

RESIDENTIAL MOBILITY BETWEEN CITIES AND SUBURBS: RACE, SUBURBANIZATION, AND BACK-TO-THE-CITY MOVES*

SCOTT J. SOUTH AND KYLE D. CROWDER

Information from the 1979 to 1985 waves of the Panel Study of Income Dynamics is merged with data on respondents' tract and metropolitan area of residence to examine patterns and determinants of residential mobility between central cities and suburbs. Consistent with the life-cycle model of residential mobility, mobility in both directions declines with age, but on balance the presence of young children deters moving to the suburbs. Among blacks, education increases the probability of moving from cities to suburbs, while high income retains blacks and whites in suburbs. Consistent with the place stratification model, blacks are substantially less likely than whites to move from cities to suburbs, and substantially more likely to move from suburbs to cities, even after standardizing for racial differences in sociodemographic characteristics. High levels of violent crime and unemployment in cities relative to suburbs also tend to spur city-to-suburb mobility or inhibit suburb-to-city moves.

The explosive growth of suburbs in the latter half of the twentieth century continues to shape U.S. metropolitan areas in significant ways. In recent decades, many large central cities have lost population while their suburban rings have flourished (Frey and Speare 1988). Historical patterns of, and reasons for, the rapid growth of suburbs have been described in detail (Palen 1995). It is now recognized that "pull" factors in the form of low density housing and neighborhood amenities dominate the "push" factors associated with declines in central city populations (Frey 1979). However, racial and ethnic groups have not shared equally in the suburbanization process (Alba and Logan 1991). Although the suburbanization of blacks has increased in recent decades (Schneider and Phelan 1993), compared to whites, blacks remain overrepresented in central cities. Surprisingly, however, little is known about racial differences in the personal and ecological determinants of moving from city to suburb, and even less is known about racial differences in the process of moving from suburb to city.

We examine the individual and ecological determinants of residential mobility from central cities to suburbs and from suburbs to central cities, with an emphasis on racial differences in the levels and determinants of these mobility streams. We draw on prior aggregate and microlevel studies

of suburbanization as well as on the general literature dealing with residential mobility to develop hypotheses relating life-course, socioeconomic, and areal characteristics to the likelihood of making these types of residential moves. We then test these hypotheses by appending census information for the census tract, central city, suburb, and metropolitan area of residence for respondents in the 1979 through 1985 waves of the Panel Study of Income Dynamics. This strategy allows us to trace prospectively the mobility experiences of the panel respondents as they move, or fail to move, from a central city to one of its suburbs, or in the reverse direction.

We go beyond prior studies in five ways. First, we examine a wide array of potential individual-level and ecological predictors, thus providing a more complete picture of the determinants of mobility, as well as a rare contextual analysis of mobility between cities and suburbs. Second, we perform one of the few prospective, individual-level analyses of migration from suburbs to central cities. Third, we incorporate information on each respondent's census tract as potential predictors of city-suburb mobility, allowing us to consider how characteristics of particular central-city neighborhoods, in addition to characteristics of the city as a whole, influence intrametropolitan mobility. Fourth, in contrast to earlier microlevel studies (e.g., Marshall and O'Flaherty 1987), we include stayers in the analysis, which allows us to examine the impact of the explanatory variables on the overall probability of moving between central cities and suburbs, and not just the choice of location among those who move. And finally, unlike much prior research, we are able to measure the (time-varying) explanatory variables at the beginning of the mobility interval, thereby largely ensuring that our findings are not artifacts of the effect of migration on its hypothesized predictors.

THEORY

At least as far back as Rossi's (1955) classic study of residential mobility, research on local residential mobility has emphasized *life-cycle factors* as critical determinants of the decision to move. In this perspective, life-cycle changes in the size, age composition, and socioeconomic position of households create dissatisfaction with the current residence, influence the demand for a different type of housing or geographic location, and ultimately lead to the decision to move (Landale and Guest 1985; Speare, Goldstein, and Frey 1975). Age is one of the most important of these life-cycle variables, with mobility rates peaking in the young adult years as employment, marital, and school transitions engender

*Scott J. South and Kyle D. Crowder, Department of Sociology, State University of New York at Albany, Albany, NY 12222; e-mail: s.south@albany.edu and kc0675@albany.edu. This research was supported by grants from the National Science Foundation (SBR-9511732, SBR-9512290). We acknowledge the helpful comments and advice of Glenn Deane, Stewart Tolnay, and several anonymous *Demography* reviewers.

changes in residence. Mobility declines sharply after about age 30 (Long 1988). In general, the presence of children in the household deters mobility, perhaps because children bond families to their current dwellings and neighborhoods (Long 1972). Household crowding, in contrast, tends to encourage mobility (McHugh, Gober, and Reid 1990). And homeowners are substantially less likely than renters to move (Lee, Oropesa, and Kanan 1994). Socioeconomic characteristics have also been linked to local residential mobility, although the evidence is less conclusive. Long-distance migration increases sharply with education (Long 1988), but education is only moderately related to local residential mobility (South and Deane 1993).

While these life-course and, to a lesser extent, socioeconomic factors are established predictors of the decision to move, it is less clear how they influence the choice of a destination, that is, whether to move to (or within) a suburb or to (or within) a central city. The locational amenities that increase the attractiveness of suburbs, including low-density housing, high-quality schools, and less crime, are especially salient for young families with children (Frey and Kobrin 1982). Hence, although the presence of children may, in general, deter mobility, their presence may be less likely to deter, and may actually increase, the likelihood of moving from cities to suburbs. In contrast, central cities are believed to be the preferred location for young unmarried persons and for childless married couples, who evince higher suburb-to-city mobility than do husband-wife families with children (Frey and Kobrin 1982).

Socioeconomic factors, although only weakly related to local residential mobility per se, may nonetheless be important in the decision to relocate to a city or suburb. Greater economic resources should enable potential movers to satisfy preferences for suburban locations, which are generally favored over large cities and nonmetropolitan communities (Fuguitt and Brown 1990). By the same logic, because high socioeconomic groups are likely to remain in the suburbs once having moved there, moving from suburb to city is expected to be inversely related to socioeconomic status (Nelson and Edwards 1993). Nelson (1988) demonstrates that, among movers, the choice of a city location rather than a suburban location declines with income. The source of income may also be important. Kasarda (1988, 1989), for example, suggests that the receipt of public assistance inhibits mobility from deteriorating inner cities to suburbs, the locus of most entry-level job growth in recent decades.

Although this life-cycle perspective on residential mobility has become the dominant model for explaining the migration of whites between cities and suburbs, it has been argued that this model is much less relevant for explaining the mobility patterns of African Americans (Logan and Alba 1993). Suburbanization of blacks has increased markedly in recent decades but blacks remain overrepresented in central cities (Schneider and Phelan 1993). Moreover, black suburbanites tend to be concentrated in predominantly black suburban communities (Alba and Logan 1993; Logan, Alba, and Leung 1996), usually adjacent to central cities and charac-

terized by residential instability, weak property-tax bases, low average incomes, and high crime (Alba, Logan, and Bellair 1994; Logan and Schneider 1984).

These racial differences in suburbanization patterns (and intrametropolitan residential distributions more generally) have inspired the development of an alternative theoretical perspective on urban locational attainments—the *place stratification model* (Alba and Logan 1991). The place stratification model directs attention to the hierarchical ranking of places and social groups and the means by which advantaged social groups distance themselves—socially as well as spatially—from disadvantaged groups, including many racial and ethnic groups, especially African Americans (Logan and Alba 1993). The place stratification model therefore incorporates explanations for racial residential segregation that emphasize housing market discrimination as a barrier to black residential mobility (Alba and Logan 1993; Wilson 1979). Particularly important in this regard are the discriminatory practices of real-estate agents (Yinger 1995), local governments (Shlay and Rossi 1981), and mortgage lenders (Shlay 1988), as well as the racial stereotypes held by whites (Bobo and Zubrinsky 1996; Farley et al. 1994) that thwart the mobility aspirations of African Americans and create and maintain racially segregated neighborhoods and communities (Farley 1991; Massey and Denton 1993). The place stratification model does not deny that life-cycle and socioeconomic factors shape black (and white) residential-mobility patterns, but supplements these explanations by emphasizing the structural constraints that impede or facilitate the mobility of blacks between different types of communities within urban areas.

