is limited. Long (1973) compared mobility by education by age tabulations from 1935-40 and 1965-70 from decennial censuses. He concluded that about two thirds of the increase in interstate migration rates among men aged 25-34 over the period could be attributed to changes in the migration rates themselves, while one-third was accounted for by changes in the educational distribution. He also found that education was a poor predictor of short-distance mobility, and suggested that education might be losing its ability to predict mobility.

In this paper we test for changes in the demographic determinants of U.S. residential mobility over the period 1940-80. The following section reviews some relevant aspects of the literature on the determinants of mobility and migration. Section 3 discusses the broad features of the changes, with reference to tabulations of the association of mobility with specified personal characteristics. Section 4 introduces a polychotomous multivariate model of mobility to test the hypothesis of the determinants of migration, and the following sections discuss our results. We concentrate on statistical models that include only characteristics that are normally stable

[1]The character of population exchange among regions and ecological areas has also shifted (Frey, 1987; Wilson, 1987).

over the migration interval, but we also briefly discuss supplemental models that include characteristics that may change over time. The final section of the paper comments on the changing relationship between personal characteristics and the observed levels of mobility in the population, and draws some implications for general models of mobility.

2. DETERMINANTS OF MOBILITY AND MIGRATION

Our behavioral model of longer distance migration at each point in time is conventional, taken from demographic models and human capital theory. Much of the original conceptual work focussed on migration as a response to job search. More recently the role of family and life cycle concerns have gained greater prominence (Greenwood, 1985). Migration may be defined as longer distance residential relocation; with U.S. census information it is usually defined to be movement across a county or state boundary.[2] The probability of migration with respect to age is known to trace a regular schedule, similar in a variety of populations (Long, forthcoming; Rogers and Willikens, 1985). This age profile is, for the most part, consistent with human capital models of migration (Bowles, 1970; Sjaasted, 1963; Greenwood, 1969, 1975). In multivariate models applied to populations of adults or household heads, age typically exerts a strong negative effect on the probability of making a move in a given year (Speare, Goldstein and Frey, 1974; Graves and Linneman, 1979). A generally negative effect with respect to intercounty and interstate migration is also found in an event history model (Sandefur and Scott, 1981). In a sample of white males 30-39 years of age Sandefur (1985) finds that age has little effect once marriage and presence of children are controlled. None

2Clark (1986) considers migration to be a move too far to continue commuting to the same job; more generally it may be considered a change of labor market.

of these studies, however, have dealt with a national population, widely representative by age, type of mobility and geography.

Human capital theory also points to education as a determinant of migration. Theory predicts that the more highly educated stand to gain more from a geographically extensive job search, because their skills may be more occupation specific (Schwartz, 1976), and because their proportionately higher incomes may magnify dollar differences across locations. Simple univariate and bivariate tabulations from the U.S. census and survey sources indicate that at every age, the more highly educated population is the more migratory, although not necessarily more mobile within counties (Long, 1973, Greenwood, 1975; Bogue, 1985, p. 430). This differential declines with increasing age (Schwartz, 1976). In multivariate models, however, the results are not always clear. Davanzo (1976) found education differentials in family migration propensity, but the relationship was not monotonic. Graves and Linneman (1979), predicting the probability of any move, found education to have a negative effect as often as positive in several versions of the estimated model. Sandefur and Scott's most inclusive model reveals nonsignificant and small effects of education on the hazard rate for intercounty and interstate mobility (Sandefur and Scott, 1981).

The position of race and ethnic status is unclear a priori. On the one hand, members of minority groups have access to fewer resources, which may limit movement. Yet, in many contexts, it is members of minority groups who stand to gain the most from long distance movement. The particular experiences associated with minority status suggest an independent effect of race or ethnicity, but any deviation (positive or negative) would be consistent with this view (Ritchey, 1976). Previous work has found that blacks are less

migratory than whites, even upon controlling for socioeconomic status (Kaluzny, 1975; Farley and Allen, 1987).

Theory is less clear about the effects of gender and family status on interregional migration. While migration differentials by sex have existed in many historical periods (Thomas, 1938), such differences are now generally small in developed countries. Mincer (1978) hypothesized that families with both spouses working would be less migratory than single earner families or unattached individuals, and he found evidence in support of this claim. Long found that married, middle-aged men with school-aged children were less migratory than unencumbered males (Long, 1972).

Life cycle characteristics and changes in those characteristics assume a greater role in the analysis of local residential mobility. The presence of children is expected to deter both local and migratory movement (Long 1972; Graves and Linneman, 1979; Rossi, 1980; Speare and Goldscheider, 1987; Speare et. al. 1974, p. 137ff.). Insofar as age serves as a proxy for portions of the family life cycle, we expect rates of mobility to be higher in those age groups where individuals tend to be unmarried and childless.

Hypotheses about changes in the determinants of migration are of more direct concern to us in this paper. Stability in the coefficients would point to no change in the mobility regime. Therefore we are interested in changes over time in the direction and magnitude of the effects we find in the coefficients themselves. We hypothesize a convergence in the rates of black and nonblack mobility, both intra- and inter-state. As blacks become more economically and socially integrated into the mainstream (Farley, 1986; Smith and Welch, 1986), and the mass movement of blacks out of the South is expended (Fligstein, 1981; Farley and Allen, 1987), we anticipate that differentials would decline.

The growth of a national labor market with demands for highly skilled individuals suggests that we would observe increases in the return to (and propensities for) migration with education. The characteristics of the national labor market are key here. For the impact of education on migration to increase over time, educated individuals must receive greater rewards for searching these national labor markets. The change in the migration coefficient represents a test of the extent to which education has become of more general value across regions.

The increasing educational attainment of the population is anticipated to produce a secondary impact on the age profile of migration. Since the completion of formal education and the entry into the full-time labor force now occurs later in life, the peak years of migratory behavior can be expected to shift upward. In addition, increased expectations of working life, and longer life spans generally, would promote increased mobility (local and migratory) at every age, because there would be a longer time to recoup the expenses, both monetary and psychological, of relocation.

3. DATA

The data for this analysis are subsamples drawn from the public use microdata samples (PUMS) of the decennial censuses of 1940, 1960, 1970, and 1980 (U.S. Bureau of the Census, 1972, 1975, 1982, 1983a, 1983b, 1983c). Not all of the same characteristics are available in each of the four PUMS files, reflecting changes both in content of the census schedule and processing of the information. There is very little change over time in the coding or interpretation of the mobility variables or demographic characteristics, however. The measurement of residential mobility is based on the comparison of census residence with reported place of residence five years earlier. (In

1950, the reference interval is one year, so we omit those data.) The coding for mobility is:

a. Same House

b. Different house, same county

c. Different county, same state

d. Different state, same region

e. Different region

f. Abroad

This classification is available for all persons who were alive at the time of the reference point and who survived to the census.

