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[Persistent Discrimination in Residential Mobility between Cities and Suburbs: Flight from Minority Suburbs Succeeds Flight from Minority Cities]

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I dedicate this paper to my thesis adviser Professor Olney.

I am infinitely grateful for your guidance.

Thank you for all the support you gave me this past year, your encouraging words and patience.

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Thanks again.

Persistent Discrimination in Residential Mobility between Cities and Suburbs:

Flight from Minority Suburbs Succeeds Flight from Minority Cities

Introduction.

Suburbanization has long been associated with upward social mobility. Suburbs generally have lower crime rates and offer more public services of better quality than their urban counterparts, thus providing more benefits and advantages to their residents. In contrast, cities are experiencing urban decay due to out-migration to the suburbs, the decline of industrial activity, and increases in crime. According to urban economic theory, household sorting occurs: households tend to sort themselves into neighborhoods of persons with similar income, education, and race. Household sorting results in poorer, less educated, and ethnic minority individuals living in urban areas such that these residents' characteristics lead to the concentrated problems of cities. At the same time, urban decay reinforces these city residents' lower socio-economic status with more exposure to crime, fewer opportunities for job networking, and scarce public services. Since there is a significant imbalance between suburban and urban neighborhoods, it is important to study movement from cities to suburbs and vice versa.

Although suburbanization has become widespread because of the traditional view that suburbs are superior to their urban counterparts, I also examine migration flows from the suburbs to the city. Some have argued that the traditional suburb has disappeared as the problems of the central city move to the suburbs with the migrants (Katz 2009), which may encourage movement in the opposite direction. Recent migration trends to the city have increased, prompting studies on the types of people moving to the city and the reasons for this reverse movement. For example, gentrification—or the restoration of decaying cities by entering higher income

residents—has led many suburban households to relocate to the city. Some praise the revitalization of deteriorated cities whereas others condemn gentrifiers for increasing house prices and standards of living that effectively displace low-income and minority households from their urban homes. Gentrification demonstrates that movement from the suburbs to cities can have substantial consequences. Additionally, between 2000 and 2006, eight of the 50 largest cities saw their proportions of whites increased as young whites move to city for job opportunities, now being dubbed “bright flight” (Dougherty 2008). These migration trends show that studying the movement from suburbs to cities in addition to suburbanization is not only relevant, but important.

This paper examines the main factors in these migration decisions and whether there are differences by race. Controlling for income, education, and family background does an individual's racial or ethnic identity influence their residential location? I look at discrepancies between non-Hispanic whites, non-Hispanic blacks, Hispanics, and Asians. Acknowledging that Hispanic is an ethnicity and not a race, I will use the term “race” in reference to these four groups for simplicity. The three minority groups may face possible discrimination and prejudice in housing or job markets that prevent them from moving to the suburbs, leading to segregation within metropolitan areas. For the purposes of this paper, I refer to segregation, or the residential separation of different racial and ethnic groups, as the result and not the cause of migration. Additionally, the geographical differences between races may be merely due to dissimilarities in behavior instead of discriminatory treatment. But before speculating the possible reasons for differences in migration between urban and suburban areas, I first use statistical methods to determine whether significant differences by race actually occur.

The racial identity of others close by may also influence residential outcomes so I study

whether the racial composition of a city or suburb encourages migration to a suburb or city respectively. In this paper, racial composition denotes the population percentage of each race living in a specific area. While intolerance of racism has become widespread, many still believe that whites flee neighborhoods with growing minority residents—a phenomenon called white flight. Others have also highlighted minority flight or the phenomenon of minority households moving out of neighborhoods with increasing white or other out-group residents. Moreover, some argue that minorities cluster by choice, seeking neighbors with similar racial and ethnic backgrounds. Most studies analyze racial flight and segregation on a neighborhood level, and find that neighborhood racial composition influences a household's decision to live there (Massey & Denton 1993, Clark 1991, Pais et al. 2009). I look instead at the racial composition of entire cities and suburbs. If households flee neighbors of certain race, then they may move from a city or suburb to avoid interaction with out-group individuals at school, work, or local restaurants and stores. Cities and suburbs are large enough geographic regions to incorporate more people they often meet and see outside of the few blocks around their home. Plus, their residents and business venues are distinct such that one's image of the city and the suburb is different. My study is precisely interested in the effects of this image in addition to race on migration between cities and suburbs. As racial composition continues to be a major factor in a household's decision to move, complete integration and thus race relations will fail to improve.

Racial composition of metropolitan areas has evolved with recent immigration of Hispanic and Asian households, possibly affecting migration trends between urban and suburban areas. Immigrants from Latin America and Asia comprise about 80 percent of the nation's foreign-born population in 2007 compared to 20 percent in 1970. It is thus pertinent to include Hispanics and Asians in the usual white-black analysis of migration in order to tease out any

significant differences in racial migration. I define the term “racial migration” as different patterns of residential movement by race. Racial migration between cities and suburbs may also change as more and more immigrant and minority households reside in the suburbs. Upon arrival to the U.S., many immigrants have begun to immediately settle in the suburbs instead of the traditional ethnic enclaves in the city. Furthermore, waves of minorities originally residing in the city have suburbanized in the last few decades. The majority of racial minorities thus currently live in the suburbs despite the fact that the suburbs are still mainly white. In 2009, more than half of the nation’s foreign-born residents live in major metropolitan suburbs whereas one-third lives in large cities (Frey et al. 2009). Certain metropolitan areas even have a majority of racial and ethnic minorities such as Los Angeles, Oakland, San Jose, Houston, San Antonio, Miami, and New York City. In light of these recent demographic changes, do the general sentiments of out-group members change so that racial composition is a factor in a household’s migration decision?

Literature Review.

Racial migration and segregation have been the focus of many economists' and sociologists' research. In urban economic theory, cities and suburbs have differences in characteristics and roles. The role of cities is to provide an environment for creation and innovation, learning, trade and lower production costs, variety of consumption goods, labor pooling, and information sharing. But once households in the city gain higher incomes, and there are lower commuting costs and changing job locations, they suburbanize. Throughout this paper, “suburbanization” indicates the movement from cities to suburbs and not necessarily new construction in the suburbs. As the wealthier households suburbanize, we see income segregation where the poorer households remain in the city which has more expensive land due to high density urban populations and buildings. However, the simple monocentric model states that a

household chooses the location where land costs and commuting costs have the best trade-off. Theory thus suggests that the income elasticity of housing is greater than the income elasticity of commuting costs, leading the middle and upper classes to live farther away from the central city. Some studies present empirical evidence that shows the income elasticity of demand for housing is very similar to the income elasticity of commuting cost (Wheaton 1977). More recent studies, however, defend the idea that higher incomes foster suburbanization (Anas et al. 1998). Furthermore, since suburban housing is generally newer and therefore more expensive, low-income households cannot afford to purchase homes in the suburbs. Zoning laws that seek to protect single-family, owner-occupied homes also exclude value-reducing development such as apartment buildings. Suburban zoning thus limits opportunities for low-income households to suburbanize. Alternatively, many studies find that the unfavorable characteristics of the central city are the push factors in suburbanization. The traditional role of the suburbs has been simply to provide better amenities such as cleaner streets, better schools, and newer houses. As a result of all these factors, households sort themselves by income such that the more affluent live in the suburbs and the less well-off live in the central city.

However, segregation or household sorting happens with respect to race as well as income. Racial segregation has many different explanations. First, blacks and Hispanics tend to have lower incomes than whites and Asians so income segregation naturally leads to racial segregation. However, income cannot explain the extent of racial segregation that exists since many black households of similar incomes and family types as suburban whites continue to live in the city (Gabriel & Rosenthal 1989, Kain 1985, Sternlieb & Lake 1975). In this study, I control for income to distinguish whether racial identity substantially influences one's migration decisions. Second, racial segregation may be intentional, because people have preferences for

their neighborhood's racial composition (Becker 1971, Kain 1985, Clark 1991). These preferences may be due to prejudice against other races (Massey & Denton 1993) or the wish to live near individuals of the same race (Clark 1991, Patterson 1997). For instance, in areas where the majority of blacks, Hispanics, and Asians live, there is greater segregation as minorities create or intensify ethnic enclaves (Logan 2001), illustrating segregation by choice. Third, racial discrimination in the real estate market may also help explain racial segregation. Some brokers provide inferior services to minorities, only showing houses in certain neighborhoods to minority clients (Yinger 1998)—a practice called racial steering. In addition, realtors of the same race may simply have the best knowledge of areas with same-race residents. Although discrimination may persist in the housing market, in this study, I focus on the first two explanations for household sorting between urban and suburban areas: racial differences and individual preferences for the racial composition of their residential area.

There are two main theories in sociology that describe racial migration and segregation: spatial assimilation and place stratification. Spatial assimilation states that socio-economic progress and acculturation allow minorities to integrate with the white majority in the suburbs. Instead of moving to neighborhoods with higher concentrations of their ethnic group, minorities tend to migrate to predominantly white suburbs once they gain higher socio-economic status (Hwang & Murdock 1998). Additionally, a sign of acculturation for immigrants is English language proficiency, which has a strong positive effect on suburbanization (Alba & Logan 1991). However, the rise of suburban ethnic enclaves allows immigrants to avoid acculturation and immediately settle in the suburbs, discrediting this aspect of the traditional spatial assimilation model (Alba et al. 1999). On top of the many studies that support spatial assimilation for Hispanics and Asians, there is evidence that spatial assimilation does not apply

to blacks as higher socio-economic status fails to fully account for blacks' residential outcomes (Alba & Logan 1993, Massey & Denton 1993, Massey & Fischer 1999). Spatial assimilation thus ignores any racial aspect in suburbanization.

In contrast, place stratification theory argues that existing prejudice and discrimination at the individual and institutional levels restrain the mobility of disadvantaged groups. Through surveys of hypothetical neighborhoods with different racial makeups, sociologists have found that all racial groups prefer both integration and same-race neighbors. These results still vary: whites have the largest preference for same-race neighbors and blacks have the smallest while the most preferred out-group is whites and the least preferred out-group is blacks (Farley et al. 1978, Bobo & Zubrinsky 1996). Family characteristics such as the presence of married couples and young children encourage suburbanization, but this effect is smaller for blacks, Mexicans, and Puerto Ricans, suggesting discriminatory influences (Alba & Logan 1991). This paper examines the possibility of discrimination and thus place stratification in migration decisions between cities and suburbs. To do so I determine whether migration patterns between metropolitan areas significantly differs by each race. Furthermore, in dprobit regressions for the likelihood of migration, I include variables for the racial composition of a household's original city or suburb to discover whether individual level discrimination against certain racial groups encourages migration and thus segregation within metropolitan areas.

Studies show that the effects of racial segregation are harmful, especially to minority groups. Differences in migration patterns by race can easily lead to racial segregation between the city and suburbs as certain races tend to move or stay with same-race households. Resulting racial segregation has substantial adverse effects. Blacks in more segregated areas have significantly worse outcomes in educational attainment, employment, and single parenthood than

blacks in less segregated areas (Cutler & Glaeser 1997). Although cities do not necessarily have negative effects on its residents, segregated areas are generally in the city where the concentration of poverty prevents the upward social mobility for urban residents who are often racial minorities (Massey & Denton 1993). Not only do racial migration and segregation adversely affect individuals, but they can also affect entire cities. These segregated cities tend to have higher rates of joblessness, school drop-outs, more violence, and lower average wages, forcing families to endure greater stress. The negative effects of segregation demonstrate the importance of studying racial migration and illustrate the different consequences of a city or suburb's racial composition.

To explain racial segregation, economists and sociologists have studied one particular migration phenomenon known as “white flight,” but have come to mixed conclusions. Many studies have shown that white suburbanization increases as the total population of minorities in the city grows (Alba & Logan 1991). Specifically, during the black migration from the South to northern cities from 1940 to 1970, each black arrival in a Northern city led to 2.7 white departures from the city to the suburbs despite rises in suburban housing prices (Boustan 2010). Research using more recent data presents evidence that white flight continues today. As more and more minorities enter traditionally white neighborhoods, whites flee to avoid becoming a minority in their own neighborhood (Logan & Zhang 2010). In this study, I not only examine the influence of an area's racial composition on the likelihood of moving, but I also look at the possibility that whites leave minority suburbs to return to the city.

Despite the vast literature that supports white flight many other studies attempt to disprove its occurrence. Some find that whites are not fleeing negative city characteristics like civil disobedience, crime, or the black population, but instead suburbanize because of suburban

attractions such as new housing (Marshall 1982). Furthermore, once rent differentials, fiscal surplus differentials, and the location of poor families are accounted for, racial composition does not seem to be a factor in a household's decision to move (Bradford & Kelejian 1973). Both the racial composition of the tract of origin and of destination do not affect whites' probability of moving. Alternatively, urban crime and unemployment rates encourage suburbanization and prevent migration to the city (South & Crowder 1997). Frey (1979) argues that the racial composition of the city combined with ecological factors of urban decline such as fiscal level, tax rates, and the suburbanization of employment have substantially raised white suburbanization. So even though racial and nonracial factors significantly affect destination choice, they do not necessarily influence their decision to move, disputing the term "white flight." In this paper, I test white flight by looking at whether increases in a minority group's share of a household's original city or suburb influences the decision to move to a suburb or city respectively.