Applying the place stratification model to residential mobility between cities and suburbs generates several important hypotheses. First, the discriminatory housing practices emphasized by this perspective should find expression in the racially exclusionary policies of suburban communities (Farley and Frey 1994). Thus, the place stratification model anticipates that the rate of black city-to-suburb residential mobility will fall below that of whites, a hypothesis consistent with prior descriptions of aggregate intrametropolitan mobility streams. Frey (1985), for example, shows that the percentage of black city-origin intrametropolitan movers who moved to the suburbs during the late 1970s was only one-third the corresponding percentage for whites, although this difference had narrowed over the preceding two decades. Suburban housing market discrimination should also lead to higher rates of suburb-to-city mobility among blacks than are found among whites, a hypothesis also consistent with the available, but now somewhat dated, empirical evidence (Frey 1985). The place stratification model implies that these racial differences in city-to-suburb and suburb-to-city residential mobility propensities will persist even after controlling for racial differences in life-cycle, socioeconomic, and areal characteristics, but this hypothesis has yet to be thoroughly evaluated.

Second, the place stratification model suggests that the *impact* of socioeconomic and life-cycle characteristics on

intrametropolitan mobility differs by race. In what Logan and Alba (1993) term the “strong version” of the place stratification model, it “costs” more for minority groups than majority groups to acquire locational amenities, including suburban residence. Racial segmentation in housing markets limits the ability of minority-group members to convert socioeconomic and human capital resources into advantageous residential situations (Alba and Logan 1991). Thus, we hypothesize that the impact of socioeconomic status on mobility from city to suburb will be weaker for blacks than for whites.

A third hypothesis derivable from the place stratification model concerns the impact of locational characteristics of the neighborhood and community of origin on the likelihood of moving between cities and suburbs. One corollary of the model’s premise that advantaged groups seek to distance themselves from disadvantaged groups is that whites will flee central cities that contain large and growing black populations. Attempts to evaluate this familiar “white-flight” argument have generated mixed, but generally negative, results. Guterbock (1976), Marshall (1979), and Marshall and O’Flaherty (1987) find small and usually nonsignificant *net* effects of the size of the central-city black population on the mobility of whites from cities to suburbs. Frey (1979) finds slightly larger (and statistically significant) effects, but notes that they operate largely by affecting white movers’ choice of a suburban (rather than central-city) location, and less by increasing the incidence of mobility among whites. Because a large black population in the central city does not appear to motivate white city residents to move, Frey (1979) interprets these findings as inconsistent with the white-flight hypothesis.

One possible explanation for the weak response of white city-to-suburb mobility to the size of the black population is that, even in cities with large black populations, few whites live close to blacks. The high levels of racial residential segregation characterizing American cities—levels that rise with increasing black populations (Massey and Denton 1987)—imply that whites and blacks rarely occupy the same neighborhoods. Accordingly, whites are not likely to flee to the suburbs in response to the relative size of the black population in the city as a whole (Marshall and O’Flaherty 1987). We suggest that a more precise test of the white-flight argument would be to examine the effect of a *neighborhood’s* racial composition on the likelihood that a white city resident will move to the suburbs, because neighborhoods more accurately circumscribe the sphere of daily social action in which whites might encounter black residents. It is less clear how the racial composition of neighborhoods might influence the mobility patterns of blacks. But to the extent that predominantly black neighborhoods contain significant concentrations of kin, friendship networks, services, institutions, and other forms of social capital, then blacks may have compelling reasons for remaining in, or moving to, predominantly black neighborhoods (Madigan and Hogan 1991).

The potential impact of a city’s racial composition on intrametropolitan residential mobility raises the prospect that, beyond the life-cycle and socioeconomic characteristics

of potential movers, other ecological and areal characteristics may also affect migration between cities and suburbs. Indeed, much of the literature on population flows between cities and suburbs has focused on the characteristics of these areas that impede or facilitate residential mobility between them. Push factors in the form of high central-city crime rates (Sampson and Wooldredge 1986), population density (Marshall 1979), and economic deterioration (Nathan and Adams 1989) are thought to encourage city-to-suburb mobility, while the availability of jobs and housing in the suburban ring purportedly pulls movers into these communities (Frey 1979).

Moreover, several of these ecological determinants of city-suburb mobility have been argued to operate differently for blacks and whites. Observing an effect of rates of violent crime on changes in the racial composition of cities, Liska and Bellair (1995) infer that whites are more likely than blacks to respond to high levels of central-city violent crime by moving to the suburbs. According to Liska and Bellair (1995), blacks are less likely than whites to move because they lack the resources and opportunities to do so. However, blacks may be more likely than whites to respond to suburban job opportunities by moving from city to suburb. Entry-level jobs have increased much more rapidly in the suburbs than in central cities, and these suburban job opportunities are better suited to the occupational skills of blacks than of whites (Kasarda 1988, 1989).

DATA AND METHODS

The data we use to test these hypotheses are drawn from a variety of sources. The primary data source is the Panel Study of Income Dynamics (PSID), a nationally representative longitudinal survey of U.S. residents and their families (Hill 1992). The PSID began in 1968 with approximately 5,000 families, including a representative sample of 3,000 families and a sample of 2,000 low-income families with heads younger than 60. Members of the original panel have been interviewed annually since then, and the new families formed by children and other members of this panel have been added to the sample. Through 1988 the cumulative number of families participating in the PSID had grown to about 7,000, representing over 37,000 individuals. Attrition from the sample, particularly in recent waves, has been modest and has not appreciably detracted from the representativeness of the sample (Hill 1992). Because it contains a rich battery of items dealing with life-cycle factors, socioeconomic status, and demographic background, the PSID is a useful data source for studying residential mobility.

The PSID is an especially valuable data source for examining residential mobility between cities and suburbs because of the recently released Geocode Match Files that link the addresses of the PSID respondents at each interview to the respective 1980 census codes for tracts, places, and metropolitan areas. We use these codes to determine whether respondents resided in a central city or the suburban ring of a specific metropolitan area at each interview. Thus, we are able to trace annual residential mobility to and from cities

and suburbs between successive interviews. We also use these codes to append information from the 1980 census and other sources on the demographic and economic characteristics of each respondent's tract and Metropolitan Statistical Area (MSA) of origin. These data are used to measure the explanatory variables that pertain to the tracts, cities, and suburbs to and from which the PSID respondents might move.

We restrict the PSID sample in several ways. First, the analysis includes only mobility intervals (i.e., the annual period between successive interviews) between 1979 and 1985. Addresses of the PSID respondents are not continuously available for years before 1979 or for years after 1985. In addition, using the 1979–1985 period allows data from the 1980 census to be used to estimate values for noncensal years with reasonable accuracy. Second, we include only respondents who were heads of the household either at the beginning *or* at the end of the mobility interval. We impose this restriction because many moves are undertaken by families. Given the structure of the PSID, a move by a single family could thus be counted several times, once for each family member. By including only household heads, moves by members of the same family are counted only once. At the same time, moves by family members who were not the household head at the beginning of the interval but became a household head by the end (e.g., when a child moves out of the parental home or when an ex-spouse establishes a new household) are included in the analysis. Third, given our focus on mobility between cities and suburbs, we include only respondents who began and ended the mobility interval in the same metropolitan area. Moves from a metropolitan area to a location outside of the area are excluded, as are moves originating outside of the metropolitan area. These selection criteria are consistent with prior aggregate studies (Frey 1979). Finally, we include only non-Hispanic respondents whose race is either black or white; the PSID contains too few respondents of other races to warrant separate analysis. Imposing these selection criteria results in a sample of 5,493 PSID respondents, 2,580 of whom are black and 2,913 of whom are white.