Our interest lies in placing the analysis of migration and local mobility in a single framework. For each decade, then, we divide sample into four groups: nonmovers, local (intracounty) movers, intercounty (intrastate) movers, and interstate movers. We restrict our population universe to those persons who were aged 18+ at the time of the census and who were residents of the U.S. in the reference year. Of course, return migration and other multiple moves within the migration interval are not recorded and for a person who has made multiple moves, only the one involving the most extensive regional change is recorded.

We have performed simple crosstabulations of our mobility outcome variable with these basic demographic characteristics and time period. These tabulations are three-way, and only control for one demographic characteristic at a time. They are contained in the Appendix. As such, they reveal the basic relationships between individual attributes and the pattern of geographic mobility observed in the census. It is the estimation of more refined models that explain these simpler relationships under further controls that will occupy us subsequently.

Our data recapitulate the strong relationship between mobility and age (Table A-1), but includes some additional features less often manifest in other writings on the age profile of mobility. First, we observe systematically how the age profile of mobility changes with the type of move. For all mobility types the incidence of a move is greatest in the youngest ages, peaking among those of 18-24 years or 25-29 years, and then declining almost steadily; however, the age gradient is more pronounced the longer the distance moved, i.e. the higher the geographic threshold crossed. This age pattern holds for all decades we observe. The distinctness of the different kinds of moves at the youngest ages has shifted over time: whereas in 1940 an interstate move (ages 25-29) was only 1/6th as likely as an intracounty move (local), that ratio had increased to roughly 1/2 by 1980.

Education is clearly related to the probability of migration (Table A-2). In all decades the probability of making any move increases with education, but the relationship is especially pronounced for the longer distance moved. For example, in 1980 while those with a college education (16 years) were thirty percent more likely to make an intracounty move compared to those with 0-4 years of education, the difference is nearly three times for interstate moves. There have been moderate changes over time in the distribution of mobility propensity.[3] The probability of making an interstate move over the interval increased through the decades at all levels of education, although the association between education and migration seems to have changed very little between 1940 and 1980, except for a slight decline in the strength of the relationship for interstate movement in the last decade.

3In fact, it is also the case that the probability of not moving increased appreciably from 1940 to 1960, within educational attainment groups, and increased again for most groups between 1960 and 1970. During the 1970s the overall probability of staying rose again for those of very low educational attainment, and changed in an inconsistant manner for other levels.

It has been observed in many quarters that blacks are generally less mobile than whites, our data (table A-3) show that such an observation depends crucially on the kind of mobility measured. In 1940 blacks were more mobile generally than whites, but this was confined to intracounty movement. In subsequent decades, the level of overall mobility became quite similar for the two racial groups, yet the greater likelihood of making a migratory move persisted among whites. The racial disparity in interstate migration over the period declined slightly between 1960 and 1970, and remained about the same thereafter.

Such tabulations only examine the influence of each of the demographic characteristics individually on the probability of various kinds of movement. A more complete picture of the changing influence of these attributes can be gained by including them simultaneously in a more precisely specified model of mobility outcomes. By doing so we can then begin to portray more accurately the effects of these personal characteristics on mobility, changes in their influence over time, and temporal trends in mobility outcomes that are not linked to these characteristics. We now describe such a model.

4. METHODS

We employ a multinomial logit model with these four categories of mobility to be predicted from the personal characteristics of the sampled individual. P_{ij}, the probability that individual i makes move type j, is given as

$$P_{ij} = \frac{\exp(x_i B_j)}{\sum_{j=1}^{4} \exp(x_i B_j)}$$

where

x_i is a vector of characteristics of person i, for which the first element is a constant,

B_j is a vector of corresponding coefficients associated with choice j,

j = 1,..4 denote no move, intracounty move, intercounty-intrastate move, and interstate move, respectively.

A reference category must be chosen and its coefficients normalized. Here we take the reference category to be nonmovers, so that $B_1 = 0$ by construction.

This model can be shown to be consistent with utility maximization, where alternative utilities across observationally identical individuals are independently distributed according to a Weibull distribution. Estimates are

obtained by maximization of the likelihood function; for more details see Judge (1985), McFadden (1974), Hensher and Johnson (1981).[4]

Since our data derive from decennial census sources, characteristics of the individuals are measured as of the date of the census, and therefore at the end of the mobility interval being observed. This opens up the possibility of bias in the measurement of the effects of these characteristics that could change over the interval and be influenced by mobility. Because our interest centers on the association between basic demographic traits and population redistribution, we focus primarily on attributes of individuals that are unlikely to change over the interval: age (including both linear and quadratic terms), sex, race (a dummy for black), and education (years of schooling). Since education may change among the younger ages, we have split the sample at thirty years of age and estimated the model for each subsample. We also tested for interactions effects among age, education, and race, but rarely were these statistically significant. Except for an age-education interaction, they were dropped from later estimations. Although we have not reported results in detail, we also estimated models that included family characteristics, labor force information, and housing tenure, attributes which are more likely to have changed.[5]

We examined change over time in the mobility pattern by estimating separate equations for each decade, and by pooling, with and without dummy variables for decade. We also estimated models with time interactions in

4The multinomial logit model assumes that the odds of making one choice rather than another are independent of the odds of making a third choice. For this to hold there can be no pair of alternatives that are particularly close substitutes. Maximum likelihood routines in SAS were used to derive the estimates of the parameters.

5Other characteristics of individuals are available in census data. We have found that income and occupation have little predictive impact on population mobility. Our measures apply to the end of the interval, and thus may reflect the impact of migration. It may be the case the such factors measured at the start of the interval would influence mobility.

order to measure and smooth change in the impact of personal characteristics over time.