In addition to white flight, researchers analyze the migration patterns of minorities and the phenomenon of "minority flight." Minorities may flee neighborhoods with large white populations in fear of discriminatory behavior or even violence against them (Charles 2006). Moreover, certain cities with natural amenities or cities undergoing urban renewal attract white in-migration, displacing minorities (Zukin 1987, Freeman 2005). This process of gentrification increases property taxes and raises rents, pushing minorities to move out of their urban homes (Logon & Molotch 1987). Hwang and Murdock (1998) find that blacks, Hispanics, and Asians are more likely to settle in white neighborhoods. They also find that whites avoid areas with a high minority population while Asians avoid areas with a high black population. However, Hwang and Murdock consider the racial composition of a household's final destination, whereas

my study focuses on the racial composition of the original location and its effects on migration outcomes.

Although there is a lack of literature on Asian flight, a few studies examine “Latino flight.” Fairlie (2002) demonstrates that when the black student population increases in public schools, Latino students move to private schools. Pais, South, and Crowder (2009) further examine Latino flight, separating Hispanics into different ethnicities. They present evidence for both white flight and minority flight when comparing the likelihood of neighborhood out-migration between Anglos, blacks, Mexicans, Puerto Ricans, and Cubans. Although Cubans move out when there are more blacks, Mexicans and Puerto Ricans are actually less likely to move when their neighbors are more likely to be black. Additionally, blacks are the least likely to move because of neighborhood ethno-racial composition. Pais et al. show that different racial and ethnic groups have different preferences for their neighborhood’s racial composition. This paper hopes to extend their findings by study racial migration patterns between whites, blacks, Hispanics, and Asians and their response to changes in the racial make-up of their city or suburb.

Specifically studying racial migration between cities and suburbs is also imperative because of their considerable inequalities. Many argue that the negative city characteristics push households to suburbanize. These characteristics include old housing, inferior education, and fiscal problems with relatively high tax rates (Bradbury et al. 1982). Cullen and Levitt (1999) demonstrate that higher crime rates afflict cities, where city crime rates do not affect the number of new arrivals, but increase out-migration to the suburbs. Some research suggests that the suburbs are becoming more like the city, inheriting their functions and problems. Possible sources of this shift are the expansion of transportation and communication (Birch 1975) and the widespread suburbanization of households (Birch 1975, Katz 2009). Older studies demonstrate

the large inequalities between suburban and urban areas that encourage suburbanization, whereas more recent studies disagree on whether these disparities still exist. Through summary statistics, I confirm that household heads in the city on average have lower socio-economic standing than their suburban counterparts.

Research has shown that suburbanization differs by race and ethnicity. Socio-economic variables tend to have smaller effects for whites on the likelihoods of moving to the suburbs, whereas they are significant for minority households (Alba & Logan 1991). For instance, education level is a larger factor for black suburbanization than white migration. Blacks, but not whites, with higher education are more likely to move to the suburbs (South & Crowder 1997). A Los Angeles study shows that rises in real income, an available housing supply, and a lessening of discrimination practices lead to the suburbanization of blacks and Mexican-Americans (Siembieda 1975). Socio-economic effects and discrimination characterize the differences in suburbanization trends among minority and white households. Moreover, blacks are even less likely to suburbanize and more likely to move from the suburbs to the city (South & Crowder 1997). This paper hopes to update these previous studies on racial migration between metropolitan areas with more recent data and additional race-ethnic categories.

Data and Samples.

I use 1980, 1990, and 2000 Census data from the Integrated Public Use Microdata Series (IPUMS). IPUMS was created by the Minnesota Population Center at the University of Minnesota in order to collect and harmonize Census and American Community Survey (ACS) data from 1850 to the present. IPUMS is nationally representative, but only provides samples of the Census and ACS. Specifically, I extracted data from the 1980 1% Metro Sample, the 1990 1% Metro sample, and the 2000 5% sample. The 1980 and 1990 samples are 1-in-100 national

random samples of the U.S. population whereas the 2000 sample is a 1-in-20 national random sample. The metro samples privilege metropolitan area identification over state identification, which means state information is suppressed whenever state and metropolitan areas together identify areas smaller than a population of 100,000. All data is microdata as opposed to aggregate data so that each respondent has corresponding variables with their personal information. Another advantage to using IPUMS is that it includes supplementary uniform variables to reconcile the differences across samples and years and provide better comparability.

The geographic identifiers I adopt for this study are metropolitan area, central city, and suburb. The U.S. Census Bureau defines a metropolitan area as a core area with a large population nucleus combined with adjacent communities that have a high degree of economic and social integration between the nucleus and communities. The nucleus is the central city, or the largest city within the metro area. Some metropolitan areas have more than one central city. The metro area must contain a population of at least 100,000, and the central city has 50,000 people or more. For the purposes of this paper, the definition of “city” is the central city. The area within the metro, but outside of the central city is considered the suburbs. Metropolitan status indicates whether an individual is in a metropolitan area, and if so, whether they are in the central city or outside the central city. A setback in using these geographic classifications is that there are many unknown or unidentifiable observations, which may not be random. Furthermore, many metropolitan areas are only partially identified in the samples. However, Census data is not only the best available data for my study, but is also the most commonly used data for studying migration patterns.

Other geographic units that I use to represent cities and suburbs are county groups and the Public Use Microdata Area (PUMA). In the 1990 and 2000 sample, PUMAs are different in

different years, but generally follow the boundaries of central cities, metropolitan areas, or non-metropolitan places. When these areas have more than 200,000 residents, they are divided into PUMAs of 100,000 or more residents. For 1980, instead of PUMAs, the smallest geographic identifier is county group. It also has a population of at least 100,000 and may consist of actual counties, a single county, city, or other Census places (separate or combined). It identifies most metropolitan areas with 100,000 plus residents, which frequently cross state lines. For the majority of cases, PUMA and county group boundaries were drawn so that the metropolitan area would completely overlap with one or more PUMAs. Although there are clear flaws in these geographic units with inexact comparability, they are the only available data that distinguishes metro areas and cities, and provides information on the racial composition within metro areas.

Empirical Strategy and Measures.

My two dependent variables describe movement strictly between urban and suburban areas. Migration from the central city to the suburb is represented as a dummy variable *city2suburb*, where 1 indicates a person who reports living in a central city five years prior and is currently residing in a suburb, and 0 indicates otherwise. This study also explores the more recent situation of suburbanites returning to the city. The other dependent variable *suburb2city* denotes this converse movement, where 1 indicates a person who reports living in the metro area, but outside the central city five years prior and is currently living in the city, and 0 indicates otherwise. Note that these variables account for movement throughout these five years so households that move in 1995 from a city to a suburb are grouped with households that move in 1997. I do not restrict the variables to movement within the same metro area because moving from one city to a suburb in a different metro area is still suburbanization in the sense that households may move from a city to a suburb in order to benefit from suburban characteristics.

More importantly, movement from city to suburbs and vice versa may also demonstrate the growth or decay of the traditional booming city or the conventional affluent suburbs whose differences directly impact their residents.

The dependent variables *city2burb* and *burb2city* do not represent all residential migration, because they do not consider movement from a city to another city or from a suburb to another suburb, or even movement from rural regions to the metro area. Therefore *city2burb* and *burb2city* will not precisely illustrate all cases of “flight,” where households relocate to escape adverse conditions or certain surrounding racial compositions. However, I do include independent variables that represent the percentage of each minority racial group in the original county group or PUMA. If these racial composition variables have positive and significant effects on the dependent variables, then the regression results will support the idea of racial flight—specifically flight to and from cities and suburbs.

I start with an analysis of the importance of race on migration outcomes. Without any control variables, I run a dprobit regression for both dependent variables on only the race independent variables to determine whether race significantly affects migration between urban and suburban areas.

$$city2burb = f(black, hispanic, asian, racother)$$

$$burb2city = f(black, hispanic, asian, racother)$$

The race dummy variables *black*, *hispanic*, *asian*, and *racother* highlight any differences in the likelihood that particular racial group will move relative to the omitted white majority group. Here, “Asians” also include Hawaiians and Pacific islanders in accordance with the political group definition. The dummy variable *racother* combines Native Americans, mixed race individuals, and “other race” respondents. I include *racother* in all the regressions so that the

interpretation of the other race coefficients will be read as relative to the white group instead of the white and “other” group. However, this “other race” group is very small, and I do not include them in my analysis. I am only interested in the differences and interactions among the four major racial-ethnic groups: non-Hispanic whites, non-Hispanic Blacks, Hispanics, and Asians.

I restrict the data to household head responses who reported as living in a central city or suburb 5 years prior. I only look at household heads, because each household head represents one household, and I want to find differences in residential situations not just population changes. For the *city2suburb* regression, I also limit the sample to all respondents living in the central city five years ago regardless if they moved or not, because I want to see how likely any city resident will migrate to the suburbs. Similarly, for the *city2suburb* regression, I limit the data sample to all respondents living in the suburb five years ago. Moreover, to study changes over time, I run the regression for 1980, 1990, and 2000 data so that I capture migration from 1975 to 1980, 1985 to 1990, and 1995 to 2000.

Then I add control variables and run the following dprobit regression to see if region or household characteristics can explain the effects of race on suburbanization:

$$city2suburb = f(race, region, household\ characteristics)$$

where *region* represents the eight dummy variables for each census region, omitting the East North Central since it had the largest population in 1980. The East North Central region consists of Wisconsin, Michigan, Illinois, Indiana, and Ohio. These region variables control for differences in migration trends among the nine census regions.

Household characteristics are a large variety of control variables related to life course changes of a household that I believe may influence residential mobility. I include the age of the household head, expecting a positive coefficient since younger people tend to be more mobile.

There may also be differences between sexes so I add a dummy variable for sex, where 1 indicates male. Since the data is restricted to only household heads, the women in the sample are most likely not married with a present spouse. Therefore marital status may largely affect house location decisions. Homeownership is another important factor in residential decisions, which I control for through a mortgage dummy variable and house values. The housing value variables I include are interaction variables between current house value and race. When I only incorporated house value, it acted as a proxy for race since the two were highly correlated.

Related to (but not necessarily correlated with) house value is income, where higher incomes provide more opportunities to move. I use family total income instead of household income or any other income variable, because usually income is only shared amongst family members and not necessarily with non-family members living in the same house. Furthermore, the number of people in a household likely influences residential outcomes so I control for family size, the number of families in each house, and the number of generations in the household. The presence of children and their age also affects migration choices. I add controls for the number of children and the ages of youngest and eldest child in the house, where more children, especially younger children, encourages suburbanization.

I also account for the education attainment of the household head with multiple dummy variables for different levels of schooling, omitting high school graduates. Another dummy variable indicates 1 for if the person is unemployed, but not by the definition of the government. In my study, a person is considered unemployed if they do not have a job, but is currently looking for work, regardless of how long they have been out of work or whether they are considered to be in the labor force. If a respondent is employed, I also control for their job location with two dummy variables: one dummy that is a 1 if their place of work is in the central

city, and another dummy that is a 1 if their place of work is in the metro area, but outside the central city. Generally people like to minimize their commute times and will live closer to their jobs. These control variables demonstrate the factors households emphasize in their decision to migrate.

To reflect immigrant experiences, I control for English speaking ability, linguistic isolation, and years in the U.S. The dummy variable *speakeng* is a 1 if the respondent speaks only English, or speaks English “very well” or “well.” Linguistic isolation refers to whether a household has no person age 14 or older who speaks only English at home or if all persons age 14 or older speaks a language other than English at home and does not speak English “Very well.” The dummy variables for years in the U.S. are separated in intervals of 5 years where natives are omitted. These variables may show the importance of acculturation in residential outcomes.

Additionally, I regress the movement from suburbs to cities on race, region, and household characteristics to examine whether the same factors in suburbanization, especially race, affect migration to the city.

$$burb2city = f(race, region, household characteristics)$$

Other than the dependent variables, the only difference between this regression and the previous *city2burb* regression is the sample restriction. Here, I look at only respondents identified as living in the metro area, but outside the central city 5 years before the Census year. Although the sample size may not be smaller, the number of movers to the city is much smaller than the number of movers to the suburbs. However, I expect to see an increase in the quantity of new city dwellers in the more recent years due to the bright flight phenomenon, possible gentrification, and black return to urban areas.