Following common practice, we define the suburban ring as the territory outside of the census-designated central city (or cities) but inside the metropolitan area. We recognize that even within suburban rings (as within central cities) communities and neighborhoods can vary substantially in their locational amenities. Yet, on average, the socioeconomic status of most suburban areas is considerably higher than that of their central-city counterparts. Suburban communities are also likely to share features such as physical environments, prestige, and school systems that are superior to those in the central city, but the available data do not permit us to differentiate among these communities. And not only are disparities between minority- and majority-group members smaller in suburbs than in central cities (Logan et al. 1996), but according to Massey and Denton (1988:616), "... the achievement of suburban residence represents a major step in the process of black spatial assimilation." Consequently, we do not attempt to differentiate among suburban

communities or among central-city neighborhoods that serve as destinations for the PSID movers.

We define residential mobility as a move out of the census tract of origin. We then subdivide these movers into movers to (or within) a central city (or cities, for those MSAs with more than one central city) and movers to (or within) a suburb of the MSA of origin. We define mobility as a change of census tract rather than any change of residence because we are interested in moves between "neighborhoods" and in the influence of neighborhood characteristics (especially racial composition) on city-to-suburb and suburb-to-city mobility (see Massey, Gross, and Shibuya 1994 for a similar strategy). Although census tracts are imperfect operationalizations of neighborhoods (Tienda 1991), they are the available geographic units closest to the concept of a neighborhood and they have been used widely in this capacity (Gramlich, Laren, and Sealander 1992; Massey et al. 1994).

Measuring the Explanatory Variables

The variables used to explain variation in city-to-suburb and suburb-to-city residential mobility include characteristics of individuals and their families as well as features of their tract and metropolitan area. All of these explanatory variables are measured at the beginning of the mobility interval. The operationalization of the individual-level explanatory variables follows most prior work on local residential mobility. The key life-course variables include *age* (in years) and, to capture nonlinear effects, *age squared*, a dummy variable for *marital status* (currently married or cohabiting versus unmarried), and the *number of children* in the household ages 0 to 5 and ages 6 to 17. Housing characteristics include a dummy variable for whether the respondent *owns* the dwelling, and, as a measure of household crowding, the number of *persons* per room. Also included are dummy variables for respondent's *sex*, whether the respondent *moved in the prior year*, and whether the respondent has *lived in the current dwelling for three or more years*. Socioeconomic characteristics of the respondent include *education*, measured by years of school completed, *family income* in the year preceding the interview (in constant 1981 dollars), and two dummy variables for whether the respondent is *currently working* or *receiving public assistance*.

Five of the explanatory variables pertain to characteristics of the central city (or cities) and suburban ring of the respondent's metropolitan area. Because the decision to move between a city and a suburb is thought to be based partly on a comparison of their relative attributes (Tiebout 1956), we measure each characteristic as a ratio of the central-city value to the suburban-ring value. For example, we express the *violent-crime rate* as a ratio of the central-city crime rate to the crime rate for the suburban ring. Ostensibly, the higher this ratio, the greater the likelihood that central-city residents will move to the suburban ring and the lower the likelihood that suburban residents will move to the central city. Similarly, high city-to-suburb ratios of *population density* (measured by persons per square mile) and the *unemployment rate* should increase city-to-suburb mobility and reduce the size of the

counterstream. If the white-flight argument is correct, the ratio of the percentage of the city's population that is black to the *percent black* in the suburban ring should increase city-to-suburb mobility of whites while decreasing their suburb-to-city mobility. We also control for the relative *population size* of the central city(ies) and the suburban ring because, *ceteris paribus*, comparatively larger suburban rings provide more destination opportunities for potential city-to-suburb movers (Frey 1979). Data on violent crimes are taken from the Uniform Crime Reports (Federal Bureau of Investigation 1979–1981) while the other city and suburb variables are computed from data taken from the U.S. Bureau of the Census (1982). To increase the stability of the crime rates, we use the three-year average for 1979 through 1981.

Two other areal variables refer to characteristics of the respondent's census tract at the beginning of the mobility interval. First is the *percentage of the tract population that is black*. So as not to confound the effects of neighborhood racial composition with socioeconomic composition, we also include as an explanatory variable the *percentage of the tract population with incomes below the official poverty level*. These variables are taken from the Summary Tape Files of the 1980 census (see Adams 1991 for the specific census sources). To capture unmeasured regional differences in the ecological structures of metropolitan areas that might affect suburbanization and suburb-to-city mobility, we include dummy variables for the four major census *regions* (Northeast, Midwest, South, and West). Finally, we control for the *total population size* of the metropolitan area (in millions). Most of the areal characteristics are measured with 1980 census data. Hence, for mobility intervals beginning in years other than 1980, we assume that the 1980 value is a reasonable proxy. This assumption seems valid given the substantial stability of demographic and economic characteristics of local areas over short time periods. All metropolitan area (MSA) and central-city boundaries are defined according to the 1980 census.

Analytical Strategy

Because the PSID provides information on the geographic location of respondents at each annual interview, a maximum of six residential moves per respondent can be observed between 1979 and 1985. To make optimal use of this information, we treat each annual mobility interval as a unique observation, structuring the data file in a person-year format. The resulting file contains a total of 22,396 observations; 14,761 of these mobility intervals originate in a central city, and 7,635 originate in a suburban ring.

We use a sequential logit regression procedure (Liao 1994) that models, first, mobility out of the tract of origin, and second, the destination (city or suburb) among those who move. This two-stage strategy corresponds to Frey's (1978) macrolevel distinction between the incidence of mobility and destination propensity. The descriptive analyses (Tables 1 and 2) use weighted data, but because the PSID sampling weights are largely a function of the explanatory variables, the regression analyses use unweighted data (Winship and

Radbill 1994). Weighted regression analyses, however, produce substantively similar results. Standard errors are adjusted for nonindependence of observations using the procedure described by Bye and Riley (1989).

RESULTS

Table 1 shows the race-specific annual probabilities of moving to, from, and within cities and suburbs for these PSID respondents. The top panel presents the probabilities for mobility intervals originating in central cities. For central-city residents, mobility between census tracts is more common among blacks than among whites. The annual probability that a black respondent changes tracts is .193 ($= 1 - .807$) compared to a probability of .146 ($= 1 - .854$) for whites. These estimates are reasonably close to other studies showing that, nationally, 15%–20% of the U.S. population changes residence in a year (Long 1988). Of greater significance for this analysis, however, is the pronounced racial difference in the destination of these central-city movers. Blacks are more likely than whites to move *within* central cities (.184 versus .115), while whites are over three times more likely than blacks to move from the central city to the suburban ring (.031 versus .009). This marked racial difference in annual probabilities of suburbanization is consistent with the place stratification model described above.

The bottom panel of Table 1 presents the annual probabilities of residential mobility for the mobility intervals originating in the suburban ring. As with central-city residents, black suburbanites are more likely than their white counterparts to leave their census tract, although, for whites and blacks, intertract mobility is lower for suburbanites than for city dwellers. Annual probabilities of intertract mobility for black suburbanites and white suburbanites are .159 ($= 1 - .841$) and .113 ($= 1 - .887$), respectively. Again, however, a racial difference in the destination of movers is observed. Among suburban-origin intertract movers, the probability that a black will move to the central city is .28 ($= .045/ (.115 + .045)$); the corresponding conditional probability that a white suburban-origin mover will relocate to the central city is .20 ($= .023/ (.091 + .023)$). One consequence of these differential mobility rates is that, conditional upon moving, blacks are substantially more likely to move from suburbs to cities than from cities to suburbs (.045 versus .009), while whites are more likely to move from cities to suburbs (.031) than from suburbs to cities (.023). This racial difference is also consistent with the place stratification model of intra-metropolitan mobility.