5. RESULTS

We examined several models to measure the influence of time period and age group. In each case the basic demographic model includes effects of a linear and quadratic term in age, education measured as years of schooling, race (dummy for black), sex (dummy for female), and the interaction of age and education. We split the sample into two age strata (18-29 and 30+), since changes in levels of education over the migration interval are much more likely to occur in the younger group. We also varied the equations with respect to time. First, we pooled all years of data with no measures for time, thereby forcing coefficients and intercepts to be identical at all time points. Second, we allowed for period dummies only. Third, we fitted an interaction term with time (coded as years since 1940) for each of the six demographic characteristics. Such a model assumes a linear change in the effects of the regressors over time, and the coefficients give the value of that yearly change. Finally, we estimated separate equations for each of the four periods. Our test of the equivalence of nested models is the standard one, based on the difference in the log-likelihood between constrained and unconstrained models.

Table 2 presents goodness of fit measures for several equations, indicating the effects of pooling by age and by time period. The final three columns of the table indicate that we strongly reject the hypothesis of equality among the coefficients for the two age groups in each of the seven equations. In subsequent discussion we treat the two groups separately.

Table 2

Goodness of Fit Tests for Mobility Models

	Age 30+				Ages 18-29				All Ages				Test of Pooling by Age			
	lnL	X^2	df	N	lnL	X^2	df	N	lnL	X^2	df	N	-2 LL	dDF	p	N
1. Pooled (40 60 70 80)	-13,963	1,440	18	14,303	-6,932	554	18	5,605	-21,175	2,892	18	19,908	560	18	<.001	
2. Pooled with dummies	-13,740	1,887	27	14,303	-6,871	678	27	5,605	-20,992	3,399	27	19,908	622	27	<.001	
3. Pooled with interaction	-13,726	1,915	45	14,303	-6,487	725	45	5,605	-20,876	3,491	45	19,908	606	45	<.001	
4. 1940	-3,460	243	18	3,432	-1,643	78	18	1,510	-5,147	300	18	4,942	88	18	<.001	
5. 1960	-3,827	302	18	3,845	-1,458	123	18	1,155	-5,344	750	18	4,942	118	18	<.001	
6. 1970	-3,207	327	18	3,580	-1,785	151	18	1,386	-5,087	870	18	5,000	190	18	<.001	
7. 1980	-3,213	417	18	,446	-1,950	193	18	1,554	-5,260	893	18	5,000	194	18	<.001	
Test of Pooling by Decade	-2dLL	dDF		P	-2dLL	dDF		P	-2dLL	dDF		P				
8. (2) vs. (1)	466	9		<.001	122	9		<.001	506	9		<.001				
9. (3) vs. (1)	474	27		<.001	170	27		<.001	598	27		<.001				
10. (4,5,6,7) v. (1)	512	54		<.001	192	54		<.001	674	54		<.001				
11. (4,5,6,7) v. (2)	66	45		.025	70	45		.010	168	45		<.001				

Since our concern focuses on the changes in the determinants of migration, we have performed a formal test of the changes in these parameters within each of the two age strata (lines 8-11). In each case the increment in the log likelihood indicates that the unconstrained model provides a significantly better fit than the constrained model (line 1) for both age groups. In both cases, however, a sizable fraction of the improvement in fit is accounted for by changes in the intercepts, indicating a shift in underlying levels of mobility, net of other characteristics controlled in the model. The addition of the four dummy variable accounts for 87% of the increment to the log-likelihood in the age 30+ sample, and 63% in the under 30 sample. Clearly, then, secular trends, period swings in the economy, and the like, account for much of the changing distribution of persons by mobility type.

Table 3 presents our estimates of the coefficients themselves, for each age group and decade. Since the model is multinomial logit, we examine the four outcomes simultaneously. The comparison group is those who stay and the coefficients indicate the change in the log-odds of the respective type of move that is predicted for each unit change in the independent variable(s). We first discuss general patterns that emerge in these tables, including differences across mobility type, and then turn to a separate analysis of change over time.

Within the population 18-29 the probability of both local mobility and migration is initially increasing with age, and for most periods reaches a maximum in the mid-twenties.[6] In this age stratum, blacks are generally less likely to make intercounty or interstate moves (statistically significant in half of the equations), while there is no generalizable pattern with respect

[6]The exception is that for 1940 mobility increases with age up to 29 for local and intercounty moves.

Table 3

Multinomial Logit Coefficients for Residential Mobility and Migration

Ages 18-29

	A. Intracounty				B. Intercounty				C. Interstate			
	1940	1960	1970	1980	1940	1960	1970	1980	1940	1960	1970	1980
Consent	-1.930	-16.767	-16.926	-11.072	-4.535	-23.305	-16,255	-16.238	-5.414	-16.800	-14.943	-11.934
	-0.570	-4.019	-4.274	-2.957	-0.733	-4.006	-3.216	-3.332	-0.979	-3.256	-3.157	-2.560
Age	0.198	1.516	1.384	1.061	0.393	1.469	0.775	1.149	0.495	1.457	1.138	1.190
	0.732	4.563	4.396	3.674	0.794	3.395	2.032	3,076	1.115	3.580	3.075	3.176
Age**2	-0.0034	-0.0320	-0.0281	-0.0244	-0.0012	-0.0235	-0.0093	-0.0255	-0.0146	-0.0341	-0.0260	-0.0338
	-0.618	-4.585	-4.235	-3.945	-1.131	-2.655	-1.140	-3.002	-1.588	-3.889	-3.197	-3.854
Black	0.155	-0.396	0.376	-0.364	-0.462	-1.276	-0.403	-1.049	-0.079	-0.748	-0.149	-0.884
	0.741	-1.842	1.807	-1.943	-0.985	-3.337	-1.284	-3.323	-0.206	-2.410	-0.531	-2.962
Education (Years)	-0.158	-0.205	-0.086	-0.417	-0.529	0.780	0.780	-0.062	-0.510	-0.154	-0.077	-0.584
	-1.063	-1.067	-0.446	-2.001	-1.802	2.499	2.534	0.191	-1.941	-0.561	-0.277	-1.913
Female	0.396	0.255	0.325	0.133	0.504	0.165	0.075	0.301	0.178	0.020	0.131	-0.061
	3.326	1.671	2.357	1.004	2.302	0.857	0.450	1.869	0.916	0.110	0.805	-0.380
Age*Educ.	0.0049	0.0073	0.0046	0.0178	0.0023	-0.0269	-0.0235	0.0072	0.0248	0.0124	0.0116	0.0332
	0.787	0.923	0.565	2.117	1.934	-2.157	-1.880	0.557	2.273	1.087	1.002	2.659