To analyze the phenomenon of racial flight, I regress the two migration dependent variables over the same independent variables plus the racial composition of the original city or suburb. I add the percent of each minority race in the original county group or PUMA and interaction variables between these percentages and each race, omitting white.

$$city2urb = f(race, region, household characteristics, citypercent_{race}, \\ citypercent_{race} * race)$$

$$urb2city = f(race, region, household characteristics, suburbpercent_{race}, \\ suburbpercent_{race} * race)$$

To create these new variables I collapse the variable for the PUMA (county group for the 1980 sample) five years prior on each race. Collapsing attaches the numbers of people in each race found in a respondent's PUMA (county group) to the respondent. As previously discussed, the PUMA and county group boundaries generally follow the boundaries of central cities and metropolitan areas. Although these new variables do not provide exact numbers of a city or suburb racial makeup, they are the closest available data to serve as a substitute measure. The variables that describe the percentage of race in a PUMA or county group include the percentage of all the minority groups and “other race,” but omit the white population share. These percentages represent the proportion of that race in the respondent’s city or suburb they were living in five years prior to the Census year. By omitting the white variables, the coefficients of the race percentage variables thus estimate how the racial composition of a household's PUMA or county group affects whites’ migration decisions. The interaction terms depict the differences in preferences of the racial composition for each racial group relative to the omitted white group. Again, the “other race” variables are only included for statistical purposes so I do not interpret their coefficients.

I run the same dprobit regressions without the county group or PUMA race percentage variables but instead with the interaction terms, including the interaction with whites.

$$city2burb = f(race, region, household\ characteristics, citypercent_{race} * race)$$

$$burb2city = f(race, region, household\ characteristics, suburbpercent_{race} * race)$$

The coefficients on these interaction terms show the overall effect of changes in the racial composition on each race, not just relative to whites. However, the coefficients for race, region, and household characteristics do not change from the previous regression results that include the city/suburb race variables. These results combined with the results of the previous regression illustrate the changes in migration patterns by race due to the racial makeup of the surrounding residential location, or essentially, race relations manifested in migration trends.

Descriptive Analysis.

It is valuable to first present descriptive statistics before reporting the outcomes of these probit regressions. Table 1 displays descriptive statistics on the differences among household heads living in the cities and suburbs by education, average unemployment, and mean income. Cities have lower shares of household heads with high school degrees, college degrees, and slightly lower shares with higher degrees. The 1980 education variable did not distinguish between earning a bachelor's degree or higher so I combined all respondents who have four or more years of college schooling under the “% College Degree” column. The unemployment rate has always been at least 1 percentage higher in urban areas than in suburban areas. This imbalance is particularly concerning since it is not the overall unemployment rate, but the percent of household heads who are unemployed. When the household head does not earn any wage or salary, the entire household is disadvantaged. The differences in mean family income are even more striking. Suburban families have much higher incomes on average, earning \$10,000

Table 1. Characteristics of Household Heads Overtime						
	Sample Size	% Only High School degrees	% College Degree	% Higher Degrees	% Unemployed	Mean Family Income
1980						
Cities	208,800	26.9%	18.9%	-----	4.3%	\$ 17,486
Suburbs	295,814	30.7%	21.6%	-----	3.2%	\$ 22,630
1990						
Cities	149,915	23.2%	14.5%	9.7%	4.2%	\$ 34,343
Suburbs	260,767	26.8%	16.4%	10.2%	2.6%	\$ 44,960
2000						
Cities	739,946	22.8%	16.9%	11.1%	4.0%	\$ 49,072
Suburbs	1,482,075	25.9%	18.5%	11.8%	2.3%	\$ 66,203

more than their city counterparts in 1990 and an extra \$17,000 in 2000. Over the last few decades, the average city household heads appears to be worse off than the average suburban household head. Relative to household heads in the suburbs, those in the city are more likely to be less educated, without a job, and poorer. It is therefore important to understand any racial differences in migration patterns between cities and suburbs to determine whether certain racial groups prefer living in the city despite the higher likelihood of lower socio-economic status and living near others of lower socio-economic status.

Table 2a provides information on the racial makeup of the sample cities and suburbs compared to the entire country from 1975 to 2000. Throughout the years, the suburbs have larger shares of the white population and much smaller shares of the black population than the overall U.S. racial composition. Starting in the 1990s, whites have become the minority in the central cities. The share of suburban blacks has yet to significantly exceed the national percentage of blacks whereas their city percentage is continually at least 15 percentage points greater. Blacks have thus always been disproportionately represented in the city. Although the percentage of Hispanic suburban residents has grown two-fold from 1980 to 2000 so has the percentage of

Table 2a. Comparison of Demographics within Metro Areas						
	1975	1980	1985	1990	1995	2000
U.S. racial distribution						
% White	-----	79.6%	-----	77.8%	-----	70.9%
% Black	-----	11.6%	-----	10.2%	-----	10.9%
% Hispanic	-----	6.5%	-----	8.4%	-----	12.0%
% Asian	-----	1.6%	-----	2.7%	-----	3.4%
Cities						
% White	66.3%	60.4%	55.5%	51.3%	43.9%	43.8%
% Black	21.5%	24.4%	22.2%	22.7%	28.1%	25.3%
% Hispanic	9.8%	11.9%	16.8%	19.4%	17.6%	21.6%
% Asian	2.0%	2.9%	4.9%	5.9%	7.3%	6.1%
Suburbs						
% White	88.3%	85.9%	83.6%	80.6%	77.5%	72.6%
% Black	5.4%	6.0%	5.8%	6.5%	9.9%	8.2%
% Hispanic	4.7%	5.8%	7.2%	8.7%	6.9%	12.2%
% Asian	1.1%	1.8%	2.9%	3.7%	3.6%	4.6%

Hispanic urban residents. With a consistent 10% difference between the city and suburb percentages of Hispanic residents, Hispanics are more likely to live in urban areas. Another interesting observation is that the overall U.S. proportion of Hispanics exceeds that of blacks in the year 2000, strongly suggesting the need for more research on the experiences of this growing ethnic group. Asians are somewhat more likely to be city dwellers, but their presence in the suburbs has steadily increased such that there is only a 1-2 percentage point difference in their share in the city and suburb populations. The large minority shares in the city show that minorities, especially blacks and Hispanics, are concentrated in urban areas, which have less educated residents, higher unemployment, and lower average incomes. But because whites are still the majority in the city during the earlier sample years, it is unclear whether race is associated with lower socio-economic status or urban status.

Additionally, Table 2b presents statistics on the percentage of each racial group in the original location who migrated. For example, between 1995 and 2000, 27.3% of the whites living

in the city moved to the suburbs while only 5.6% of all the white suburban residents migrated to the city. In all three time periods, whites have had the highest share of their urban population suburbanize and the lowest share of their suburban population relocate to the city relative to all other races.

Table 2b. Percent of Each Race that Migrate			
	1975-1980	1985-1990	1995-2000
Originally in city and moved to suburb			
% of Whites	19.6%	16.8%	27.3%
% of Blacks	7.4%	8.3%	17.9%
% of Hispanics	12.8%	11.4%	14.8%
% of Asians	20.1%	16.2%	24.5%
Originally in suburb and moved to city			
% of Whites	5.3%	2.8%	5.6%
% of Blacks	10.2%	6.4%	11.7%
% of Hispanics	8.2%	6.8%	8.2%
% of Asians	9.3%	6.2%	12.4%

Furthermore, whites continue to have an advantage over minorities since they have higher rates of suburbanization and lower rates of moving back to the city. From 1985 to 1990, all three minority groups had similar percentages of their suburban residents moving to the city. Although black suburbanization has increased over time, blacks have high percentages of their suburban population leaving the suburbs to live in the city. Hispanics have had similar migration patterns throughout these years with about 6-8% of the Hispanic suburban residents migrating to the city and 11-15% of their city population suburbanizing. Out of all three minority groups, Asians have consistently had the largest shares of their urban population move to the suburbs, similar to white suburbanization. Unlike whites, Asians also have fairly large proportions of their suburban population who relocate to the city. These preliminary findings suggest that migration patterns between cities and suburbs vary by race. This paper will later examine whether these migration rates illustrate racial flight.

Multivariate Analysis of Migration from City to Suburbs.

Focusing just on migration from the city to the suburbs, I first establish that significant differences by race exist. Table 3 shows the probit regression estimates with only the race dummy variables, omitting the white group. To clarify, the data illustrates migration anytime between 1975 to 1980, 1985 to 1990, and 1995 to 2000. Throughout these time periods, the suburbanization trends of blacks, Hispanics, and Asians all significantly differ from the omitted whites and from each other. Each coefficient is statistically significant, except for the coefficient on the Asian dummy variable in the 1990 sample.

Table 3. Significance of race in migration from city to suburb (Sample=household heads living in the city 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	-.1111*** (.0020)	-.0722*** (.0018)	-.0877*** (.0026)
Hispanic	-.0506*** (.0031)	-.0392*** (.0022)	-.1153*** (.0029)
Asian	.0172** (.0078)	.0066 (.0044)	-.0252*** (.0046)
Other Race	.0188 (.0147)	-.0084 (.0106)	-.0794*** (.0059)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level
standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	125, 692	153,008	118,215
R ² =	0.021	0.0117	0.0146

After confirming that race plays an important role in suburbanization, I add control variables to see if other characteristics can explain these racial differences. Table 4 displays the regression results for the race variables and some of the included control variables. The full results can be found in the Appendix. As previously discussed, these controls include region, education attainment, marital status, presence of children, immigrant status, etc. The control variables only explain the migration trends from city to suburbs for Asians in the 1980 sample

since only the coefficient on the Asian variable loses its statistical significance. Between 1975 and 1980, Asians therefore do not significantly differ from whites in their likelihood to suburbanize.

Table 4. Determinants of migration from city to suburb (Sample=household heads living in the city 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	-.1246*** (.0044)	-.0817*** (.0030)	-.1241*** (.0087)
Hispanic	-.0743*** (.0080)	-.0366*** (.0051)	-.0398*** (.0235)
Asian	.0361 (.0296)	-.0048 (.0102)	-.0370** (.0156)
<i>Household Head Characteristics</i>			
Married, spouse absent	-.0118 (.0182)	-.0049 (.0112)	-.0678*** (.0166)
Separated	.0071 (.0131)	-.0116 (.0074)	-.0779*** (.0138)
Divorced	.0020 (.0083)	-.0069 (.0044)	-.0780*** (.0088)
Widowed	.0037 (.0096)	-.0012 (.0055)	-.0197 (.0129)
Single	.0091 (.0114)	-.0223*** (.0040)	-.1015*** (.0079)
Unemployed	.0399*** (.0113)	.0080 (.0073)	.0178 (.0159)
Works in city	.1111*** (.0135)	-.0053** (.0025)	-.0312*** (.0056)
Works in suburb	.1528*** (.0052)	.1397*** (.0053)	.3175*** (.0074)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level
standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	51,253	81,377	45,290
R ² =	0.168	0.1452	0.1028

Controls for Other Race, Census region, age, sex, age at first marriage (only for 1980), mortgage status, house value, family income, household size, family size, number and age of children, education level, English-speaking ability, linguistic isolation (not for 1980), and years in the U.S. are included. Full results in Appendix Table A1.

Throughout the years, blacks and Hispanics, however, are less likely to migrate out of the city than whites. Blacks are consistently the least likely to suburbanize since the coefficient for blacks is negative and greater than the other race coefficients, statistically significant at the 1% level. Similarly, the coefficient for Hispanics is negative and statistically significant at the 1% level across the years. Since the regression includes many control variables such as education

and income, these resulting coefficients suggest that the racial difference in migration from cities to suburbs is based mainly on race—whether the treatment or behavior of a certain race or ethnicity. Historically, blacks and Hispanics have experienced discrimination in the housing market, preventing them from moving into suburban neighborhoods, which are predominantly white (Massey & Denton 1993, Yinger 1995). In the credit market, these two minority groups may face prejudice and are less likely to obtain loans or mortgages for suburban residences (Jackson 1994, Munnell et al. 1996). This type of adversity does not seem to affect the Asian city population from moving to the suburbs in the earlier years. Asian suburbanization was just as likely as white suburbanization, until 1995, when they were less likely than whites to suburbanize. In the 2000 sample, the Asian coefficient is negative and statistically significant at the 1% level. Even in more recent times, whites continue to be the most likely to suburbanize without any barriers.

In contrast to economic theory, urban job location have unexpected mixed effects across the years. Economic theory states that one major factor in residential outcomes is job location since people prefer living closer to their workplace in order to minimize commute time (O’Sullivan 2003). However, Table 4 shows that household heads with a city job in 1980 were likely to have migrated from the city, away from their current workplace, statistically significant at the 1% level. After 1980, city workers are less likely to suburbanize since the negative effect in the 1980 sample later becomes positive. Suburbanization within 1975 to 1980 was so prominent that even those with jobs in the city were more likely to move to the suburbs. Another possible explanation for this positive relationship is that any job, whether in the city or suburb, provides the financial means to suburbanize.

However those unemployed in 1980 were also more likely to have moved from the city to

the suburbs, contradicting previous research. Literature on residential mobility predicts that unemployment reduces the probability of out-migration (Pais et al. 2009, Crowder 2000). However, it is important to note the time period. After World War II and especially in the 1970s, both people and jobs were rapidly suburbanizing (Muller 1981). The suburbanization of jobs encouraged the unemployed to leave the city and search for work in the suburbs. In the later samples, job status becomes a non-factor in migration outcomes. The coefficient for the unemployed is not statistically significant in the 1990 and 2000 sample years. Suburbanization was once the dominant trend in the late 1970s, but unemployment became a non-factor in later years while working in the city discouraged recent in-migration.