Table 2 presents descriptive statistics, disaggregated by origin and race, for the explanatory variables used in the regression models. Most of the differences are consistent with expectations. Within cities and suburbs, black respondents are slightly younger than their white counterparts, are less likely to be married, have more children in the household, are less likely to own their homes, and tend to reside in more crowded dwellings. Compared to whites, black respondents have fewer years of schooling, lower incomes, are less likely to be currently employed, and are more likely to be receiv-

TABLE 1. ANNUAL PROBABILITIES OF RESIDENTIAL MOBILITY BETWEEN AND WITHIN CENTRAL CITIES AND SUBURBS, BY RACE: U.S. METROPOLITAN AREAS, 1979-1985

Race	Residence at Time $t + 1$			Total
	Same Tract	Different Central-City Tract	Suburb	
In Central City at Time t				
Black	.807 (7,182)	.184 (1,700)	.009 (114)	1.000 (8,996)
White	.854 (4,837)	.115 (733)	.031 (195)	1.000 (5,765)
Total	.843 (12,019)	.131 (2,433)	.026 (309)	1.000 (14,761)
In Suburban Ring at Time t				
Black	.841 (1,223)	.115 (195)	.045 (85)	1.001 (1,503)
White	.887 (5,390)	.091 (597)	.023 (145)	1.001 (6,132)
Total	.884 (6,613)	.092 (792)	.024 (230)	1.000 (7,635)

Note: Probabilities are weighted; unweighted N in parentheses; totals may not add to 1.000 because of rounding.

ing public assistance. In cities and suburbs, black respondents reside in census tracts that have relatively larger black populations and higher poverty rates. Racial differences in the metropolitan-level variables, in contrast, are relatively small. Among respondents originating a mobility spell in central cities, whites are more concentrated than blacks in metropolitan areas in which central-city density is comparatively much larger than the population density in the suburban ring, but other racial differences are slight. Not surprisingly, blacks and whites reside in metropolitan areas whose central cities have higher crime and unemployment rates, higher population densities, and larger relative black populations than their corresponding suburban rings.

Differences between white respondents originating a mobility interval in the city and those originating in the suburban ring are also generally consistent with theoretical images of suburban selectivity. Compared with white central-city residents, white suburbanites in this sample are more likely to be married, to have children in the household, and to own their homes. They also have higher levels of education and income. In contrast, among blacks, differences between central city and suburban respondents are generally small. Black suburbanites are more likely to own their homes, but differences in the other life-course and socioeco-

omic characteristics are small. This may reflect the concentration of black suburbanites in relatively poor suburban communities close to the central city (Logan and Schneider 1984) or in relatively poor rural areas within the suburban ring. Black suburbanites and white suburbanites live in census tracts that have relatively smaller black populations and poverty populations than their same-race counterparts in the central city. Even blacks in the suburbs, however, reside in tracts that are typically almost 50% black and that have poverty rates well above those for suburban whites.

Mobility Patterns of Central-City Residents

Table 3 presents the results of multivariate logistic regression analyses. The equations in this table are based on the mobility intervals originating in a central city, and examine the net influences of the explanatory variables on, first, the odds of leaving the tract of origin (columns 1-3) and, second, the odds of moving to the suburban ring rather than to another central-city tract of the metropolitan area (columns 4-6). The first equation (column 1) pools the observations for blacks and whites and includes a dummy variable for respondent's race. Consistent with the life-cycle model, the odds of moving out of the tract of origin decline significantly with age (but at a decreasing rate) and duration of residence,

TABLE 2. DESCRIPTIVE STATISTICS FOR EXPLANATORY VARIABLES IN MODELS OF RESIDENTIAL MOBILITY BETWEEN CENTRAL CITIES AND SUBURBS, BY ORIGIN AND RACE: U.S. METROPOLITAN AREAS, 1979–1985

Variable	Central-City Origin				Suburban Origin			
	Blacks		Whites		Blacks		Whites	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Age	41.85	17.66	45.46	18.46	42.93	18.62	45.20	17.10
Age ²	2,063.02	1,725.88	2,407.62	1,853.82	2,189.49	1,927.14	2,334.94	1,678.56
Sex (1 = Female)	.49	.50	.35	.48	.51	.50	.25	.43
Marital Status (1 = Married)	.38	.48	.53	.50	.34	.48	.63	.48
Number of Children Age 0–5	.36	.68	.19	.50	.28	.56	.24	.57
Number of Children Age 6–17	.66	1.09	.42	.84	.65	1.04	.53	.92
Homeowner (1 = Yes)	.36	.48	.57	.50	.44	.50	.69	.46
Persons Per Room	.64	.39	.49	.26	.59	.37	.51	.27
Moved Last Year (1 = Yes)	.26	.44	.23	.42	.28	.45	.19	.39
In Same House for 3 Years (1 = Yes)	.53	.50	.57	.49	.52	.50	.62	.49
Years of School Completed	11.01	2.90	12.52	2.81	11.07	3.23	12.77	2.56
Family Income (\$1,000)	8.62	8.90	15.60	15.38	9.97	12.65	20.27	20.26
Currently Working (1 = Yes)	.59	.49	.70	.46	.58	.49	.74	.44
Receiving Public Assistance (1 = Yes)	.12	.33	.02	.13	.12	.33	.02	.13
Percent Black in Tract of Origin	71.24	29.62	6.08	13.49	45.17	33.66	3.07	8.86
Percent in Poverty in Tract of Origin	27.20	13.77	10.80	8.67	16.23	10.39	6.45	5.39
City-to-Suburb Ratio of:								
Violent crime rate	3.92	2.01	3.58	2.32	3.42	2.10	4.29	2.16
Population density	14.27	10.82	26.65	31.03	14.84	11.07	15.91	16.06
Unemployment rate	1.31	.27	1.21	.27	1.32	.34	1.31	.29
Percent black	7.40	11.14	8.08	13.29	5.04	4.03	8.40	11.46
Population size	.80	.72	1.13	1.06	.83	.94	.66	.64
MSA Population (Millions)	2.87	2.53	1.81	2.53	2.05	1.83	2.70	2.36
Northeast	.19	.39	.20	.40	.13	.33	.29	.45
Midwest	.32	.46	.29	.45	.19	.39	.33	.47
South	.39	.49	.27	.44	.46	.50	.16	.37
West	.10	.31	.24	.43	.23	.42	.22	.42
Number of Mobility Intervals	8,996		5,765		1,503		6,132	

are lower for married persons, families with young children, and homeowners, are higher for respondents who moved the prior year, and increase with household crowding and family income. Net of these factors, however, the racial difference in mobility is not statistically significant.

Several of the areal explanatory variables also significantly influence the likelihood of leaving a central-city tract. Intertract mobility declines with tract poverty, high central-city unemployment (relative to the suburban ring), and large city populations (relative to the suburban ring).

The coefficients for several of the explanatory variables differ significantly between blacks and whites. The presence

of children ages 0–5 impedes mobility more for white families than for black families. Education and receipt of public assistance impede white mobility more than black mobility, and family income facilitates black mobility more than white mobility. Household crowding encourages mobility more among whites than among blacks.