AGES 30+

	A. Intracounty				B. Intercounty				C. Interstate			
	1940	1960	1970	1980	1940	1960	1970	1980	1940	1960	1970	1980
Constant	3.579	3.647	5.014	4.316	2.126	-0.110	4.777	0.951	2.209	0.479	1.962	-0.767
	5.266	4.866	5.943	4.747	1.494	-0.072	3.836	0.621	1.714	0.341	1.337	-0.523
Age	-0.108	-0.134	-0.201	-0.190	-0.152	-0.051	-0.253	-0.144	-0.174	-0.137	-0.182	-0.111
	-4.700	-5.632	-7.974	-7.049	-3.064	-0.987	-6.860	-2.392	-4.013	-3.054	-4.086	-2.522
Age**2	0.0007	0.0010	0.0015	0.0015	0.0011	0.0002	0.0021	0.0009	0.0014	0.0012	0.0015	0.0011
	3.617	5.007	7.886	7.408	2.498	0.489	7.338	2.497	3.746	3.444	4.268	3.260
Black	0.387	0.165	0.349	0.174	-0.066	-0.554	-0.289	-0.220	0.504	-0.203	0.105	0.234
	2.754	1.283	2.413	1.194	-0.203	-1.900	-1.016	-0.862	1.790	-0.735	0.395	-0.895
Education (Years)	-0.015	-0.028	-0.018	0.014	-0.078	0.113	0.043	0.141	0.103	0.237	0.153	0.276
	-0.357	-0.671	-0.368	0.856	0.937	1.415	0.591	1.891	1.355	3.226	1.849	3.911
Female	-0.127	-0.165	-0.166	0.013	-0.066	-0.219	-0.183	-0.113	-0.365	-0.233	-0.086	-0.229
	-1.707	-2.186	-1.901	0.313	-0.423	-1.636	-1.317	-0.816	-2.342	-1.745	-0.597	-1.699
Age*Educ.	0.0000	0.0002	-0.0000	-0.0008	-0.0006	-0.0023	-0.0007	-0.0027	-0.0003	-0.0028	-0.0016	-0.0032
	-0.028	0.248	-0.023	-0.944	-0.360	-1.432	-0.484	-1.823	-0.208	-1.948	-0.970	-2.393

Note: t-statistics appear beneath the coefficents

to intracounty mobility. Females are found to be more mobile than males, although statistical significance is achieved for only a few of these coefficients. The difference is more marked the shorter the move.[7] In our model the effect of education depends on age. In most decades, and throughout most of the age range 18-29, greater education predicts a greater probability of making an intercounty or interstate move. The interaction coefficient is positive in six out of eight cases, indicating that the effect of education increases with age.[8] However, for intercounty moves in the 1960s and 1970s, the coefficient is negative, implying the the education effect declines with age up to age 30.

The lower panel of table 3 indicates that the impacts of personal characteristics differ in the older age stratum, as would be expected from the strong rejection of the hypothesis of equivalence of the models by age group. In this case the probability of making any move declines with age, yet the steepness of the decline itself is reduced with age.[9] As individuals settle, following a period of high mobility in early adulthood, their probability of moving or migrating continues to decline, with movement due to retirement, empty-nest rehousing, and movement for long term care tending to raise the probability of movement slightly from the linear age trend. Interestingly, we do not observe any appreciable differentiation in the age pattern across mobility types.

7For ease of exposition we consider intracounty moves to be of shorter distance than intercounty moves, which are, in turn, considered to be shorter than interstate moves.

8For example for those aged 23 in 1980 the increment to the log-odds (per year of educational attainment) is .104 for intercounty movement and .178 for interstate movement, but for those age 29, the increments are .147 and .379 respectively.

9The fitted function predicts reversals (critical points) within the life span, but for intercounty and interstate migration and for average educational levels these generally occur only at or beyond the typical age of retirement.

A modest racial differential in mobility appears in this age stratum, too, with blacks more likely to engage in local mobility, less likely to be intercounty migrants, and with no clear distinction evident among interstate migrants. Women are generally less mobile in this age stratum, an effect most pronounced for interstate migration. Our results are generally consistent with the theoretical expectation and findings from previous research that the more highly educated are more likely to migrate, a differential that is greater for the longer distance moved. Our specification allows the impact of education to differ by age. For interstate migration, the impact of education is positive throughout the working life, although it decreases with age. In contrast, for interstate migration, although the impact is positive at age 30, it is negative by age 65. For local mobility, the impact of education is negative at all ages, although the size of the effect is substantively small.

These basic findings generally are consistent with the literature on residential mobility and migration, but our modelling allows us to more precisely separate out the effects of personal characteristics on <u>different kinds of mobility events</u>. Specifically, we observed (1) less age differentiation across mobility types than expected, (2) education matters considerably more for longer distance movement, (3) unanticipated differences in the effect of gender on local and long distance mobility.

We recall that our tests of the constrained and unconstrained models of Table 2 indicated that, even though we could reject the hypothesis of the equivalence of the coefficients of the regressors within each age stratum (1940-80), much of the difference across equations was accounted for by changes in the intercepts alone. Now we examine changes in the coefficients directly, seeking to determine whether any specific time trends can be discerned. We refer again to table 3.

While an examination of individual coefficients in table 3 points to differences by decade, we can discern no appreciable time trends in the influence of personal characteristics on the probability of making certain types of moves. For example, contrary to our hypothesis of the convergence of black and nonblack mobility patterns, we find that the greater probability of a black individual making a local move decreased from 1940 to 1960, increased by 1970, and decreased again by 1980. A similar see-saw pattern is seen for interstate migration.

We have tested for time trends in a second way. In an additional model we pooled the equations by decade and interacted each demographic measure with time (measured as years since 1940), thereby imposing the restriction of linear change in the parameters. Table 4 presents the coefficients of the interaction terms (other terms not listed) and dummy variables for each decade. These reinforce the impression of no identifiable trend in the values of the coefficients. Despite the fact that we have quadrupled the sample sizes, few coefficients are statistically significant.