Marriage status does not appear to matter in the 1980 sample, but does in other samples, which further emphasizes the hype of suburbanization in the late 1970s. Unmarried household heads are just as likely as married household heads to move out of the city and into the suburbs from 1975 to 1980. In the 1980 sample, none of the dummy variables for marital status are significant. Since 1985, single household heads are less likely to move to the suburbs than married couples with present spouses. Starting from the 1990 sample, the coefficient for single status is negative and statistically significant. Not only do married couples have more financial stability with two possible income earners in the household, but they also generally move to the suburbs to settle down and start a family. These results correspond to past research on residential mobility (Pais et al. 2009). Furthermore, the other marital situations represent having been married at least once, so the individual may have moved to the suburbs when their spouse was still present, thus producing insignificant coefficients. Like the unexpected effects of unemployment and city workplace on suburbanization between 1975 and 1980, the insignificance of marital status in the 1980 sample illustrates the widespread preference for the

suburbs over the city in this earlier time period.

Adding the racial composition variables does not largely change the effects of demographics and socio-economic factors on a household's decision to suburbanize, but they do change the significance of race. Again, racial composition refers to the proportions of each race or ethnic group living in a certain area, not the race of the respondent. Table 5 displays the regression results after including variables for the racial composition of the original country group (for 1980) or PUMA (for 1990 and 2000) and interaction terms between these racial composition variables and every race variable, omitting whites. Here, the original country group or PUMA represents the city that a household lived in initially, five years before the Census year. Including these new variables changes some of the coefficients and significance of the race dummy variables, showing that the racial makeup of the initial city explains some of the differences by race. The race coefficients in the 1980 sample changed only slightly so blacks and Hispanics are still less likely to suburbanize than whites and Asians. When considering the city racial makeup, the negative relationship between blacks and suburbanization strengthens, especially in the 1990 and 2000 samples as the magnitude of the black coefficient increases. At the same time, the coefficient for Hispanics becomes insignificant in the 1990 sample, and positive and statistically significant at the 10% level in the 2000 sample. From 1985 to 1990 and 1995 to 2000, Asians are the most likely out of all the racial and ethnic groups to move from the city to the suburbs. In the 1990 and 2000 sample years the coefficient for Asians becomes positive and significant at the 1% level. The racial composition variables add significance and change the sign of the original race variables, illustrating the importance of the racial composition variables in migration analysis.

The city racial composition affects a household's likelihood of moving from the city to

Table 5a. Dprobit determinants of migration from city to suburb including racial composition of original country group (1980) or PUMA (1990, 2000)

(Sample=household heads living in the city 5 years before Census)

Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	-.1288*** (.0052)	-.1174*** (.0048)	-.2332*** (.0344)
Hispanic	-.0853*** (.0105)	.0117 (.0201)	.1125* (.0678)
Asian	.0070 (.0346)	.1791*** (.0569)	.2038*** (.0736)
<i>Racial composition (Percent white omitted)</i>			
Percent black	.0033*** (.0002)	.0093*** (.0003)	.0013 (.0010)
Percent Hispanic	.0016*** (.0002)	.0015*** (.0002)	.0006 (.0005)
Percent Asian	.0029*** (.0004)	.0148*** (.0008)	.0053*** (.0021)
<i>Interactions (Percent white omitted)</i>			
Percent black by			
Black	-.00097*** (.0003)	.0031*** (.0006)	.0053** (.0024)
Hispanic	.0013* (.0008)	-.0029*** (.0008)	-.0067** (.0030)
Asian	.0017 (.0011)	-.0032*** (.0012)	-.0047 (.0033)
Percent Hispanic by			
Black	.0029*** (.0006)	.0021*** (.0008)	-.0038*** (.0009)
Hispanic	.00006 (.0005)	.0034*** (.0005)	.0006 (.0013)
Asian	-.0019* (.0011)	.0005 (.0006)	-.0048*** (.0015)
Percent Asian by			
Black	.0049 (.0030)	.0021 (.0027)	-.0282*** (.0044)
Hispanic	.0008 (.0015)	-.0072*** (.0018)	-.0041 (.0059)
Asian	-.0033*** (.0007)	-.0031 (.0020)	-.0121* (.0068)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level
standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	51,253	81,377	45,290
R ² =	0.1849	0.2242	0.1127

Controls for Other Race, Census region, age, sex, marital status, age at first marriage (only for 1980), mortgage status, house value, family income, household size, family size, number and age of children, education level, English-speaking ability, linguistic isolation (not for 1980), years in the U.S., and place of work are included. Full results in Appendix Table A2.

Table 5b. Dprobit determinants of migration from city to suburb including racial composition of original country group (1980) or PUMA (1990, 2000) (Sample=household heads living in the city 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	-.1288*** (.0052)	-.1174*** (.0048)	-.2332*** (.0344)
Hispanic	-.0853*** (.0105)	.0117 (.0201)	.1125* (.0678)
Asian	.0070 (.0346)	.1791*** (.0569)	.2038*** (.0736)
<i>Interactions</i>			
Percent black by			
White	.0033*** (.0002)	.0093*** (.0003)	.0013 (.0010)
Black	.0024*** (.0003)	.0124*** (.0006)	.0067*** (.0022)
Hispanic	.0046*** (.0008)	.0064*** (.0008)	-.0053* (.0029)
Asian	.0050*** (.0011)	.0061*** (.0012)	-.0033 (.0032)
Percent Hispanic by			
White	.0016*** (.0002)	.0015*** (.0002)	.0006 (.0005)
Black	.0045*** (.0006)	.0037*** (.0007)	-.0033*** (.0008)
Hispanic	.0017*** (.0005)	.0050*** (.0004)	.0012 (.0013)
Asian	-.0003 (.0011)	.0020*** (.0023)	-.0042*** (.0014)
Percent Asian by			
White	.0029*** (.0004)	.0148*** (.0008)	.0053*** (.0021)
Black	.0078*** (.0030)	.0169*** (.0025)	-.0229*** (.0040)
Hispanic	.0037** (.0015)	.0077*** (.0017)	.0012 (.0056)
Asian	-.0004 (.0006)	.0117*** (.0019)	-.0068 (.0066)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level
standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	51,253	81,377	45,290
R ² =	0.1849	0.2242	0.1127

Controls for Other Race, Census region, age, sex, marital status, age at first marriage (only for 1980), mortgage status, house value, family income, household size, family size, number and age of children, education level, English-speaking ability, linguistic isolation (not for 1980), years in the U.S., and place of work are included. Full results in Appendix Table A3.

the suburb, supporting the theory of white flight. The racial composition variables in Table 5a equal the white interaction terms in Table 5b. These coefficients show that white flight from all minority groups is prevalent in the earlier decades, but from 1995 to 2000, whites tend to only flee cities with a larger Asian presence. In both the 1980 and 1990 sample years, increases in the

percentage of each minority population in the city raises the likelihood that a white household relocates to the suburbs. These positive coefficients are all statistically significant at the 1% level. From 1975 to 1980, growth in their city's black population was the largest driving racial factor in their decision to move to the suburbs. The coefficient of the percentage of blacks in the county group has the largest magnitude in the 1980 sample. Increases in the city's Asian and Hispanic populations during this time also encourage migration to the suburbs, but less so. Hispanic population growth generates the lowest response. Whites in the 1990 sample were more likely to have migrated to the suburbs than whites in the 1980 sample with corresponding increases in the city percentages of both blacks and Asians. However, the Asian population share in the city is a larger push factor in white flight than the black share. The coefficients for the percent black and percent Asian are larger in the 1990 sample than in the 1980 sample, and the magnitude of the percent Asian coefficient surpasses the percent black coefficient. Furthermore, from 1995 to 2000, white households appear to only consider the share of Asian city residents in their decision to suburbanize. The percent black and percent Hispanic coefficients become insignificant whereas the percent Asian coefficient remain positive and statistically significant at the 1% level.

Like white households, minority households including blacks tend to leave the city for the suburbs as the city black share increases. To compare the effects between the four main racial groups, the interaction terms in Table 2a indicate the effects of minority population shares in the city on each race relative to the omitted white majority. For the overall directional effect of certain minority populations on each group's propensity to move, I look at the sign and significance of the interaction variables in Table 2b. So from 1975 to 1980, growth in the black population share in the city encourages blacks to relocate to the suburbs (.0024), but less so than

whites (-.00097). Hispanics are more likely to move out of the city than whites with increases in the city black percentage, significant at the 10% level. From 1985 to 1990, blacks are actually the most likely to suburbanize as the black population share in the city rises where the coefficient .0031 is the only positive interaction term with percent black in the 1990 sample of Table 2a. With increases in the black city share, Hispanics (-.0029) and Asians (-.0032) are less likely to move than whites, but are still likely to relocate to the suburbs (.0064, .0061). White and Asian suburbanization do not significantly differ in the 2000 sample, and the urban black proportion does not affect either group's residential outcomes. However, black city residents continue to prefer escaping increasing black percentages in the city and living in the suburbs. The interaction term between percent black and black is positive and significant in both regressions. In contrast, Hispanics are actually more likely to not have moved to the suburbs if their city's black share is larger. At first, flight from growing black proportions in the city is common among all households, but in the more recent 2000 sample, only black households flee predominantly black cities.

Similarly, I find general flight from rising Hispanic shares in the city, but this effect subsides in the 2000 sample. In both the 1980 and 1990 sample years, blacks are more likely than whites to move when Hispanic residents make up more of the city population, statistically significant at the 1% level. Like the blacks' response to increases in their own race's share in the city, Hispanics are more likely to move due to a rise in the Hispanic city share (.0050), even compared to whites in the 1990 sample (.0034). From 1975 to 1980, Asians are the only group to not be significantly affected by larger proportions of Hispanics in the city since the interaction between percent Hispanic and Asian in Table 2b is statistically insignificant. However, in the 1990 sample, Asians along with all other households leave cities with growing Hispanic

population shares where Hispanics are the most likely to move. In Table 2b, all the interaction variables with percent Hispanic for the 1990 sample are positive and statistically significant at the 1% level. In Table 2a, the coefficient for the interaction between percent Hispanic and Hispanic is the largest positive interaction term in the 1990 sample. This racial flight from Hispanics during 1985 to 1990 is later reversed. From 1995 to 2000, as their city's Hispanic proportion rises, black and Asian households are less likely to suburbanize while white and Hispanic households are unaffected. Looking at table 2b, the interaction variables between percent Hispanic and black, and then Asian, are negative and statistically significant at the 1% level. The interaction variables between percent Hispanic and white, and then Hispanic, are insignificant. This recent turnaround may demonstrate more widespread acceptance of the growing Hispanic population, offering more optimism for race relations today.

Blacks, Hispanics, and whites tend to leave the city as the share of Asian city residents increases, but this effect only persists for whites. Growing shares of the Asian city population increase the likelihood of suburbanizing, but this effect is only statistically significant in the 1980 and 1990 samples. In these two samples, the interaction terms between percent Asian and all other races are positive and significant except for the one caveat between percent Asian and Asian in the 1980 sample, which is insignificant (Table 2b). Yet white flight from cities with greater Asian population shares is persistent throughout the years. As the proportion of Asian residents in the city increases, suburbanization from 1995 to 2000 continues to be more likely for white households, but becomes less likely for black households. Unlike blacks, Asians do not consistently flee their own race. The coefficient between percent Asian and Asian in Table 2b is insignificant in the 1980 and 2000 samples. The Asian population share in the city is negligible in their own race's propensity to have left the city for the suburbs.

To summarize, migration patterns from the city to suburbs significantly differ by race despite controlling for region, socio-economic factors, and household characteristics. Black and Hispanic households are less likely to leave the city for suburbia, supporting the place stratification theory and illustrating the discriminatory practices in the housing and credit markets (Massey & Denton 1993, Yinger 1995, Jackson 1994, Munnell et al. 1996). Yet, suburbanization during 1975 to 1980 was so prominent that even household heads working in the city or without employment were more likely to migrate from the city to the suburbs, regardless of marital status. Furthermore, a household's propensity to migrate depends on the racial composition of the original city. Including racial composition variables enhances our understanding of a household's likelihood to have suburbanized. Asians are the most likely to suburbanize as the Asian coefficient sign becomes positive and significant for the 1990 and 2000 samples (Table 5a). All households are more likely to move with increases in the percent of each minority group in the city, demonstrating racial flight. But in 2000, only white flight from cities with larger Asian population shares continues. Black and Hispanic households are more likely to suburbanize as the city percentage of their own race rises, and even more so than whites in some years. However, black flight from black cities is prevalent in all three time periods, whereas Hispanic flight from Hispanics disappears in the recent 2000 sample. At the same time, increases in the Asian share of the original city push whites to move to the suburbs, but keeps blacks in the city. Although racial flight from cities is not as prevalent as before, preferences for more integrative and racially diverse cities are not widespread.

Multivariate Analysis of Migration from Suburbs to City.