More important for the evaluation of the hypotheses are the effects of the explanatory variables on the destination of respondents who leave their central-city tract. The coefficients in columns 4–6 show the effects of the explanatory variables on the log-odds of moving to the suburban ring rather than elsewhere in the central city. In the pooled model

TABLE 3. COEFFICIENTS FOR LOGISTIC REGRESSION OF RESIDENTIAL MOBILITY OF CENTRAL-CITY RESIDENTS ON SELECTED INDEPENDENT VARIABLES: U.S. METROPOLITAN AREAS, 1979-1985

Independent Variable	Move to a Different Tract vs. Remain in Same Tract			Move to Suburb vs. Move to Other Central-City Tract		
	Pooled (1)	Blacks (2)	Whites (3)	Pooled (4)	Blacks (5)	Whites (6)
Black	.07 (.09)	— (—)	— (—)	-1.02** (.24)	— (—)	— (—)
Age	-.13** (.01)	-.15** (.01)	-.11** (.02)	-.07* (.03)	-.13** (.05)	-.05 (.04)
Age ²	.00** (.00)	.00** (.00)	.00** (.00)	.00 (.00)	.00* (.00)	.00 (.00)
Female	.06 (.07)	.08 (.09)	-.01 (.13)	-.19 (.16)	-.53* (.27)	-.02 (.21)
Married	-.28** (.08)	-.30** (.09)	-.35** (.13)	.33 (.17)	.19 (.30)	.36 (.21)
Number of Children Age 0-5	-.12** (.04)	-.07 (.05)	† -.27** (.08)	-.28* (.13)	-.24 (.20)	-.27 (.19)
Number of Children Age 6-17	.03 (.03)	.05 (.03)	-.05 (.06)	-.01 (.10)	.18 (.13)	-.12 (.16)
Homeowner	-.79** (.07)	-.78** (.10)	-.81** (.11)	.37 (.20)	.52 (.31)	.29 (.26)
Persons Per Room	.34** (.08)	.28** (.08)	† .65** (.18)	-.25 (.25)	-.32 (.35)	-.62 (.43)
Moved Last Year	.22** (.06)	.19** (.07)	.26** (.10)	-.01 (.16)	-.02 (.27)	.04 (.21)
In Same House for 3 Years	-.27** (.06)	-.36** (.08)	-.11 (.12)	-.26 (.19)	-.05 (.27)	-.50 (.27)
Years of School Completed	-.01 (.01)	.02 (.02)	† -.04* (.02)	.04 (.04)	.16* (.07)	† -.01 (.04)
Family Income (\$1,000)	.01* (.00)	.01** (.00)	†† .00 (.00)	.01 (.01)	.00 (.01)	.02* (.01)
Currently Working	-.11 (.06)	-.15* (.07)	-.27* (.12)	.13 (.19)	.19 (.27)	-.04 (.27)
Receiving Public Assistance	-.09 (.09)	.02 (.09)	† -.68* (.34)	.09 (.32)	.11 (.36)	-.14 (.87)
Percent Black in Tract of Origin	-.00 (.00)	-.00 (.00)	.00 (.00)	-.00 (.00)	-.01* (.00)	† .01 (.01)
Percent in Poverty in Tract of Origin	-.01* (.00)	-.01* (.00)	-.00 (.01)	-.01 (.01)	.00 (.01)	† -.04** (.01)
City-to-Suburb Ratio of:						
Violent crime rate	.03 (.02)	.06** (.02)	.02 (.02)	.08 (.06)	.15* (.08)	.04 (.05)
Population density	-.00 (.00)	-.00 (.00)	-.00 (.00)	-.02** (.01)	-.03 (.04)	-.01* (.01)
Unemployment rate	-.30** (.11)	-.31* (.14)	-.33 (.21)	.83** (.31)	2.24** (.43)	†† -.74 (.49)
Percent black	.00 (.00)	.00 (.00)	.00 (.00)	-.04 (.02)	-.12* (.05)	† -.01 (.01)
Population size	-.15** (.04)	-.08 (.06)	-.17** (.06)	-.54** (.16)	-.35 (.35)	-.64** (.16)

(continued on the next page)

(Table 3 continued from the previous page)

Independent Variable	Move to a Different Tract vs. Remain in Same Tract			Move to Suburb vs. Move to Other Central-City Tract		
	Pooled (1)	Blacks (2)	Whites (3)	Pooled (4)	Blacks (5)	Whites (6)
MSA Population (Millions)	.01 (.02)	.02 (.02)	.01 (.03)	.07 (.05)	-.11 (.09)	†† .19** (.06)
Northeast	-.30 (.23)	-.05 (.16)	†† -.58** (.16)	-.34 (.57)	-1.15* (.55)	† .29 (.34)
Midwest	-.05 (.19)	.06 (.14)	-.15 (.13)	-.49 (.47)	-1.69** (.44)	†† .29 (.27)
South	-.04 (.15)	.13 (.13)	† -.20 (.13)	-.44 (.31)	-1.52** (.35)	†† -.04 (.27)
Constant	2.58** (.33)	2.26** (.39)	2.99** (.55)	-.57 (.86)	-2.34 (1.45)	1.31 (1.15)
Number of Mobility Intervals	14,761	8,996	5,765	2,742	1,814	928

Note: Numbers in parentheses are standard errors. West is the reference category for region.

† Race difference significant at $p < .05$.

†† Race difference significant at $p < .01$.

* $p < .05$; ** $p < .01$ (two-tailed tests)

(column 4), two of the individual-level characteristics significantly affect the conditional likelihood of moving to the suburbs. Age reduces this risk, but perhaps surprisingly, even conditional upon moving, the presence of young children reduces the odds of moving from city to suburb. Among blacks, females are less likely than males to move to the suburbs (conditional upon moving).

The coefficient for race indicates that, even controlling for the other explanatory variables, black movers remain significantly less likely than white movers to relocate to the suburbs rather than to another tract within the central city. The pronounced racial difference in the conditional odds of moving from city to suburb is only slightly reduced when racial differences in the other explanatory variables are held constant. As derived from Table 1, without controlling for the other variables, the odds of blacks moving to the suburbs rather than moving elsewhere in the city are 18% of the corresponding odds for whites ($= [(0.009/.184)/(0.031/.115)]100$); with controls, this odds-ratio increases only to 36% ($= (e^{-1.02})100$). The magnitude and persistence of this racial difference in conditional odds of moving from city to suburb in the face of controls for socioeconomic and life-course characteristics is consistent with the place stratification model.

Characteristics of the tract of origin and the metropolitan area also significantly influence the conditional odds of moving from city to suburb. Blacks respondents originating in city tracts with relatively large black populations are less likely to move to the suburbs, as are white respondents originating in tracts with high poverty rates. High central-city violent crime and unemployment rates (relative to those in the suburban rings) spur black city-to-suburb mobility, while

metropolitan areas containing central cities that are large and densely populated evince lower rates of white suburbanization. Among blacks, the conditional odds of moving from city to suburb are significantly higher in the West than in other regions.

Several of the explanatory variables have significantly different effects for blacks and whites. Contrary to the stratification model, we find no evidence that black movers are less likely than white movers to convert income and employment into a move to the suburbs. Moreover, the effect of education is significantly more positive among blacks than among whites. This may suggest that, at least for highly educated blacks, the impact of exclusionary barriers to location choices has lessened.

Evidence for the white-flight hypothesis is mixed, at best. Although the coefficients for tract percent black and for the city-suburb ratio of percent black are significantly more negative for blacks than for whites, neither coefficient is significant among whites. As suggested above, black representation in the neighborhood and city may retain blacks in those areas by providing more kin, social support, and social capital that deter mobility. The absence of an effect among whites could result from a selection process—whites who reside in racially mixed areas may do so because of their preferences for, or lack of aversion to, racially mixed environments. It is also possible that whites respond more to objective or perceived increases in black representation in their neighborhoods.