An examination of eq. on 2 of table 2 (coefficients not shown), which pools samples across periods and includes a dummy for each decade, does indicate an appreciable shift over time in the underlying probability of undertaking certain kinds of moves. Within the younger age stratum, the constant terms in the intracounty equation indicate that, net of personal characteristics, the probability of making an intercounty move (vs. stay) declined steadily from 1960 to 1980. A similar pattern is found for intercounty migration and interstate migration although in neither case is the change statistically significant. For the older age stratum, the pattern of constant terms indicates that the relative probability of intracounty and intercounty moves has grown slightly over time, while the respective

Table 4

Selected Time Interactions

	A. Intracounty		B. Intracounty		C. Interstate	
	Age 18-29	Stratum 30+	Age 18-29	Stratum 30+	Age 18-29	Stratum 30+
Age	0.02450	-0.00217	0.01390	-000064	0.06020	0.00092
	2.62	-2.71	0.94	-0.41	1.15	0.62
Education	-0.00482	0.00150	0.01979	0.00084	0.00201	0.00273
	-0.86	1.07	2.03	0.33	0.22	1.13
Black	-0.00756	-0.00342	-0.00785	-0.00135	-0.01537	-0.01538
	-1.12	-0.72	-0.57	-0.13	-1.33	-1.65
Age*Educ.	0.00027	-0.00003	-0.00059	-0.00003	0.00006	-0.00004
	1.17	-0.99	-1.49	-0.64	0.16	-0.92
Female	-0.00546	0.00235	-0.49190	-0.00132	-0.00501	0.00435
	-1.31	0.87	-0.76	-0.26	-0.82	0.88
Age**2	-0.00057	0.00021	-0.00017	0.00001	-0.00040	-0.00001
	-2.90	3.14	0.54	0.71	-1.32	-0.43
D1960	-5.36	0.33	-4.91	0.24	-2.96	-0.93
	-2.26	0.66	-1.30	0.25	-0.85	-1.02
D1970	-8.38	0.41	-8.17	0.31	-5.13	-1.59
	-2.36	0.54	-1.44	0.22	-0.99	-1.16
D1980	-11.09	0.91	-11.36	0.49	-7.34	.92
	-2.35	0.91	-1.50	0.26	-1.06	-1.05

Note: t-statistics appear beneath the coefficients

probability for interstate mobility has declined, although none of these changes is statistically significant. These results differ, of course, from the inferences one would draw from a tabulation such as Table 1, where personal characteristics are not controlled. We will return to this issue shortly.

ADDITIONAL CHARACTERISTICS

We estimated additional models which included other personal characteristics, characteristics which were less certain to reflect conditions prior to the event. These traits, measured as of the census date, include marital status, the presence of school aged children, and home ownership. Since home ownership generally indicates a commitment to place, investment in community, and substantial transition costs, we expect it to deter mobility generally, and especially local mobility. It should be noted, however, that homeowners have greater wealth and higher incomes, so that home ownership may also proxy characteristics that serve to make it easier for a person or family to undertake a long distance movement. As we discussed earlier family and life cycle characteristic are anticipated to be directly relevant to the probability of movement. The presence of school aged children is likely to deter movement (Long, 1973). Since those who are unmarried cannot be bound by a spouse's ties to a location (Mincer, 1978), they should be more likely to move. Because of this indeterminancy we refer here only to the age stratum 30 and over, where the problem is of less concern. We discuss the qualitative aspects of our results.[10]

10In these equations we included dummy variables for separated, widowed, divorced, homeownership, and the presence of children 6-17 years of age. We also combined intracounty and intercounty movement. Copies of the estimated equations are available from the authors.

We anticipate only modest changes with respect to the influence of these characteristics on mobility behavior. The unmarried population should be relatively more mobile (locally) over time, due to the rise in independent living and the growth of residential options for the single population (Kobrin, 1976). The decline in childbearing in recent decades, the delay of first birth, and the confinement of fertility to a more narrowly defined portion of the life cycle (Baldwin and Nord, 1981), suggests the possibility of greater local mobility, as individuals and families move to take advantage of residential environments attractive to these distinct portions of the life cycle. Home ownership, we predict, will operate as less of a deterrent to local mobility and migration over time, as incomes (and other sources of wealth) rise, and as the market for home purchase expands.

We find, surprisingly, that the never married are less likely to migrate in all four decades. Generally it is hypothesized that the lack of attachments that is implied by this status would encourage individual to undertake longer distance movement, but after controlling for age, we find no support for this hypothesis. We also observe no real temporal pattern in the coefficients. Similarly there is no temporal pattern in the coefficients for separated-widowed-divorced status, but in 1940 and 1960 these individuals are significantly more migratory across states.

The presence of children (for those in the sample who are household heads or spouses) lessens the likelihood of intrastate mobility only for the 1975-80 period. The impact of the presence of children significantly reduced the probability of interstate migration, however, in 1940, 1960, and 1980, again without time trend.

Net of age, homeownership exhibits the strongest single influence on local mobility and migration.[11] What is of note, however, is that the magnitude of the effect of homeownership is greater for interstate migration than intrastate movement in every decade. The influence of homeownership on mobility and migration generally declines over time.

6. DISCUSSION

We now return to several of the hypotheses and issues we raised earlier. As we mentioned at the outset, one of our chief interests is in separating the effects of changes in population composition on the mobility patterns we observe from change in the characteristics on the likelihood of making the specific choices themselves. Since we have included both linear and quadratic terms in age, and an age-education interaction term, effects are sometimes difficult to discern. In table 5 we present a calculation designed expressly to indicate the influence of population composition on the changing level of mobility observed in the population.

When the predicted values for the two age strata are joined, the results generally trace the rise, fall, and flattening of the conventional migration profile. Our expectation was that the decline of the age profile would be more steep for local mobility than for migration, but when we evaluate the first derivative of the log-odds at age 40, i.e. $dF/dA|A=40, E=12$, we find this to be true only for 1940 and 1980. For all three types of mobility, the steepness of the mobility slope (evaluated at these values) declined between 1970 and 1980 to a point lower than that for 1940. Such an occurrence is

[11] The possibility that individuals may move in order to change tenure in favor of ownership would serve to downwardly bias our coefficient for homeownership. The extent to which individuals move in order to change from owning to renting (much smaller, we presume) would operate in the opposite direction. Since tenure is (in the census) an attribute recorded for the housing unit, we have assigned it to the individuals who reside within.

Table 5

The Effects of the Population Composition
On the Odds of Spatial Mobility

	Versus Stay				Interstate versus Intracounty
	Any Move	Intracounty	Intercounty	Interstate	
1. Observed	1.497	1.176	0.150	0.169	0.143
2. 1940 Means	1.657	1.373	0.125	0.158	0.115
3. 1980 Age	1.491	1.247	0.107	0.137	0.110
4. 1980 Education	1.553	1.214	0.133	0.206	0.169
5. 1980 Race	1.573	1.236	0.131	0.206	0.166
6. 1980 Sex	1.569	1.234	0.130	0.205	0.166
7. 1980 Effect	0.862	0.533	0.153	0.176	0.330
8. Observed 1980	0.842	0.473	0.180	0.189	0.399

consistent with our prediction that the lengthening of the expectation of life of adults and rising incomes would serve to make the older adult population relative more mobile in recent years. Examination of the curvature of these equations (d^2F/dA^2) reveals that concavity for intracounty mobility increased between 1940 and 1980, while concavity for interstate migration declined slightly in the last decade.