In-migration from the suburbs to the city may not be as common as suburbanization, but equally valuable to study. Urban poverty is twice the rate of poverty outside central cities while

city crime rates are much higher and educational achievement are much lower (O'Sullivan 2003). Since cities are generally worse off, I want to examine the characteristics of those who choose to live there. Table 6 presents the results from the probit regression of the likelihood to move from a suburb to a city including only race dummy variables. Like suburbanization, migration trends in the opposite direction, from suburb to city, varies by race. Relative to whites, each minority group in the city is more likely to have recently moved from the suburbs. Throughout the years, the coefficient for each race variable is positive and statistically significant at the 1% level.

Table 6. Significance of race in migration from suburb to city			
Dprobit regression			
(Sample=household heads living in the city 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	.0552*** (.0038)	.0361*** (.0023)	.0634*** (.0023)
Hispanic	.0405*** (.0041)	.0438*** (.0025)	.0276*** (.0026)
Asian	.04995*** (.0086)	.0416*** (.0039)	.0724*** (.0041)
Other Race	.0329*** (.0119)	.0105 (.0072)	.0664*** (.0053)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level
standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	147,358	219,583	244,222
R ² =	0.0063	0.0127	0.0137

Some of these racial differences can be explained by income, education, employment, among other household characteristics. After adding these control variables as shown in Table 7, the Hispanic and Asian coefficient become insignificant in the 1980 sample, and the Asian coefficient becomes insignificant in the 1990 sample as well. From 1985 to 1990, Hispanic households are more likely to relocate to the city relative to whites and Asians. From 1995 to

2000, all three minority groups have higher propensities to migrate to the city than whites. Throughout the years, blacks have the highest propensity to move from the suburbs to the cities, statistically significant at the 1% level. These results complements the findings in Table 2b that show blacks have the highest percentage of their suburban population that migrates to the city.

Table 7. Determinants of migration from suburb to city (Sample=household heads living in the suburb 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	.0153*** (.0056)	.0077*** (.0024)	.0464*** (.0050)
Hispanic	.0025 (.0046)	.0029* (.0017)	.0136*** (.0044)
Asian	.0024 (.0083)	.0005 (.0021)	.0290*** (.0065)
<i>Job status</i>			
Unemployed	-.0057*** (.0018)	.0049*** (.0018)	.0130*** (.0036)
Works in city	-.0090*** (.0014)	.0160*** (.0011)	.0668*** (.0025)
Works in suburb	-.0180*** (.0008)	-.0014*** (.0005)	-.0112*** (.0009)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level
standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	84,488	166,249	141,623
R ² =	0.1509	0.1591	0.1338

Controls for Other Race, Census region, age, sex, marital status, age at first marriage (only for 1980), mortgage status, house value, family income, household size, family size, number and age of children, education level, English-speaking ability, linguistic isolation (not for 1980), and years in the U.S. are included. Full results in Appendix Table A3.

Unemployment and place of work have opposite effects on migration to the city, but work in the same direction as the suburbanization regression results. In 1980, unemployed household heads were more likely to have suburbanized (Table 4) and less likely to have relocated from the suburbs to the city (Table 7). The unemployed stay in the suburbs as jobs suburbanize, and the widespread preference for a suburban living environment is at its peak in the late 1970s (Muller 1981). The coefficient for unemployment is negative and statistically significant, which is

surprising considering the lower rates in the suburbs shown in Table 1. At the same time, preferences for suburban residence subdue any preference for shorter commute times and living near one's workplace (O'Sullivan 2003). Both household heads who work in the suburbs and those who work in the city are less likely to move from the suburbs to the city. In the 1980 sample, place of work in the city has a negative effect on migration from suburb to city, statistically significant at the 1% level. However, in the subsequent time periods, the unemployed and employed with a city job have higher propensities to have relocated to the city, significant at the 1% level. Unemployment was most likely not the driving factor in a household's decision to move from the suburbs to city. Instead, they probably became unemployed after moving since cities have higher rates of unemployment (Table 1) and unemployment tends to suppress residential mobility (Pais et al. 2009, Crowder 2000). The positive relationship between city jobs and migration to the city in the 1990 and 2000 samples confirms economic theory that states workers prefer to live closer to their jobs in order to minimize commute time (O'Sullivan 2003).

The suburban racial composition explains most of the racial differences in migration from suburbs to cities. Table 8 displays the *suburb2city* regression results that include the racial composition of the original county group or PUMA and interaction terms. Blacks had the highest propensity to relocate to the city from the suburbs across the years, but this trend in the 1980 and 1990 sample can actually be explained by the suburban racial composition. Initially, the coefficients for black are positive and significant at the 1% level for all three migration periods. But after the racial composition variables are introduced, the black coefficient is only positive and significant in the 2000 sample. From 1995 to 2000, like blacks, Asians are also more likely than whites to migrate from the city to suburbs. In the 1980 sample, Hispanics are more likely than whites, blacks, and Asians to have left the suburbs for urban homes, statistically significant

**Table 8a. Dprobit determinants of migration from suburb to city
including racial composition of original county group (1980) or PUMA (1990, 2000)**

(Sample=household heads living in the suburb 5 years before Census)

Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	.0037 (.0050)	-.0028 (.0032)	.1485*** (.0336)
Hispanic	.0718*** (.0236)	.0068 (.0068)	.0158 (.0175)
Asian	-.0092 (.0039)	.0003 (.0048)	.0715*** (.0348)
<i>Racial composition (Percent white omitted)</i>			
Percent black	-.0012*** (.00007)	-.0013*** (.00008)	.0004*** (.0001)
Percent Hispanic	-.0001** (.00006)	-.0002*** (.00005)	-.00008 (.00010)
Percent Asian	-.0002 (.0002)	.0016*** (.0002)	-.0001 (.0004)
<i>Interactions (Percent white omitted)</i>			
Percent black by			
Black	.0009*** (.0001)	.0009*** (.0003)	-.0025*** (.0004)
Hispanic	-.0028*** (.0005)	.0002 (.0003)	-.0007 (.0006)
Asian	.0010** (.0004)	.0008*** (.0003)	-.0005 (.0006)
Percent Hispanic by			
Black	-.0010*** (.0003)	.0002 (.0002)	.0022*** (.0003)
Hispanic	-.0004*** (.0001)	.0003** (.0001)	.0014*** (.0005)
Asian	.0007** (.0003)	.0005*** (.0002)	.0006 (.0004)
Percent Asian by			
Black	.0007 (.0006)	.00007 (.0006)	.0011 (.0011)
Hispanic	-.0005 (.0006)	-.0009** (.0004)	-.0009 (.0015)
Asian	.00007 (.0002)	-.0015** (.0006)	.0001 (.0017)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level
standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	84,488	166,249	141,623
R ² =	0.1714	0.1907	0.1365

Controls for Other Race, Census region, age, sex, marital status, age at first marriage (only for 1980), mortgage status, house value, family income, household size, family size, number and age of children, education level, English-speaking ability, linguistic isolation (not for 1980), years in the U.S., and place of work are included. Full results in Appendix Table A5.

Table 8b. Dprobit determinants of migration from suburb to city including racial composition of original county group (1980) or PUMA (1990, 2000) (Sample=household heads living in the suburb 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	.0037 (.0050)	-.0028 (.0032)	.1485*** (.0336)
Hispanic	.0718*** (.0236)	.0068 (.0068)	.0158 (.0175)
Asian	-.0092 (.0039)	.0003 (.0048)	.0715*** (.0348)
<i>Interactions</i>			
Percent black by			
White	-.0012*** (.00007)	-.0013*** (.00008)	.0004*** (.0001)
Black	-.0003** (.0001)	-.0004 (.0003)	-.0022*** (.0003)
Hispanic	-.00398*** (.0005)	-.0012*** (.0002)	-.0004 (.0006)
Asian	-.0002 (.0004)	-.0005** (.0002)	-.0001 (.0006)
Percent Hispanic by			
White	-.0001** (.00006)	-.0002*** (.00005)	-.00008 (.0001)
Black	-.0012*** (.0003)	.00009 (.0002)	.0021*** (.0003)
Hispanic	-.0005*** (.0001)	.0001 (.0001)	.0013*** (.0005)
Asian	.0005** (.0003)	.0004* (.0002)	.0005 (.0004)
Percent Asian by			
White	-.0002 (.0002)	.0016*** (.0002)	-.0001 (.0004)
Black	.0004 (.0006)	.0017*** (.0006)	.0009 (.0010)
Hispanic	-.0008 (.0006)	.0007* (.0004)	-.0011 (.0015)
Asian	-.0001 (.0001)	.00009 (.0006)	-.00001 (.0017)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level

standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	84,488	166,249	141,623
R ² =	0.1714	0.1907	0.1365

Controls for Other Race, Census region, age, sex, marital status, age at first marriage (only for 1980), mortgage status, house value, family income, household size, family size, number and age of children, education level, English-speaking ability, linguistic isolation (not for 1980), years in the U.S., and place of work are included. Full results in Appendix Table A6.

at the 1% level. Only three statistically significant positive coefficients for the minority race variables do not provide substantial evidence for the place stratification model.

Like suburbanization, suburban racial composition influences migrations to the city, but the effects vary over time. Table 8a illustrates which groups are more or less likely than whites to

migrate due to changes in a minority percent. Table 8b supplements these results and displays the overall effects of changes in the racial make up for each race. As seen in Table 8b, from 1975 to 1980 and 1985 to 1990, increases in the percentage of black and Hispanic suburban residents actually reduce a household's propensity to migrate out of the suburb to the city. These negative relationships dispute the theory of racial flight, and instead suggest that suburban households prefer living in more integrated areas. However, from 1985 to 1990, households were not as accepting of growing Asian shares in the suburbs. An increase in the percentage of Asians in the original suburb raises the likelihood that whites, blacks, and Hispanics migrated from the suburbs to the city, statistically significant. The preference for more integrated suburbs disappears in the 2000 sample where increases in the black suburban share encourage white households to relocate to the city. Moreover, larger proportions of Hispanics in the suburbs push blacks and Hispanics to migrate from the suburbs to the city. The only common trend in the 2000 sample with the previous time periods is black preference for suburbs with greater black population shares.

In general, increases in the black population share in the suburbs encourage households to remain in the suburbs until white flight appears in the 2000 sample. Table 8a shows that from 1975 to 1980, blacks are actually more likely than whites to move as the percent of blacks in the suburb rises (.0009), but Table 8b illustrates that blacks are overall less likely to move (-.0003). Hispanics are the least likely to migrate from the suburb to city whereas Asians are the most likely to move with increases in the suburban black share. Yet, the overall effect of the suburban black share on an Asian household's propensity to move to the city is insignificant. From 1985 to 1990, blacks are the most likely to move with increases in the suburban black share, but overall, the effect is insignificant unlike the negative and significant effects for the three other races.

Again, these negative effects imply a widespread preference for more diverse living environments such that suburbs with greater black population proportions are more likely to keep their residents from moving to the city. However, from 1995 to 2000, this preference for larger percentages of black residents is only found in black suburban households. Increases in the black suburban share do not affect Hispanic and Asian residential outcomes and actually push whites to migrate from the suburbs to the city, illustrating possible white flight.

As the Hispanic population share rises in the suburbs, the propensity to move to the city decreases except for Asian households. From 1975 to 1980, blacks and Hispanics are less likely than whites to move out from suburbs with increasing Hispanic proportions, but the overall effects for blacks, Hispanics, and whites are still negative. Like the negative effects of the suburban black share, these negative relationships illustrate a preference to live in more integrated suburbs where a growing Hispanic population adds diversity. In contrast, Asians seems to flee these same suburbs. An increase in the suburban Hispanic percentage has a total positive effect on Asians' likelihood of migration to the city that is statistically significant in the 1980 and 1990 sample years. In the 1990 sample, blacks and whites have similar preferences for the Hispanic share in the suburbs, whereas growth in the percent Hispanic discourages suburban whites to relocate to the city, statistically significant at the 1% level. Despite this earlier absence of white flight from more Hispanic suburbs, from 1995 to 2000, increases in the suburban Hispanic share raise the propensity for blacks and Hispanics to move from the suburbs to cities. Additionally, whites and Asians do not largely consider the Hispanic share in their migration decisions. The optimistic outcomes of preferences for integration in the earlier time periods fade by the mid-90s.

There are no large dissimilarities in responses to the growth of the suburban Asian

proportion, and only in the 1990 sample does the percent of Asians significantly affect migration from the suburbs to city. Most of the interaction terms between the Asian percent and the different racial groups are insignificant over the years. From 1985 to 1990, when a suburb contains a larger Asian share, Hispanics and Asians are less likely than whites and blacks to migrate out of that suburb to the city, statistically significant at the 5% level. But overall, rising Asian proportions in the suburbs encourage white, black, and Hispanic suburban households, to relocate to the city. In the 2000 sample, the Asian percentage does not significantly influence migration from the suburbs to the city for all households since the interaction variables with percent Asian in Table 2b become insignificant.