We also find no evidence for the hypothesis suggested by Liska and Bellair (1995) that relatively high city crime rates have a stronger effect on white suburbanization than on black suburbanization. In fact, the coefficient is larger for blacks

and significant only for blacks, although the racial difference in this effect is not significant. However, consistent with expectations, black movers appear more likely than white movers to respond to relatively numerous suburban employment opportunities by selecting a suburban, rather than a city, destination. The coefficient for the ratio of city-to-suburb unemployment rates is significantly more positive for blacks than for whites. Regional differences in the conditional odds of moving from city to suburb are significantly more pronounced among blacks than among whites. Perhaps the high rates of black city-to-suburb mobility in the West compared to those in other regions reflects a lack of exclusionary barriers to black suburbanization in the West, a hypothesis that is broadly consistent with the lower levels of racial residential segregation in this region (Farley and Frey 1994).

Mobility Patterns of Suburban-Ring Residents

Table 4 presents parallel regression analyses of suburb-to-city residential mobility. These analyses select mobility intervals originating in the suburbs, and examine the effects of the explanatory variables on the odds of moving out of the suburban tract of origin (columns 1–3) and, among those who move, the odds of moving to the central city rather than to a different suburban tract (columns 4–6).

As with mobility out of city tracts, life-cycle and socioeconomic variables are important predictors of moving out of suburban tracts. In the pooled model (column 1), intertract mobility declines with age (but at a decreasing rate) and years of school completed, and is significantly lower for families with young children, homeowners, and employed respondents. Families that moved the prior year and families with high incomes are more likely to leave the suburban tract. Among blacks, receiving public assistance reduces the likelihood of leaving the tract. Among whites, intertract mobility is significantly lower in the Northeast than in the West, but otherwise areal differences in suburban intertract mobility are not significant. Net of the other explanatory variables, the racial difference is not significant and there are few significant racial differences in the effects of the explanatory variables.

Again, the more theoretically relevant effects are given in columns 4–6, which contrast respondents who move to the central city with those who move within the suburban ring. One of the most important predictors is race: Conditional upon moving, black suburban movers are significantly more likely than white suburban movers to relocate to the city than to another suburban tract. None of the racial difference in suburb-to-city mobility can be explained by racial differences in the explanatory variables. The unadjusted conditional odds of blacks' moving to the city rather than moving within the suburban ring are over 1.5 times the corresponding odds for whites (from Table 1: $1.55 = [(0.045/.115)/(0.023/.091)]$); when the other explanatory variables are controlled, the odds for blacks actually increase to 3.71 times the white odds ($= e^{1.31}$).

Several other effects on the conditional likelihood of moving from suburb to city are also worth noting. The presence of older children and high family income retain subur-

ban movers in the suburban ring. Perhaps the inverse effect of children on crossing the city/suburb boundary—conditional upon moving—shown here and in Table 3 suggests a reluctance to transfer children to a different school or school district. Unexpectedly, among blacks, mobile homeowners are more likely than mobile renters to move to the central city rather than within the suburban ring. Among whites, household crowding increases the conditional likelihood of moving to the city.

While several of the coefficients for the central city-to-suburb ratio variables are significant, these effects tend to operate differently for blacks and whites. Relatively large black concentrations in the central city repel suburb-to-city mobility among blacks, but not among whites. This seems contrary to the place stratification model, which suggests that whites, more so than blacks, will avoid moving to cities that contain relatively large black concentrations. Among whites, high levels of central-city unemployment (relative to those in the suburban ring) significantly reduce suburb-to-city mobility (although the racial difference is not significant). Large central city populations, relative to the suburban ring, encourage white, but not black, suburb-to-city mobility. For blacks and whites, the conditional odds of moving from suburb to city are lower in large metropolitan areas. Coefficients for the regional dummies indicate significantly higher conditional rates of suburb-to-city mobility among whites in the West than in the Northeast. Again, this may reflect regional differences in preferences for neighborhoods of a particular racial or socioeconomic composition. Alternatively, these differences may stem from regional differences in the ecological structures of metropolitan areas, particularly the presence of nonblack minorities, that are not captured in the metropolitan-level measures.

As was true for central-city movers (Table 3), there is no evidence that black representation in the tract of origin influences the choice of destination among suburban white movers. The absence of such an effect suggests that black representation in suburban tracts rarely reaches a level that becomes threatening to whites (i.e., a tipping point), or that the higher socioeconomic status of suburban blacks, relative to central-city blacks, prompts a less negative reaction on the part of whites.

DISCUSSION AND CONCLUSION

Despite a vast literature on suburbanization in U.S. metropolitan areas, few studies have examined the patterns and determinants of residential mobility between cities and suburbs using a longitudinal, contextual design. We begin to fill this gap by appending information on census tracts and metropolitan areas of residence to the individual records in the 1979–1985 waves of the Panel Study of Income Dynamics. We use these data to test hypotheses derived from theoretical models of city-to-suburb and suburb-to-city residential mobility. While the results are somewhat mixed, in general some support is found for each of these models.

Consistent with the life-cycle perspective on residential mobility, the likelihood of moving between cities and sub-

TABLE 4. COEFFICIENTS FOR LOGISTIC REGRESSION OF RESIDENTIAL MOBILITY OF SUBURBAN-RING RESIDENTS ON SELECTED INDEPENDENT VARIABLES: U.S. METROPOLITAN AREAS, 1979-1985

Independent Variable	Move to a Different Tract vs. Remain in Same Tract			Move to Central City vs. Move to Other Suburban Tract		
	Pooled (1)	Blacks (2)	Whites (3)	Pooled (4)	Blacks (5)	Whites (6)
Black	-.02 (.14)	— (—)	— (—)	1.31** (.29)	— (—)	— (—)
Age	-.13** (.02)	-.08* (.04)	-.15** (.03)	-.06 (.04)	-.03 (.08)	-.05 (.05)
Age ²	.00** (.00)	.00 (.00)	.00** (.00)	.00 (.00)	.00 (.00)	.00 (.00)
Female	.21 (.13)	.15 (.24)	.25 (.15)	.15 (.22)	-.67 (.41)	†† .56* (.28)
Married	-.13 (.12)	.19 (.25)	-.24 (.14)	-.16 (.23)	.15 (.49)	-.32 (.30)
Number of Children Age 0-5	-.26** (.07)	-.13 (.12)	-.34** (.09)	-.06 (.15)	.02 (.23)	-.12 (.20)
Number of Children Age 6-17	.00 (.05)	-.01 (.08)	-.01 (.07)	-.29* (.12)	-.30 (.20)	-.33* (.15)
Homeowner	-1.12** (.11)	-1.05** (.25)	-1.06** (.12)	.73** (.24)	1.84** (.51)	† .45 (.29)
Persons Per Room	.22 (.14)	.06 (.21)	.39* (.18)	.54 (.29)	.28 (.39)	1.10* (.44)
Moved Last Year	.27** (.09)	.23 (.17)	.27* (.11)	-.16 (.21)	-.17 (.37)	-.20 (.27)
In Same House for 3 Years	.02 (.11)	.38 (.20)	† -.13 (.13)	-.17 (.24)	-.27 (.43)	-.13 (.32)
Years of School Completed	-.06** (.02)	-.09* (.05)	-.04 (.03)	.06 (.04)	.07 (.10)	.07 (.05)
Family Income (\$1,000)	.01** (.00)	-.01 (.01)	.01** (.00)	-.03** (.01)	-.05* (.02)	-.02* (.01)
Currently Working	-.24* (.11)	-.32 (.19)	-.19 (.14)	.03 (.23)	-.70 (.40)	.22 (.30)
Receiving Public Assistance	-.37 (.20)	-.52* (.26)	-.29 (.29)	.00 (.38)	.55 (.57)	-.41 (.49)
Percent Black in Tract of Origin	.00 (.00)	-.00 (.00)	.01 (.01)	-.01 (.01)	-.01 (.01)	-.03 (.02)
Percent in Poverty in Tract of Origin	-.01 (.01)	-.02 (.02)	-.01 (.01)	-.03 (.02)	-.02 (.02)	-.03 (.03)
City-to-Suburb Ratio of:						
Violent crime rate	.02 (.04)	-.03 (.06)	.03 (.03)	.09 (.09)	.17 (.13)	.09 (.06)
Population density	-.00 (.00)	.00 (.01)	-.00 (.00)	.00 (.01)	-.04 (.02)	† .00 (.01)
Unemployment rate	-.18 (.16)	.36 (.31)	† -.39 (.20)	-.33 (.36)	-.26 (.66)	-1.49** (.53)
Percent black	.00 (.01)	-.00 (.03)	.00 (.00)	-.02 (.03)	-.19* (.09)	† -.01 (.02)
Population size	-.00 (.06)	.15 (.11)	-.07 (.08)	.12 (.16)	-.41 (.29)	†† .68** (.23)