Previous empirical study employing similar models has indicated that blacks are less residentially mobile and migratory, net of other characteristics. As we mentioned above, we found that blacks were more likely to be local movers, and more likely to be intercounty migrants, with no clear pattern evident for interstate mobility. We hypothesized that the magnitude of the race coefficient would decline over time, especially for the local mobility variable. This hypothesis was not supported, for there was no identifiable trend in the coefficient for race. Blacks were more likely to be interstate migrants in 1935-40 and 1965-70, and less likely at the other two times. This greater likelihood in the earlier period is noteworthy, because black net migration out of the South in the 1930s (expressed as a fraction of the mid-decade population) was about one-third the level of the 1960s (Farley and Allen, 1987). By 1975-80 net migration of blacks was in favor of the South.[12] Our findings for migration are inconsistent with the claim of a weaker responsiveness of blacks to opportunities at more distant locations, even if the net movement of persons does point to a "lag" in the pattern of interregional redistribution (Farley and Allen, 1987, p. 118.)

We hypothesized that education would have no effect on local mobility, and in fact its impact is small. Graves and Linneman (1979) found

12There was nearly exact reversal in the amount of net migration for blacks with respect to the South census region: In 1965-79 the South lost on balance 216,000 blacks, while in 1975-80 it gained 195,000 (Bogue, 1985).

statistically weak and inconsistent effects of education in a probit model of mobility in which all types of moves were pooled. By contrast, our analysis points to the importance of specifying the type of move separately. We also find no evidence for an increase in the effect of education over time.

A major concern of the present paper is the influence of population composition, vs "structural" shifts in underlying relationships on the probability of making different kinds of moves. Having concluded that there is little evidence for changes in the effects of individual characteristics on mobility, we now turn our attention to assessing the impact of changing population composition. The major change in population composition during the 1940-80 period is the increase in the level of educational attainment in the population, rising from 9.8 years to 12.4 years in the younger stratum and from 8.1 years to 11.6 years in the older stratum. Mean age in the younger stratum remained just above 23 years, while in the older stratum mean age increased slightly from 47.9 years in 1940 to 52.0 years in 1970, declining slightly to 51.5 years in 1980. Between 1940 and 1980 the proportion within the younger stratum grew from 30.5% to 31.1%. During this period of time the proportion black in the population also increased by about one percentage point.

As a concise summary of our findings we present Table 5, in which the effects of changing demographic composition and time period can be viewed. We make these calculations from the equation which pools the data from each census sample. It constrains coefficients to be the same for each of the basic demographic characteristics, but it does allow for a differing constant (dummy) for each decade. Line 1 of the table presents the odds of the several types of moves as observed in the 1940 data. Line 2 of the table presents the corresponding expected odds obtained by substituting the mean values of the

1940 characteristics into the equation. (In the multinomial logit model substitution of regressor means does not necessarily reproduce the sample means.) Subsequent lines convert 1940 sample values to 1980 values successively for the characteristics listed. Line 7 introduces the secular (dummy variable) effect for 1980, and line 9 lists the observed values in the 1980 sample.

The change in age composition of the population between 1940 and 1980 makes for appreciably lower levels for all three types of mobility, with the odds of any kind of move declining from 1.66 to 1.49. The aging of the population by 1980 also serves to make longer distance moves slightly less likely, given that an individual moves. Structurally, this age effect works through several avenues. Three variables included in the equation are influenced by age composition: age itself, age-squared, and the age-education interaction.[13] We also apply the 1980 weights which favor the younger population.

The shift in educational distributions over the 40 year interval also produces a measurable shift in the mobility of the population. The rise in mean educational attainment (2.6 years in the younger stratum and 3.5 in the older) serves to make the population more mobile overall, with the total odds rising to 1.55, recovering about a third of the downward effect of age changes. More notable, however, is that the increasing educational attainment has served to make the population much more migratory, given mover status. In table 5 a fifty percent increase in the odds of interstate migration (vs. intracounty move) is attributable to this secular rise in education. A further example may help indicate the effect of increased educational

13In this last term we estimated the new mean of this interaction as the product of the 1980 age mean and the 1940 education mean, added to the product of the increment in age and the 1940 education mean.

attainment.[14] Consider the expected mobility of a white male aged 35. In 1940 such an individual with 8 years of education (near the mean) would have an expected odds of local mobility of 1.77; by 1980 the odds would have declined to 0.53. With 12 years of education (near the 1980 mean) the values would be 1.68 and 0.50, respectively, reflecting the negative influence that education has on the probability of making a local move. The odds of an interstate move for such an individual with 8 years of education are 0.24 in 1940 and 0.13 in 1980; for 12 years of education the respective odds are 0.34 and 0.24. Thus, for the example individual, the temporal effect on reducing the probability of interstate migration is just offset by an increase in the average level of education.

Little effect on mover status or the relative odds by distance is discernable from the change in the race or sex composition of the population. As one would anticipate from the series of cross-sectional results, the increasing proportion black in the population results in a slightly higher odds of local mobility.

The time period effect itself is substantial. The odds of making any move are 0.86 (line 7), as compared to the value of 1.6 calculated from the 1940 equation with 1980 means substituted for age, education, race, and sex (line 6). The odds of making a local move (vs. stay) are much lower in 1980 than predicted by 1980 characteristics in the 1940 equation. Most notably, the 1980 effect serves to shift the odds of movement in favor of longer distances, so that the odds of migration vs. local movement are doubled beyond those that hold for the compositional effect.

While we cannot decompose the total difference between 1940 and 1980 in the odds of making any move, we can give some sense of relative magnitude.

[14]This example is taken from detailed calculations made from the separate equations for each year. A copy is available from the authors.

The total difference represents a decline to about 52% of its former level. (Here we compare lines 2 and 4.) The age effects represent a decline to about 90% and after education effects are added, the odds are at about 94% of the original level. After slight increases for race and sex, almost all of the remaining decline is in the decade specific effect. The odds of interstate vs. intracounty moves tell a slightly different story. The age effects represent a decline to 96% of 1940 levels; education effects increase it to 145%, decade effects raise it further to 287% of its 1940 level.