Although cities have higher poverty and crime rates, many households choose to leave their suburban homes for city life. Migration from suburbs to city significantly differs by race, but the differences for Hispanics and Asians can be partially explained by regional, demographic, and socio-economic characteristics. Including the suburban racial composition further accounts for some of the racial differences in residential movement from suburbs to cities. In the 2000 sample, blacks and Asians have higher propensities to choose living in the city over the suburbs. Contradicting the theory of racial flight, larger proportions of blacks and Hispanics in the suburbs discourages suburban households from relocating to the city in the 1980 and 1990 samples. Yet, there is evidence in support of racial flight. Increases in the percent of Asians in the suburbs in the 1990 sample and increases in the percent of blacks in the 2000 sample raises the likelihood a household migrates from the suburbs to city. Furthermore, larger Hispanic shares in the suburb raises the propensity of Asian households to relocate to the city in the 1980 and 1990 sample years and the propensity of black and Hispanic households to move in the 2000 sample. Meanwhile, black households prefer remaining in suburbs with larger black percentages, which

may suggest preferences for self-segregation and clustering with same-race households.

Compared to suburbanization, there are less racial differences in migration trends out of the suburbs over the years, but the racial composition of the original location acts as a push factor in both directions.

Conclusion and Discussion.

Given the vast inequalities between central cities and suburbs and the adverse effects of segregation on the individuals and surrounding area, it is important to examine whether there are substantial racial differences in the migration between the suburbs and city that contribute to household sorting. Furthermore, I study whether the racial makeup of the original city or suburb is a driving force in residential mobility. Using data from the 1980, 1990, and 2000 Census I find that there are significant differences in migration patterns by race and that racial composition of the original residential location is important in understanding these patterns.

Regional, demographic, and socio-economic controls explain some but not all of the racial differences in migration between cities and suburbs. Black households are still less likely to suburbanize possibly due to prejudice in the housing and credit markets, which would confirm the place stratification theory (Massey & Denton 1993, Yinger 1995, Jackson 1994, Munnell et al. 1996). However, Asians have the highest propensities to relocate from the city to the suburbs, even greater than white suburbanization rates suggesting little discrimination that hinder their migration outcomes. At the same time, Asians along with blacks are also more likely to move from the suburbs to the city between 1995 and 2000. Overall, Asians are the most mobile. Despite higher urban crime and poverty, blacks are not only more likely to stay in the city, but they are also the most likely group to choose to migrate into the city.

The racial composition of the initial city or suburb substantially influences a household's

migration outcomes. The racial composition variables are not only statistically significant, but they also change the effects of race, illustrating their importance in understanding residential mobility. The dprobit regression results that including these racial composition variables provide evidence for racial flight, but the effects differ throughout the years. As the percent of each minority group in the city grows, the propensity to suburbanize increases regardless of race. However, this effect weakens over time and in the 2000 sample, only changes in the percent of urban Asians encourages white flight from the city to the suburbs. Similarly, larger shares of Asian residents in the suburbs encourage households to relocate to the city from 1985 to 1990. From 1995 to 2000, there is evidence of flight from increasingly black areas as white households are more likely to move away from the suburbs to the city if their suburb experiences growing black shares. In the 1980 and 1990 sample years, larger Hispanic population proportions in the suburbs push Asian households to migrate out of the suburbs and into the city. Furthermore, increases in the percentages of Hispanics in the suburbs also encourage suburban black households to relocate to the city in the 2000 sample. These results depict racial flight from suburbs with greater minority shares, suggesting racial tensions in America's growing suburbs.

Despite this multitude of evidence for racial flight, I did find more optimistic results of preferences for integration or more diverse residential locations. In the 1980 and 1990 samples, increases in the black and Hispanic population share of the suburbs actually reduce the odds that households move out of the suburbs to the city. In the 2000 sample, Hispanics are less likely to have migrated out of cities with larger blacks percentages. Moreover, increases in the percent of Hispanics in the city also discourage both black and Asian households from suburbanizing. Lastly, as the percent of Asians in the city rises, the likelihood for black households to leave the city and move to the suburbs falls. Overall, there is less flight from minorities in the city, but

flight from minorities in the suburbs has developed.

Among minorities, I find evidence for both flight from same-race households and preference for living near same-race households, depending on their original location. Black and Hispanic households are more likely to move out of the city to the suburbs as the proportion of their own race in the city increases. Note that as previously discusses, blacks are less likely to move out of cities with larger Hispanic and Asian populations—they tend to only flee other black households. Although urban black households are averse to fellow black city residents, suburban black households prefer living in the suburbs with growing black proportions. In contrast, from 1995 to 2000, Hispanics are more likely to move out of the suburbs and into the city with greater Hispanic shares. Asians, on the other hand, do not substantially consider the presence of fellow Asians in their migration decisions.

However, there are some data issues that may have biased the results. First, as already discussed, I used county group and PUMA lines to represent city and suburb boundaries. Although they are not exactly the same, the majority of country groups and PUMAs overlap with metropolitan areas. Second, central city status is not identified for everyone and those identified may not be random. Therefore these results should be considered with caution.

Due to data restrictions, there may also be an omitted variable bias. For instance, I am unable to control for family reunification. Households tend to migrate to areas to join family members or live near relatives. Including family reunification into my model could explain some of the racial differences in migration. But if family reunification is a large driving factor in residential mobility, there would have been more results showing preferences for living near same-race households. In addition, I do not control for the racial composition of the destination. If households move because they have preferences for the racial makeup of their residential

location, then they likely consider both the racial composition of their original city or suburb and of their resulting city or suburb area. However, I am mainly interested in the phenomenon of racial flight and thus choose to only include the racial composition of the original location. Lastly, I do not control for the total population size or segregation of the original city or suburb. Suburbs and cities may be growing larger and more segregated so that it is relatively common for households to mainly interact with other same race individuals in a seemingly diverse area. Racial flight may be more prominent than this study shows since omitting population size and segregation measures may have had a downward bias on the effects of racial composition. Although my regression models do not include as many controls as I would have liked, their results are still informative.

Admittedly this study has a very restricted perspective since I am only looking at migration between suburbs and cities. Therefore this study does not capture migration between different suburbs or between different cities. Preferences for racial composition may encourage suburban households to relocate to another suburb or urban households to another city. However, if households move because of their surrounding area's racial composition, then these additional effects would only strengthen my findings. I focus on residential mobility between suburbs and cities because of their noticeable inequalities in racial and socio-economic characteristics.

There are not only inequalities between urban and suburban neighborhoods, but there are also disparities between pre-dominantly white suburbs and predominantly minority suburbs. Due to selective suburbanization, not all suburbs are equal. Although better off than minority cities, minority suburbs tend to be less affluent with poorer public services and schools, higher crime, and social disorganization than white suburbs (Logan et al. 2002). Compared to suburban white residents, suburban blacks generally live in older suburbs closer to the central city that are less

affluent, less white, and have more crime and social disorganization (Alba et al. 1994, Patillo-McCoy 1999). Therefore the movement I found between cities and suburbs may not necessarily represent substantial changes in a household's living environment.

Clearly, further research on racial migration and race relations needs to be done. Researchers could instead focus on the pull factors in residential mobility. For example, they could consider the racial composition or availability of amenities and public services of a migrant household's residential destination, thus studying the differences in destination and not the decision to move. Additionally, future research could examine the impacts of racial migration on the cities and suburbs to determine whether larger shares of minorities and thus an increase in diversity will improve the area's poverty, crime rates, or education quality. Unlike this paper, research should also separate households by ethnicity instead of race since people of the same race may differ considerably by ethnicity. Once the 2010 Census data is available, researchers can update the results of this study and capture the major demographic changes America has experienced in the last decade. Hopefully one day research will show that widespread preference for integration and diversity replaces discrimination as the driving force in residential mobility. Though I doubt the 2010 Census will depict this vision.

Appendix.

Table A1. Determinants of migration from city to suburb (Sample=household heads living in the city 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	-.1246*** (.0044)	-.0817*** (.0030)	-.1241*** (.0087)
Hispanic	-.0743*** (.0080)	-.0366*** (.0051)	-.0398*** (.0235)
Asian	.0361 (.0296)	-.0048 (.0102)	-.0370** (.0156)
Other Race	.0304 (.0489)	.0123 (.0263)	-.0370*** (.0222)
<i>Census Region (East North</i>			

<i>Central omitted)</i>			
New England	-.0452*** (.0074)	-.0470*** (.0040)	-.0210 (.0178)
Middle Atlantic	.0166*** (.0058)	-.0206*** (.0037)	.0802*** (.0179)
West North Central	-.0418*** (.0057)	.0075 (.0062)	.2396*** (.0232)
South Atlantic	.0381*** (.0057)	.0289*** (.0048)	.1148*** (.0185)
East South Central	-.0309*** (.0063)	-.0070 (.0053)	-.2374*** (.0118)
West South Central	-.0227*** (.0049)	-.0202*** (.0036)	-.0584*** (.0195)
Mountain	-.0160** (.0061)	-.0267*** (.0053)	-.0755*** (.0233)
Pacific	-.0494*** (.0042)	-.0241*** (.0035)	-.0728*** (.0206)
Household Head Characteristics			
Age	-.0051*** (.0001)	-.0039*** (.0001)	.0005** (.0002)
Male	.0049 (.0076)	.0127*** (.0042)	.0098* (.0055)
Married, spouse absent	-.0118 (.0182)	-.0049 (.0112)	-.0678*** (.0166)
Separated	.0071 (.0131)	-.0116 (.0074)	-.0779*** (.0138)
Divorced	.0020 (.0083)	-.0069 (.0044)	-.0780*** (.0088)
Widowed	.0037 (.0096)	-.0012 (.0055)	-.0197 (.0129)
Single	.0091 (.0114)	-.0223*** (.0040)	-.1015*** (.0079)
Number of Children ever born	-.0015 (.0022)	.0008 (.0013)	---
Age at first marriage	.0010*** (.0003)	---	---
Mortgage (0/1)	.0211*** (.0040)	.0346*** (.0028)	.0697*** (.0069)
House Value (in \$100,000) by			
White	.1119*** (.0051)	.0095*** (.0014)	-.0013 (.0017)
Black	.2951*** (.0175)	.0526*** (.0042)	.0379*** (.0050)
Hispanic	.2029*** (.0183)	.0177*** (.0040)	.0031 (.0056)
Asian	.0715*** (.0237)	.0091** (.0041)	.0082* (.0044)
Other Race	.0939 (.0595)	.0005 (.0179)	.0006 (.0099)
Family income (in \$100,000)	-.0617*** (.0122)	-.0030 (.0031)	.0141*** (.0033)
Number of families in household	-.0027 (.0059)	-.0054* (.0031)	-.0022 (.0062)
Two generation household	-.0671*** (.0122)	-.0606*** (.0071)	-.0012 (.0149)
Three or more generations	-.0753*** (.0098)	-.0517*** (.0064)	-.0014 (.0219)
Family size	.0126*** (.0046)	.0025 (.0023)	.0013 (.0050)
Number of children	-.0298*** (.0054)	-.0156*** (.0032)	-.0048 (.0070)
Age of eldest child	.0021*** (.0008)	.0003 (.0005)	-.0017 (.0011)
Age of youngest child	-.0029*** (.0008)	-.0011** (.0005)	.0011 (.0012)
No schooling completed	-.0403 (.0249)	-.0245** (.0109)	-.0767*** (.0254)
Some schooling	-.0105** (.0046)	-.0118*** (.0035)	-.0505*** (.0085)
Some college	.0186*** (.0044)	.0078** (.0033)	.0219*** (.0075)
Four plus years of college	.0101** (.0044)	---	---
Associate's degree	---	.0124*** (.0049)	.0218** (.0110)
College degree (Bachelor's)	---	.0103*** (.0036)	.0468*** (.0076)
Higher degree	---	-.0051 (.0037)	.0280*** (.0080)
Unemployed	.0399*** (.0113)	.0080 (.0073)	.0178 (.0159)
Poor English-speaking ability	.0046 (.0151)	-.0119 (.0070)	-.0321** (.0142)

Linguistic isolation		---	.0086 (.0067)	-.0102 (.0124)
Years in the U.S. (omitted natives)				
	0 to 5	.0407 (.0379)	.0364* (.0218)	-.0162 (.0258)
	6 to 10	.1048*** (.0199)	.0653*** (.0106)	-.0472*** (.0112)
	11 to 15	.0640*** (.0173)	.0340*** (.0085)	-.0022 (.0116)
	15 to 20	.0494*** (.0174)	.0127* (.0078)	-.0087 (.0126)
	21 or more	.0540*** (.0095)	.0091** (.0045)	.0187** (.0085)
Works in city		.1111*** (.0135)	-.0053** (.0025)	-.0312*** (.0056)
Works in suburb		.1528*** (.0052)	.1397*** (.0053)	.3175*** (.0074)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level

standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	51,253	81,377	45,290
R ² =	0.168	0.1452	0.1028