(continued on the next page)

(Table 4 continued from the previous page)

Independent Variable	Move to a Different Tract vs. Remain in Same Tract			Move to Central City vs. Move to Other Suburban Tract		
	Pooled (1)	Blacks (2)	Whites (3)	Pooled (4)	Blacks (5)	Whites (6)
MSA Population (Millions)	-.01 (.02)	.05 (.05)	-.02 (.03)	-.29** (.06)	-.31* (.12)	-.32** (.08)
Northeast	-.62 (.37)	-.47 (.47)	-.66** (.17)	-.78 (.73)	-.20 (.77)	-.86* (.43)
Midwest	-.19 (.33)	.25 (.40)	-.24 (.16)	-.56 (.68)	-.16 (.86)	-.42 (.38)
South	-.14 (.22)	-.10 (.28)	-.15 (.15)	-.75 (.42)	-.73 (.61)	-.70 (.36)
Constant	3.37** (.49)	1.97* (.92)	3.63** (.59)	.74 (.97)	3.76 (2.34)	1.00 (1.13)
Number of Mobility Intervals	7,635	1,503	6,132	1,022	280	742

Note: Numbers in parentheses are standard errors. West is the reference category for region.

† Race difference significant at $p < .05$.

†† Race difference significant at $p < .01$.

* $p < .05$; ** $p < .01$ (two-tailed tests)

urbs declines sharply with age and homeownership. In general, the presence of children deters mobility. Surprisingly, however, we find little evidence that, conditional upon moving and net of other factors, the presence of young children increases the probability that central-city residents will select a suburban location. Socioeconomic differences in city-suburb mobility are not entirely consistent, but generally conform to expectations. Net of other factors, education increases the probability that blacks (but not whites) will move from city to suburb while, for both races, income increases the likelihood of remaining in the suburbs rather than moving to the city.

Consistent with the place stratification model, however, patterns of residential mobility between cities and suburbs are sharply differentiated by race. Among those who move, blacks are significantly less likely than whites to move from city to suburb, and significantly more likely than whites to move from suburb to city. Little of these differences can be attributed to observed racial differences in sociodemographic, economic, or areal characteristics. Of course, these data do not allow us to explore directly the role of racial discrimination or in-group neighborhood preferences in creating these disparate mobility flows (Clark 1992), although the apparent willingness of blacks to move into racially balanced neighborhoods (Bobo and Zubrinsky 1996; Farley et al. 1994) suggests that such preferences cannot easily account for these differences. Future research might profit by explicitly incorporating measures of housing discrimination and neighborhood preferences in models of residential mobility. Moreover, the high rates of black mobility from suburbs to central cities lead us to recommend that, in addition to exploring reasons

for the low levels of mobility from city to suburb, research also focus on the reasons why so many blacks (among those at risk) move in the opposite direction. These moves could stem from experiences of racial tension and hostility in the suburbs, the desire to live closer to social-support networks in the city, or, more generally, a shift toward self-segregation among blacks (Bobo and Zubrinsky 1996).

We also observe effects that seem inconsistent with the place stratification model. We find no evidence that blacks are less able than whites to convert socioeconomic resources into a move from city to suburb. In fact, education has a significantly stronger positive effect on the conditional probability of moving from city to suburb among blacks than it does among whites. Yet, even highly educated blacks are substantially less likely than the least educated whites to leave a central city for a surrounding suburb. For example, using the equations in columns 5 and 6 of Table 3, and assuming the race-specific means of the other explanatory variables, the estimated annual conditional probability that a black respondent with 16 years of education will move from city to suburb is .076; the corresponding probability for a white with an eighth grade education is considerably higher—.167. Future research might explore this issue further by differentiating among the types of suburban communities to which blacks and whites migrate.

The place stratification perspective is also challenged by the absence of a net effect of the racial composition of the tract of origin on either whites' mobility incidence or on their destination propensities. Nor do we observe a significant influence of the racial composition of cities (relative to their suburbs) on city-suburb mobility among whites. These find-

ings are thus consistent with prior research that has failed to find strong evidence for “white flight.”

Finally, these results suggest clearly that, over and above the impact of individual characteristics, ecological features of metropolitan areas influence mobility between cities and suburbs. Relatively high violent crime rates in the city, for example, induce movement to the suburbs, but this effect is unexpectedly stronger among blacks than whites (Liska and Bellair 1995). The relative economic conditions of cities and suburbs also matter: High levels of unemployment in the city relative to those in the suburban ring increase black city-to-suburb mobility and reduce white movement in the opposite direction. The drawing power of suburban job opportunities on black city-to-suburb mobility implies that these jobs may be particularly suited to the occupational skills of central-city blacks. This suggests that future research explore further the impact of spatial mismatches on city/suburb population flows.

Regional differences in city/suburb mobility are also worth exploring. Even net of several controls, metropolitan areas in the West exhibit high rates of black city-to-suburb mobility and white suburb-to-city mobility, and these differences are not attributable entirely to higher overall rates of residential mobility in the West than in other regions. Comprehensive explanations for residential mobility between cities and suburbs must therefore include individual-level characteristics as well as features of the broader social and geographic context.