CONCLUSION

Our objective has been twofold. First we wished to place the analysis of population mobility into a framework which allows the simultaneous analysis of alternative mobility decisions. We have examined the choice to move locally, to migrate within a state, or to migrate between states using a multinomial model. Second, we wished to test for the presence of changes in the determinants of residential mobility and migration, and contrast that with the influence of shifting population composition.

Most of our basic results are consistent with the literature on the relationship between demographic characteristics and change of residence, but our model does suggest ways to amend this thinking. Our results recapitulate the basic age profile of population mobility, but indicate further how this profile varies by type of move and by time, controlling for other characteristics. Our results also suggest the benefits that accrue by taking more care to specify type of move.

Educational attainment promotes migration, but not local mobility, as theory would predict. Moreover, the influence of education declines with age. Black are less mobile and migratory overall, but we found no discernable time

trend in racial differentials. Females were slightly more locally mobile than males, and less migratory, again with no apparent time trend. While home ownership is invariably mentioned as an impediment to moving in the local mobility literature, we have actually found stronger effects for it on migration in our supplementary model.

We find evidence of what might be termed "structural change" only in that we can reject the hypothesis of the equivalence of the models from decade to decade within each age stratum. It is the case, however, that much of this change is absorbed by shifts in the constant term in the model; the effects of few personal characteristics change value in a systematic way. Overall, it would appear that the increasing share of migratory movement has been due to some secular changes and a favorable shift in population composition, especially increased educational attainment, rather than a stronger association of demographic characteristics with intercounty and interstate change of residence.

REFERENCES

Baldwin, Wendy D. and Christina Nord. 1981. Delayed Childbearing in the U.S. Population Bulletin 39, #4. Washington, DC: Population Reference Bureau.

Bogue, Donald J. 1985. The Population of the United States. NY: Macmillan.

Bowles, Samuel. 1970. "Migration as Investment: Empirical Tests of the Human Investment Approach to Migration." Review of Economics and Statistics 52(November):356-62.

Clark, William A.V. 1986. Human Migration. Beverly Hills, CA: Sage.

Corgeau, Daniel. 1980. Analyse Quantitative des Migrations Humains. Paris: Masson.

DaVanzo, Julie. 1976. Why Families Move: A Model of the Geographic Mobility of Married Couples Santa Monica, CA: Rand Corp.

Farley, Reynolds, and Walter R. Allen. 1987. The Color Line and the Quality of Life in America. New York: Russell Sage Foundation.

Fligstein, Neil. Going North: Migration of Blacks and Whites from the South, 1900-1950. New York: Academic Press, 1981.

Frey, William H. 1987. "Migration and Depopulation of the Metropolis: Regional Restructuring or Rural Renaissance?" American Sociological Review 52(April):240-257.

Graves, Philip E. and Peter D. Linneman. 1979. "Household Migration: Theoretical and Empirical Results." Journal of Urban Economics 6:383-404.

Greenwood, Michael J. 1969. "An Analysis of the Determinants of Geographic Labor Mobility in the United States." Review of Economics and Statistics 51(May):189-94.

_____. 1975. "Research on Internal Migration in the United States: A Survey." Journal of Economic Literature 13(June):397-433.

_____. 1985. "Human Migration: Theory, Models and Empirical Studies." Journal of Regional Science 25:521-544.

Hensher, David A. and Lester W. Johnson. 1981. Applied Discrete Choice Modelling. New York: Wiley.

Judge, G.G., W.E. Griffiths, R.C. Hill, and T-C. Lee. 1985. The Theory and Practice of Econometrics. New York: Wiley.

Kaluzny, R. 1975. Interstate Migration by Poverty Status and Race. Review of Economics and Statistics 57(August):269-74

Kobrin, Frances. 1976. "The Fall of Household Size and the Rise of the Primary Individual in the United States." Demography 13:127-138.

Long, Larry H. 1972. The Influence of Number and Ages of Children on Residential Mobility." Demography 9(August):371-82.

_____. 1973. "Migration Differentials by Age and Occupation." Demography 10:243-258.

Long, Larry H., forthcoming. Migration and Residential Mobility in the United States. New York: Russell Sage & Basic Books.

McFadden, Daniel. 1974. "Conditional Logit Analysis of Qualitative Choice Behavior." In P. Zarembka (ed.), Frontiers in Econometrics (New York: Academic Press).

Mincer, Jacob. 1978. "Family Migration Decisions." Journal of Political Economy 86(October 1978):749-773.

Ritchey, P. Neal. 1976? "Explanations of Migration." Annual Review of Sociology.

Rogers, Andrei and Frans Willikens. 1985. Migration and Settlement: A Multiregional Comparative Study. Dordrecht: D. Reidel.

Rossi, Peter D. 1980. Why Families Move. Beverly Hills, CA: Sage.

Sandefur, Gary D. 1985. "Variations in Interstate Migration of Men Across the Early Stages of the Life Cycle." Demography 22 (August): 353-366.

Sandefur, Gary D. and Wilbur J. Scott. 1981 "A Dynamic Analysis of Migration: An Assessment of the Effects of Age, Family and Career Variables." Demography 18:355-368.

Schwartz, Aba. 1973. "On Interpreting the Effect of Distance on Migration." Journal of Political Economy 81 (September):1153-1169.

_____. 1976. "Migration, Age, and Education." Journal of Political Economy 84 (August): 701-719.

Shryock, Henry S. 1964?. Population Mobility in the United States. Chicago: Community and Family Study Center.

Sjaastad, Larry. 1963. "The Costs and Returns of Human Migration." Journal of Political Economy 70(October):80-93

Thomas, Dorothy Swaine. 1938. Research Memorandum on Migration Differentials. New York: Social Science Research Council.

Speare, Alden, Sidney Goldstein, and William Frey. 1974. Residential Mobility, Migration and Metropolitan Change Cambridge, MA: Ballinger.

Speare, Alden and Frances Kobrin Goldscheider. 1987. "Effects of Marital Status Change on Residential Mobility." Journal of Marriage and the Family 49(May):455-464.

U.S. Bureau of the Census. 1972. A Public Use Sample of Basic Records from the 1970 Census. Washington, DC.: U.S. Bureau of the Census [Machine Readable Data File and Documentation].

U.S. Bureau of the Census. 1975. A Public Use Sample of Basic Records from the 1960 Census. Washington, DC.: U.S. Bureau of the Census [Machine Readable Data File and Documentation].