Table A2. Dprobit determinants of migration from city to suburb including racial composition of original PUMA (Sample=household heads living in the city 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	-.1288*** (.0052)	-.1174*** (.0048)	-.2332*** (.0344)
Hispanic	-.0853*** (.0105)	.0117 (.0201)	.1125* (.0678)
Asian	.0070 (.0346)	.1791*** (.0569)	.2038*** (.0736)
Other Race	.0465 (.0695)	-.0407 (.0396)	.3575*** (.1139)
<i>Census Region (East North Central omitted)</i>			
New England	-.0248*** (.0086)	-.0039 (.0056)	-.0186 (.0179)
Middle Atlantic	.0083 (.0057)	-.0101*** (.0036)	.0488*** (.0182)
West North Central	-.0163** (.0068)	.0578*** (.0078)	.2273*** (.0238)
South Atlantic	.0130** (.0053)	.0578*** (.0053)	.1010*** (.0185)
East South Central	-.0420*** (.0058)	.0168*** (.0059)	-.2201*** (.0133)
West South Central	-.0367*** (.0048)	-.0077** (.0037)	-.0687*** (.0193)
Mountain	.0162** (.0081)	-.0070 (.0058)	-.0892*** (.0225)
Pacific	-.0452*** (.0049)	-.0112*** (.0037)	.0787*** (.0210)
<i>Household Head Characteristics</i>			
Age	-.0047*** (.0001)	-.0026*** (.00009)	.0003 (.0002)
Male	.0087 (.0074)	.0100** (.0040)	.0128** (.0055)
Married, spouse absent	-.0174 (.0172)	-.0118 (.0096)	-.0695*** (.0166)
Separated	.0044 (.0128)	-.0128* (.0066)	-.0775*** (.0138)

Divorced		-.0009 (.0081)	-.0094** (.0039)	-.0778*** (.0088)
Widowed		.0027 (.0095)	-.0042 (.0051)	-.0223* (.0129)
Single		-.0039 (.0107)	-.0237*** (.0035)	-.1081*** (.0079)
Number of Children ever born		-.0013 (.0022)	.0007 (.0012)	---
Age at first marriage		.0007** (.0003)	---	---
Mortgage (0/1)		.0218*** (.0040)	.0291*** (.0026)	.0728*** (.0068)
House Value (in \$100,000) by				
	White	.0929*** (.0051)	.00004 (.0014)	-.0015 (.0017)
	Black	.2279*** (.0186)	.0316*** (.0043)	.0443*** (.0052)
	Hispanic	.1879*** (.0190)	.0008 (.0040)	.0023 (.0057)
	Asian	.0935*** (.0260)	.0002 (.0039)	.0056 (.0045)
	Other Race	.0907 (.0633)	-.0073 (.0168)	-.0035 (.0102)
Family income (in \$100,000)		-.0680*** (.0121)	-.0020 (.0029)	.0118*** (.0033)
Number of families in household		-.0035 (.0058)	-.0032 (.0029)	-.0008 (.0062)
Two generation household		-.0647*** (.0121)	-.0385*** (.0066)	.0034 (.0150)
Three or more generations		-.0745*** (.0095)	-.0330*** (.0069)	.0045 (.0221)
Family size		.0113** (.0046)	-.0002 (.0022)	.0009 (.0050)
Number of children		-.0273*** (.0054)	-.0094*** (.0030)	-.0035 (.0070)
Age of eldest child		.0020*** (.0008)	.0002 (.0005)	-.0014 (.0011)
Age of youngest child		-.0028*** (.0008)	-.0008* (.0005)	.0009 (.0012)
No schooling completed		-.0392 (.0243)	-.0237** (.0098)	-.0816*** (.0252)
Some schooling		-.0129*** (.0046)	-.0112*** (.0032)	-.0531*** (.0085)
Some college		-.0182*** (.0044)	.0081*** (.0031)	.0279*** (.0076)
Four plus years of college		.0132*** (.0044)	---	---
Associate's degree		---	.0145*** (.0046)	.0286*** (.0111)
College degree (Bachelor's)		---	.0119*** (.0033)	.0496*** (.0077)
Higher degree		---	.0001 (.0035)	.0260*** (.0081)
Unemployed		.0383*** (.0112)	.0105 (.0069)	.0142 (.0159)
Poor English-speaking ability		.00003 (.0147)	-.0094 (.0066)	-.0319** (.0143)
Linguistic isolation		---	.0045 (.0062)	-.0165 (.0123)
Years in the U.S. (omitted natives)				
	0 to 5	.0242 (.0353)	.0061 (.0167)	-.0131 (.0260)
	6 to 10	.0755*** (.0186)	.0048 (.0071)	-.0486*** (.0112)
	11 to 15	.0464*** (.0163)	-.0086 (.0059)	.0019 (.0119)
	15 to 20	.0377** (.0166)	-.0185*** (.0056)	-.0049 (.0128)
	21 or more	.0461*** (.0093)	-.0028 (.0040)	.0218** (.0089)
Works in city		.1048*** (.0133)	.0032 (.0024)	-.0311*** (.0057)
Works in suburb		.1478*** (.0052)	.1426*** (.0053)	.3098*** (.0075)
Racial composition (Percent white omitted)				
Percent black		.0033*** (.0002)	.0093*** (.0003)	.0013 (.0010)
Percent Hispanic		.0016*** (.0002)	.0015*** (.0002)	.0006 (.0005)

Percent Asian		.0029*** (.0004)	.0148*** (.0008)	.0053*** (.0021)
Percent Other Race		-.0030** (.0013)	.0324*** (.0031)	.0653*** (.0063)
Interactions (Percent white omitted)				
Percent black by				
	Black	-.00097*** (.0003)	.0031*** (.0006)	.0053** (.0024)
	Hispanic	.0013* (.0008)	-.0029*** (.0008)	-.0067** (.0030)
	Asian	.0017 (.0011)	-.0032*** (.0012)	-.0047 (.0033)
	Other Race	-.0008 (.0021)	.0029 (.0034)	-.0107* (.0056)
Percent Hispanic by				
	Black	.0029*** (.0006)	.0021*** (.0008)	-.0038*** (.0009)
	Hispanic	.00006 (.0005)	.0034*** (.0005)	.0006 (.0013)
	Asian	-.0019* (.0011)	.0005 (.0006)	-.0048*** (.0015)
	Other Race	-.0030 (.0023)	.0025 (.0023)	-.0012 (.0024)
Percent Asian by				
	Black	.0049 (.0030)	.0021 (.0027)	-.0282*** (.0044)
	Hispanic	.0008 (.0015)	-.0072*** (.0018)	-.0041 (.0059)
	Asian	-.0033*** (.0007)	-.0031 (.0020)	-.0121* (.0068)
	Other Race	.0006 (.0031)	-.0066 (.0095)	.0139 (.0109)
Percent Other Race by				
	Black	.00997** (.0042)	.0545*** (.0100)	.0709*** (.0140)
	Hispanic	-.0120** (.0052)	-.0429*** (.0115)	-.0133 (.0201)
	Asian	.0156 (.0106)	-.0914*** (.0169)	-.0046 (.0235)
	Other Race	.0083** (.0061)	-.0217 (.0335)	-.0992*** (.0362)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level

standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	51,253	81,377	45,290
R ² =	0.1849	0.2242	0.1127

Table A3. Dprobit determinants of migration from city to suburb including racial composition of original PUMA

(Sample=household heads living in the city 5 years before Census)

Independent Variables	1980	1990	2000
<i>Race and ethnicity</i> (Non-Hispanic white omitted)			
Non-Hispanic black	-.1288*** (.0052)	-.1174*** (.0048)	-.2332*** (.0344)
Hispanic	-.0853*** (.0105)	.0117 (.0201)	.1125* (.0678)
Asian	.0070 (.0346)	.1791*** (.0569)	.2038*** (.0736)
Other Race	.0465 (.0695)	-.0407 (.0396)	.3575*** (.1139)
<i>Census Region</i> (East North			

<i>Central omitted)</i>			
New England	-.0248*** (.0086)	-.0039 (.0056)	-.0186 (.0179)
Middle Atlantic	.0083 (.0057)	-.0101*** (.0036)	.0488*** (.0182)
West North Central	-.0163** (.0068)	.0578*** (.0078)	.2273*** (.0238)
South Atlantic	.0130** (.0053)	.0578*** (.0053)	.1010*** (.0185)
East South Central	-.0420*** (.0058)	.0168*** (.0059)	-.2201*** (.0133)
West South Central	-.0367*** (.0048)	-.0077** (.0037)	-.0687*** (.0193)
Mountain	.0162** (.0081)	-.0070 (.0058)	-.0892*** (.0225)
Pacific	-.0452*** (.0049)	-.0112*** (.0037)	.0787*** (.0210)
Household Head Characteristics			
Age	-.0047*** (.0001)	-.0026*** (.00009)	.0003 (.0002)
Male	.0087 (.0074)	.0100** (.0040)	.0128** (.0055)
Married, spouse absent	-.0174 (.0172)	-.0118 (.0096)	-.0695*** (.0166)
Separated	.0044 (.0128)	-.0128* (.0066)	-.0775*** (.0138)
Divorced	-.0009 (.0081)	-.0094** (.0039)	-.0778*** (.0088)
Widowed	.0027 (.0095)	-.0042 (.0051)	-.0223* (.0129)
Single	-.0039 (.0107)	-.0237*** (.0035)	-.1081*** (.0079)
Number of Children ever born	-.0013 (.0022)	.0007 (.0012)	---
Age at first marriage	.0007** (.0003)	---	---
Mortgage (0/1)	.0218*** (.0040)	.0291*** (.0026)	.0728*** (.0068)
House Value (in \$100,000) by			
White	.0929*** (.0051)	.00004 (.0014)	-.0015 (.0017)
Black	.2279*** (.0186)	.0316*** (.0043)	.0443*** (.0052)
Hispanic	.1879*** (.0190)	.0008 (.0040)	.0023 (.0057)
Asian	.0935*** (.0260)	.0002 (.0039)	.0056 (.0045)
Other Race	.0907 (.0633)	-.0073 (.0168)	-.0035 (.0102)
Family income (in \$100,000)	-.0680*** (.0121)	-.0020 (.0029)	.0118*** (.0033)
Number of families in household	-.0035 (.0058)	-.0032 (.0029)	-.0008 (.0062)
Two generation household	-.0647*** (.0121)	-.0385*** (.0066)	.0034 (.0150)
Three or more generations	-.0745*** (.0095)	-.0330*** (.0069)	.0045 (.0221)
Family size	.0113** (.0046)	-.0002 (.0022)	.0009 (.0050)
Number of children	-.0273*** (.0054)	-.0094*** (.0030)	-.0035 (.0070)
Age of eldest child	.0020*** (.0008)	.0002 (.0005)	-.0014 (.0011)
Age of youngest child	-.0028*** (.0008)	-.0008* (.0005)	.0009 (.0012)
No schooling completed	-.0392 (.0243)	-.0237** (.0098)	-.0816*** (.0252)
Some schooling	-.0129*** (.0046)	-.0112*** (.0032)	-.0531*** (.0085)
Some college	-.0182*** (.0044)	.0081*** (.0031)	.0279*** (.0076)
Four plus years of college	.0132*** (.0044)	---	---
Associate's degree	---	.0145*** (.0046)	.0286*** (.0111)
College degree (Bachelor's)	---	.0119*** (.0033)	.0496*** (.0077)
Higher degree	---	.0001 (.0035)	.0260*** (.0081)
Unemployed	.0383*** (.0112)	.0105 (.0069)	.0142 (.0159)
Poor English-speaking ability	.00003 (.0147)	-.0094 (.0066)	-.0319** (.0143)

Linguistic isolation		---	.0045 (.0062)	-.0165 (.0123)
Years in the U.S. (omitted natives)				
	0 to 5	.0242 (.0353)	.0061 (.0167)	-.0131 (.0260)
	6 to 10	.0755*** (.0186)	.0048 (.0071)	-.0486*** (.0112)
	11 to 15	.0464*** (.0163)	-.0086 (.0059)	.0019 (.0119)
	15 to 20	.0377** (.0166)	-.0185*** (.0056)	-.0049 (.0128)
	21 or more	.0461*** (.0093)	-.0028 (.0040)	.0218** (.0089)
Works in city		.1048*** (.0133)	.0032 (.0024)	-.0311*** (.0057)
Works in suburb		.1478*** (.0052)	.1426*** (.0053)	.3098*** (.0075)
Interactions (omitted Percent white by)				
Percent black by				
	White	.0033*** (.0002)	.0093*** (.0003)	.0013 (.0010)
	Black	.0024*** (.0003)	.0124*** (.0006)	.0067*** (.0022)
	Hispanic	.0046*** (.0008)	.0064*** (.0008)	-.0053* (.0029)
	Asian	.0050*** (.0011)	.0061*** (.0012)	-.0033 (.0032)
	Other Race	.0025 (.0021)	.0122*** (.0034)	-.0094* (.0055)
Percent Hispanic by				
	White	.0016*** (.0002)	.0015*** (.0002)	.0006 (.0005)
	Black	.0045*** (.0006)	.0037*** (.0007)	-.0033*** (.0008)
	Hispanic	.0017*** (.0005)	.0050*** (.0004)	.0012 (.0013)
	Asian	-.0003 (.0011)	.0020*** (.0023)	-.0042*** (.0014)
	Other Race	-.0014 (.0023)	.0041* (.0023)	-.0007 (.0024)
Percent Asian by				
	White	.0029*** (.0004)	.0148*** (.0008)	.0053*** (.0021)
	Black	.0078*** (.0030)	.0169*** (.0025)	-.0229*** (.0040)
	Hispanic	.0037** (.0015)	.0077*** (.0017)	.0012 (.0056)
	Asian	-.0004 (.0006)	.0117*** (.0019)	-.0068 (.0066)
	Other Race	.0023 (.0031)	.0082 (.0094)	.0192* (.0107)
Percent Other Race by				
	White	-.0030** (.0013)	.0324*** (.0031)	.0653*** (.0127)
	Black	.0069* (.0040)	.0869*** (.0096)	.1362*** (.0127)
	Hispanic	-.0150*** (.0051)	-.0104 (.0111)	.0520*** (.0193)
	Asian	.0126 (.0105)	-.0589*** (.0167)	.0607*** (.0229)
	Other Race	.0052 (.0060)	.0541 (.0334)	-.0339 (.0357)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level

standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	51,253	81,377	45,290
R ² =	0.1849	0.2242	0.1127