REFERENCES

- Adams, T.K. 1991. Documentation for 1970 and 1980 Census Extract Datasets. Ann Arbor, MI: Institute for Social Research, University of Michigan.
- Alba, R.D. and J.R. Logan. 1991. “Variations on Two Themes: Racial and Ethnic Patterns in the Attainment of Suburban Residence.” *Demography* 28:431–53.
- . 1993. “Minority Proximity to Whites in Suburbs: An Individual-Level Analysis of Segregation.” *American Journal of Sociology* 98:1388–427.
- Alba, R.D., J.R. Logan, and P.E. Bellair. 1994. “Living with Crime: The Implications of Racial/Ethnic Differences in Suburban Location.” *Social Forces* 73:395–434.
- Bobo, L. and C.L. Zubrinsky. 1996. “Attitudes on Residential Integration: Perceived Status Differences, Mere In-Group Preference, or Racial Prejudice?” *Social Forces* 74:883–909.
- Bye, B.V. and G.F. Riley. 1989. “Model Estimation When Observations Are Not Independent: Application of Liang and Zeger’s Methodology to Linear and Logistic Regression Analysis.” *Sociological Methods and Research* 17:353–75.
- Clark, W.A.V. 1992. “Residential Preferences and Residential Choices in a Multiethnic Context.” *Demography* 29:451–66.
- Farley, R. 1991. “Residential Segregation of Social and Economic Groups Among Blacks, 1970–1980.” Pp. 274–98 in *The Urban Underclass*, edited by C. Jencks and P.E. Peterson. Washington, DC: Brookings.
- Farley, R. and W.H. Frey. 1994. “Changes in the Segregation of Whites from Blacks During the 1980s: Small Steps Toward a More Integrated Society.” *American Sociological Review* 59:23–45.
- Farley, R., C. Steeh, M. Krysan, T. Jackson, and K. Reeves. 1994. “Stereotypes and Segregation: Neighborhoods in the Detroit Area.” *American Journal of Sociology* 100:750–80.
- Federal Bureau of Investigation. 1979–1981. *Uniform Crime Reports*. Washington, DC: U.S. Department of Justice.
- Frey, W.H. 1978. “Population Movement and City-Suburb Redistribution: An Analytic Framework.” *Demography* 15:571–88.
- . 1979. “Central City White Flight: Racial and Nonracial Causes.” *American Sociological Review* 44:425–48.
- . 1985. “Mover Destination Selectivity and the Changing Suburbanization of Metropolitan Whites and Blacks.” *Demography* 22:223–43.
- Frey, W.H. and F.E. Koblin. 1982. “Changing Families and Changing Mobility: Their Impact on the Central City.” *Demography* 19:261–77.
- Frey, W.H. and A. Speare. 1988. *Regional and Metropolitan Growth and Decline in the United States*. New York: Russell Sage Foundation.
- Fuguitt, G.V. and D.L. Brown. 1990. “Residential Preferences and Population Redistribution: 1972–1988.” *Demography* 27:589–600.
- Gramlich, E., D. Laren, and N. Sealand. 1992. “Moving Into and Out of Poor Urban Areas.” *Journal of Policy Analysis and Management* 11:273–87.
- Guterbock, T.M. 1976. “The Push Hypothesis: Minority Presence, Crime, and Urban Deconcentration.” Pp. 137–61 in *The Changing Face of the Suburbs*, edited by B. Schwartz. Chicago: University of Chicago Press.
- Hill, M.S. 1992. *The Panel Study of Income Dynamics: A User’s Guide*. Newbury Park, CA: Sage.
- Kasarda, J.D. 1988. “Jobs, Migration, and Emerging Urban Mismatches.” Pp. 148–98 in *Urban Change and Poverty*, edited by M.G.H. McGeary and L.E. Lynn. Washington, DC: National Academy Press.
- . 1989. “Urban Industrial Transition and the Underclass.” *Annals of the American Academy of Political and Social Science* 501:26–47.
- Landale, N.S. and A.M. Guest. 1985. “Constraints, Satisfaction and Residential Mobility: Speare’s Model Reconsidered.” *Demography* 22:199–222.
- Lee, B.A., R.S. Oropesa, and J.W. Kanan. 1994. “Neighborhood Context and Residential Mobility.” *Demography* 31:249–70.
- Liao, T.F. 1994. *Interpreting Probability Models: Logit, Probit, and Other Generalized Linear Models*. Thousand Oaks, CA: Sage.
- Liska, A.E. and P.E. Bellair. 1995. “Violent-Crime Rates and Racial Composition: Convergence Over Time.” *American Journal of Sociology* 101:578–610.
- Logan, J.R. and R.D. Alba. 1993. “Locational Returns to Human Capital: Minority Access to Suburban Community Resources.” *Demography* 30:243–68.
- Logan, J.R., R.D. Alba, and S. Leung. 1996. “Minority Access to White Suburbs: A Multiregional Comparison.” *Social Forces* 74:851–881.
- Logan, J.R., R.D. Alba, T. McNulty, and B. Fisher. 1996. “Making a Place in the Metropolis: Locational Attainment in Cities and Suburbs.” *Demography* 33:443–53.

- Logan, J.R. and M. Schneider. 1984. "Racial Segregation and Racial Change in American Suburbs, 1970-1980." *American Journal of Sociology* 89:874-88.
- Long, L. 1972. "The Influence of Number and Ages of Children on Residential Mobility." *Demography* 9:371-82.
- . 1988. *Migration and Residential Mobility in the United States*. New York: Russell Sage Foundation.
- Madigan, T.J. and D.P. Hogan. 1991. "Kin Access and Residential Mobility among Young Mothers." *Social Science Quarterly* 72:615-22.
- Marshall, H. 1979. "White Movement to the Suburbs: A Comparison of Explanations." *American Sociological Review* 44:975-94.
- Marshall, H. and K. O'Flaherty. 1987. "Suburbanization in the Seventies: The 'Push-Pull' Hypothesis Revisited." *Journal of Urban Affairs* 9:249-62.
- Massey, D.S. and N.A. Denton. 1987. "Trends in the Residential Segregation of Blacks, Hispanics, and Asians." *American Sociological Review* 52:802-25.
- . 1988. "Suburbanization and Segregation in U.S. Metropolitan Areas." *American Journal of Sociology* 94:592-626.
- . 1993. *American Apartheid*. Cambridge, MA: Harvard University Press.
- Massey, D.S., A.B. Gross, and K. Shibuya. 1994. "Migration, Segregation, and the Geographic Concentration of Poverty." *American Sociological Review* 59:425-45.
- McHugh, K.E., P. Gober, and N. Reid. 1990. "Determinants of Short- and Long-Term Mobility Expectations for Home Owners and Renters." *Demography* 27:81-95.
- Nathan, R.P. and C.F. Adams. 1989. "Four Perspectives on Urban Hardship." *Political Science Quarterly* 104:483-508.
- Nelson, K.P. 1988. *Gentrification and Distressed Cities: An Assessment of Trends in Intrametropolitan Migration*. Madison, WI: University of Wisconsin Press.
- Nelson, K.P. and J.G. Edwards. 1993. "Intra-Urban Mobility and Location Choice in the 1980s." Pp. 53-95 in *Housing Markets and Residential Mobility*, edited by G.T. Kingsley and M.A. Turner. Washington, DC: Urban Institute Press.
- Palen, J.J. 1995. *The Suburbs*. New York: McGraw-Hill.
- Rossi, P.H. 1955. *Why Families Move*. Beverly Hills: Sage.
- Sampson, R.J. and J.D. Wooldredge. 1986. "Evidence That High Crime Rates Encourage Migration Away from Central Cities." *Sociology and Social Research* 70:310-14.
- Schneider, M. and T. Phelan. 1993. "Black Suburbanization in the 1980s." *Demography* 30:269-79.
- Shlay, A.B. 1988. "Not in That Neighborhood: The Effects of Housing and Population on the Distribution of Mortgage Finance within the Chicago SMSA from 1980-1983." *Social Science Research* 17:137-63.
- Shlay, A.B. and P.H. Rossi. 1981. "Keeping Up the Neighborhood: Estimating Net Effects of Zoning." *American Sociological Review* 46:703-19.
- South, S.J. and G.D. Deane. 1993. "Race and Residential Mobility: Individual Determinants and Structural Constraints." *Social Forces* 72:147-67.
- Speare, A., Jr., S. Goldstein, and W.H. Frey. 1975. *Residential Mobility, Migration, and Metropolitan Change*. Cambridge, MA: Ballinger.
- Tiebout, C. 1956. "A Pure Theory of Local Expenditures." *Journal of Political Economy* 64:416-24.
- Tienda, M. 1991. "Poor People and Poor Places: Deciphering Neighborhood Effects on Poverty Outcomes." Pp. 244-62 in *Macro-Micro Linkages in Sociology*, edited by J. Huber. Newbury Park, CA: Sage.
- U.S. Bureau of the Census. 1982. *State and Metropolitan Area Data Book 1982*. Washington DC: U.S. Government Printing Office.
- Wilson, F.D. 1979. *Residential Consumption, Economic Opportunity, and Race*. New York: Academic Press.
- Winship, C. and L. Radbill. 1994. "Sampling Weights and Regression Analysis." *Sociological Methods and Research* 23:230-57.
- Yinger, J. 1995. *Closed Doors, Opportunities Lost: The Continuing Costs of Housing Discrimination*. New York: Russell Sage.