U.S. Bureau of the Census. 1983a. Census of Population and Housing 1940: Public Use Microdata Sample. Washington, DC.: U.S. Bureau of the Census [Machine Readable Data File and Documentation].

U.S. Bureau of the Census. 1983b. Census of Population and Housing 1950: Public Use Microdata Sample. Washington, DC.: U.S. Bureau of the Census [Machine Readable Data File and Documentation].

U.S. Bureau of the Census. 1983c. Census of Population and Housing 1980: Public Use Microdata Sample. Washington, DC.: U.S. Bureau of the Census [Machine Readable Data File and Documentation].

Waite, Linda J., Frances Kobrin Goldscheider, and Christina Witsberger, 1986. "Nonfamily Living and the Erosion of Traditional Family Orientations among Young Adults." American Sociological Review 51(August):541-554.

White, Michael J. and Peter R. Mueser, 1988. "Implications of Boundary Choice for the Measurement of Migration and Residential Mobility." Demography, 25 (August): 443-459

Wilson, Franklin D. 1987. "Metropolitan and Nonmetropolitan Migration Streams: 1935-1980." Demography 24 (May): 211-228.

Table A-1

Geographic Mobility by Age

Age	Percentage Mobile, by Type		
	Local	Intercounty	Interstate
	A. 1935-1940		
18-24	48.5	7.0	8.0
25-29	58.3	8.0	8.2
30-34	56.1	8.0	7.3
35-39	51.9	6.2	6.9
40-44	47.9	5.6	4.3
45-49	43.6	3.8	4.6
50-54	40.5	4.8	4.0
55-59	37.6	3.6	3.8
60-64	34.8	3.9	2.7
65-69	36.6	3.0	2.9
70-74	36.5	3.3	3.9
75+	33.1	3.3	2.7
	B. 1949-1950		
18-24	20.0	4.2	5.0
25-29	20.1	3.7	4.8
30-34	14.3	3.0	3.3
35-39	10.1	2.0	2.6
40-44	9.5	1.8	1.8
45-49	9.4	1.5	1.5
50-54	6.6	1.0	1.2
55-59	5.4	1.7	1.2
60-64	5.7	0.7	1.1
65-69	5.7	0.6	0.9
70-74	5.5	1.3	1.3
75+	6.1	1.3	1.1

Table A-1 (continued)

Age	Percentage Mobile, by Type		
	Local	Intercounty	Interstate
	C. 1955-1960		
18-24	37.4	15.2	19.6
25-29	46.0	14.8	17.0
30-34	39.9	10.6	14.0
35-39	33.7	9.4	9.5
40-44	29.5	7.6	6.4
45-49	27.5	5.7	5.6
50-54	25.1	4.8	5.2
55-59	23.2	4.1	4 4
60-64	19.4	4.5	4.1
65-69	19.9	4.1	5.0
70-74	19.6	3.0	3.9
75+	23.0	5.0	2.7
	D. 1965-1970		
18-24	31.8	17.7	17.9
25-29	38.5	17.2	20.1
30-34	35.7	11.1	13.0
35-39	28.0	9.7	10.7
40-44	23.1	7.7	7.4
45-49	19.3	6.2	5.9
50-54	17.8	4.6	4.0
55-59	17.2	3.3	4.1
60-64	13.9	3.9	3.8
65-69	14.2	4.6	5.4
70-74	14.6	5.0	3.4
75+	17.5	4.9	4.1
	E. 1975-1980		
18-24	32.0	14.9	18.0
25-29	42.9	16.4	19.8
30-34	34.4	13.6	17.6
35-39	25.6	9.8	13.6
40-44	20.4	6.3	9.2
45-49	18.7	6.1	7.4
50-54	15.7	5.8	6.2
55-59	13.8	4.8	5.3
60-64	11.5	4.1	5.4
65-69	12.4	4.9	4.6
70-74	12.2	4.5	5.1
75+	15.0	4.8	5.1

Table A-2

Geographic Mobility by Education

Years	Percentage Mobile, by Type		
	Local	Intercounty	Interstate
	A. 1935-1940		
0- 4	48.5	4.8	2.9
5- 8	47.2	4.8	4.4
9-11	50.0	6.4	6.2
12	47.0	6.7	8.0
13-15	43.0	7.6	10.6
16	39.0	11.4	11.9
17+	41.4	9.8	14.8
	B. 1949-1950		
0- 4	9.8	1.4	1.0
5- 8	9.5	1.9	1.7
9-11	13.6	2.0	2.6
12	13.1	2.5	3.3
13-15	14.0	3.3	4.3
16	13.0	4.7	6.0
	C. 1955-1960		
0- 4	28.9	5.6	3.2
5- 8	28.4	5.7	5.4
9-11	34.2	7.7	9.1
12	33.1	9.8	11.7
13-15	28.7	12.8	14.9
16	25.4	13.2	17.8
17+	25.1	12.0	17.4

Table A-2 (continued)

Years	Percentage Mobile, by Type		
	Local	Intercounty	Interstate
	D. 1965-1970		
0- 4	24.5	5.7	3.9
5- 8	21.5	5.6	4.1
9-11	25.4	7.1	7.0
12	28.0	9.8	9.9
13-15	23.0	15.3	15.7
16	18.8	13.7	20.6
17+	19.4	13.6	22.1
	E. 1975-1980		
0- 4	16.7	6.7	6.6
5- 8	19.2	5.6	6.0
9-11	25.9	7.1	8.3
12	26.3	9.1	10.7
13-15	26.6	13.5	16.3
16	21.6	14.4	18.4
17+	25.1	12.4	20.8

Table A-3

Geographic Mobility by Race

Race	Percentage Mobile, by Type		
	Local	Intercounty	Interstate
A. 1935–1940			
White	46.0	6.0	6.0
Black	60.0	4.3	4.8
Other	43.3	8.2	3.1
B. 1949–1950			
White	11.7	2.3	2.7
Black	12.5	1.5	1.5
Other	8.5	5.6	4.2
C. 1955–1960			
White	29.8	8.9	9.8
Black	38.1	4.1	6.0
Other	43.6	7.7	7.7
D. 1965–1970			
White	23.7	9.8	10.0
Black	31.1	5.7	7.2
Other	30.3	6.3	13.1
E. 1975–1980			
White	23.8	10.3	11.7
Black	28.8	6.1	8.4
Other	31.3	6.9	24.4