Table A4. Dprobit determinants of migration from suburb to city (Sample=household heads living in the suburb 5 years before Census)			
Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	.0153*** (.0056)	.0077*** (.0024)	.0464*** (.0050)
Hispanic	.0025 (.0046)	.0029* (.0017)	.0136*** (.0044)
Asian	.0024 (.0083)	.0005 (.0021)	.0290*** (.0065)
Other Race	.0014 (.0121)	-.0054* (.0016)	.0349*** (.0083)
<i>Census Region (East North Central omitted)</i>			
New England	-.0060*** (.0017)	.0072*** (.0018)	.0082*** (.0022)
Middle Atlantic	-.0134*** (.0010)	-.0003 (.0008)	-.0069*** (.0015)
West North Central	.0022 (.0022)	.0075*** (.0018)	.0124*** (.0027)
South Atlantic	.0040*** (.0015)	.0024*** (.0010)	.0042*** (.0016)
East South Central	.0156*** (.0034)	.0121*** (.0024)	.0086*** (.0030)
West South Central	.0266*** (.0031)	.0131*** (.0019)	.0497*** (.0050)
Mountain	.0447*** (.0047)	.0158*** (.0027)	.0068** (.0036)
Pacific	.0251*** (.0023)	.0248*** (.0021)	.0148*** (.0028)
<i>Household Head Characteristics</i>			
Age	-.0011*** (.00004)	-.0003*** (.00002)	-.0003*** (.00004)
Male	-.0011 (.0021)	.0003 (.0007)	-.0023** (.0009)
Married, spouse absent	.0125** (.0072)	.0111*** (.0037)	.0204*** (.0055)
Separated	.0036 (.0038)	.0031** (.0018)	.0114*** (.0037)
Divorced	.0073*** (.0028)	.0032*** (.0010)	.0093*** (.0020)
Widowed	.0003 (.0026)	.0037*** (.0013)	.0117*** (.0031)
Single	.0157*** (.0050)	.0063*** (.0013)	.0174*** (.0023)
Number of Children ever born	.0004 (.0006)	.0003 (.0002)	---
Age at first marriage	.0003*** (.00009)	---	---
Mortgage (0/1)	.0030*** (.0011)	.0024*** (.0005)	-.0011 (.0012)
House Value (in \$100,000) by			
White	-.0024* (.0013)	-.0008*** (.0002)	-.0007** (.0003)
Black	-.0050 (.0056)	-.0028*** (.0010)	-.0074*** (.0013)
Hispanic	-.0017 (.0050)	-.0013* (.0007)	-.0008 (.0013)
Asian	-.0014 (.0064)	-.0022*** (.0008)	-.0040*** (.0010)
Other Race	-.0014 (.0164)	.0024 (.0031)	-.0026 (.0017)
Family income (in \$100,000)	.0057* (.0032)	.0013*** (.0005)	.0007 (.0006)
Number of families in household	.0014 (.0015)	-.0003 (.0005)	.0006 (.0010)
Two generation household	-.0145*** (.0039)	-.0067*** (.0014)	-.0061** (.0026)
Three or more generations	-.0082** (.0029)	-.0038*** (.0011)	-.0045 (.0035)
Family size	.0004 (.0013)	-.0002 (.0004)	.0002 (.0010)
Number of children	-.0047*** (.0015)	-.0016** (.0006)	-.0039*** (.0014)
Age of eldest child	-.00003 (.0002)	.00002 (.0001)	.0003 (.0002)

Age of youngest child		-.0001 (.0002)	-.00007 (.0001)	-.0003 (.0002)
No schooling completed		-.0152* (.0024)	.0027 (.0033)	.0073(.0083)
Some schooling		-.0036*** (.0012)	.0005 (.0007)	.0025 (.0018)
Some college		.0036*** (.0012)	.0017*** (.0006)	.0061*** (.0014)
Four plus years of college		.0105*** (.0014)	---	---
Associate's degree		---	.0012** (.0008)	.0007 (.0018)
College degree (Bachelor's)		---	.0052*** (.0008)	.0145*** (.0015)
Higher degree		---	.0089*** (.0011)	.0210*** (.0020)
Unemployed		-.0057*** (.0018)	.0049*** (.0018)	.0130*** (.0036)
Poor English-speaking ability		-.0060 (.0039)	.0008 (.0017)	.0067* (.0036)
Linguistic isolation		---	.0038*** (.0017)	.0030 (.0031)
Years in the U.S. (omitted natives)				
	0 to 5	.0435*** (.0221)	.0139*** (.0077)	.0179*** (.0086)
	6 to 10	.0129** (.0068)	.0187*** (.0041)	-.0012 (.0028)
	11 to 15	.0271*** (.0077)	.0114*** (.0028)	-.0018 (.0027)
	15 to 20	.0123** (.0060)	.0044*** (.0021)	.0114*** (.0038)
	21 or more	.0017 (.0026)	.0022** (.0010)	.0087*** (.0022)
Works in city		-.0090*** (.0014)	.0160*** (.0011)	.0668*** (.0025)
Works in suburb		-.0180*** (.0008)	-.0014*** (.0005)	-.0112*** (.0009)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level

standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	84,488	166,249	141,623
R ² =	0.1509	0.1591	0.1338

**Table A5. Dprobit determinants of migration from suburb to city
including racial composition of original PUMA**

(Sample=household heads living in the suburb 5 years before Census)

Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	.0037 (.0050)	-.0028 (.0032)	.1485*** (.0336)
Hispanic	.0718*** (.0236)	.0068 (.0068)	.0158 (.0175)
Asian	-.0092 (.0039)	.0003 (.0048)	.0715*** (.0348)
Other Race	.0126 (.0255)	-.0068** (.0002)	.0279 (.0302)
<i>Census Region (East North Central omitted)</i>			
New England	-.0082*** (.0013)	.0066*** (.0017)	.0073*** (.0021)

Middle Atlantic	-.0111*** (.0010)	-.0003 (.0008)	-.0072*** (.0014)
West North Central	-.0012 (.0017)	.0088*** (.0019)	.0124*** (.0028)
South Atlantic	.0159*** (.0021)	.0018** (.0009)	.0049*** (.0016)
East South Central	.0262*** (.0043)	.0111*** (.0022)	.0086*** (.0030)
West South Central	.0397*** (.0040)	.0111*** (.0017)	.0487*** (.0050)
Mountain	.0289*** (.0039)	.0114*** (.0023)	.0067** (.0036)
Pacific	.0239*** (.0025)	.0159*** (.0016)	.0137*** (.0028)
Household Head Characteristics			
Age	-.0009*** (.00004)	-.0003*** (.00002)	-.0003*** (.00004)
Male	-.0014 (.0019)	.0001 (.0007)	-.0024*** (.0009)
Married, spouse absent	.0121** (.0068)	.0107*** (.0036)	.0203*** (.0055)
Separated	.0036 (.0036)	.0027* (.0017)	.0113*** (.0037)
Divorced	.0068*** (.0026)	.0028*** (.0010)	.0093*** (.0020)
Widowed	-.0001 (.0024)	.0030*** (.0012)	.0117*** (.0031)
Single	.0143*** (.0047)	.0054*** (.0012)	.0176*** (.0023)
Number of Children ever born	.0005 (.0005)	.0002 (.0002)	---
Age at first marriage	.0003*** (.00008)	---	---
Mortgage (0/1)	.0026** (.0010)	.0023*** (.0005)	-.0009 (.0012)
House Value (in \$100,000) by			
White	-.0021* (.0012)	-.0011*** (.0002)	-.0007** (.0003)
Black	.0025 (.0054)	-.0030*** (.0010)	-.0073*** (.0012)
Hispanic	-.0042 (.0050)	-.0021*** (.0007)	-.0010 (.0013)
Asian	-.0027 (.0061)	-.0029*** (.0008)	-.0042*** (.0010)
Other Race	.0034 (.0169)	.0029 (.0032)	-.0025 (.0017)
Family income (in \$100,000)	.0059** (.0029)	.0013*** (.0005)	.0008 (.0006)
Number of families in household	.0017 (.0014)	-.0040 (.0005)	.0005 (.0010)
Two generation household	-.0115*** (.0035)	-.0055*** (.0013)	-.0061** (.0026)
Three or more generations	-.0067* (.0029)	-.0028* (.0012)	-.0045 (.0035)
Family size	.0004 (.0012)	-.0003 (.0004)	.0003 (.0010)
Number of children	-.0042*** (.0014)	-.0013** (.0006)	-.0040*** (.0014)
Age of eldest child	-.00003 (.0002)	.00002 (.00009)	.0003 (.0002)
Age of youngest child	-.00007 (.0002)	-.00006 (.00009)	-.0003 (.0002)
No schooling completed	-.0133* (.0026)	.0019 (.0031)	.0069 (.0081)
Some schooling	-.0031*** (.0011)	.0002 (.0007)	.0023 (.0018)
Some college	.0033*** (.0011)	.0015*** (.0006)	.0060*** (.0013)
Four plus years of college	.0095*** (.0013)	---	---
Associate's degree	---	.0009 (.0008)	.0005 (.0018)
College degree (Bachelor's)	---	.0048*** (.0008)	.0144*** (.0015)
Higher degree	---	.0083*** (.0011)	.0207*** (.0020)
Unemployed	-.0053*** (.0016)	.0047*** (.0017)	.0128*** (.0036)
Poor English-speaking ability	-.0050 (.0039)	.0005 (.0016)	.0066* (.0043)
Linguistic isolation	---	.0031** (.0016)	.0032 (.0031)

Years in the U.S. (omitted natives)				
0 to 5	.0427*** (.0215)	.0098** (.0063)	.0183*** (.0087)	
6 to 10	.0125** (.0065)	.0131*** (.0034)	-.0015 (.0028)	
11 to 15	.0266*** (.0076)	.0076*** (.0023)	-.0022 (.0027)	
15 to 20	.0132*** (.0060)	.0029* (.0018)	.0106*** (.0037)	
21 or more	.0022 (.0025)	.0023*** (.0009)	.0082*** (.0021)	
Works in city	-.0079*** (.0013)	.0152*** (.0010)	.0672*** (.0025)	
Works in suburb	-.0163*** (.0008)	-.0016*** (.0004)	-.0111*** (.0009)	
Racial composition (Percent white omitted)				
Percent black	-.0012*** (.00007)	-.0013*** (.00008)	.0004*** (.0001)	
Percent Hispanic	-.0001** (.00006)	-.0002*** (.00005)	-.00008 (.00010)	
Percent Asian	-.0002 (.0002)	.0016*** (.0002)	-.0001 (.0004)	
Percent Other Race	-.00009 (.0003)	-.0028*** (.0005)	.0006 (.0006)	
Interactions (Percent white omitted)				
Percent black by				
Black	.0009*** (.0001)	.0009*** (.0003)	-.0025*** (.0004)	
Hispanic	-.0028*** (.0005)	.0002 (.0003)	-.0007 (.0006)	
Asian	.0010** (.0004)	.0008*** (.0003)	-.0005 (.0006)	
Other Race	.0006 (.0009)	.0019* (.0010)	.0001 (.0008)	
Percent Hispanic by				
Black	-.0010*** (.0003)	.0002 (.0002)	.0022*** (.0003)	
Hispanic	-.0004*** (.0001)	.0003** (.0001)	.0014*** (.0005)	
Asian	.0007** (.0003)	.0005*** (.0002)	.0006 (.0004)	
Other Race	-.0015 (.0010)	.0011 (.0007)	-.0004 (.0007)	
Percent Asian by				
Black	.0007 (.0006)	.00007 (.0006)	.0011 (.0011)	
Hispanic	-.0005 (.0006)	-.0009** (.0004)	-.0009 (.0015)	
Asian	.00007 (.0002)	-.0015** (.0006)	.0001 (.0017)	
Other Race	.0001 (.0015)	-.0023 (.0024)	-.00007 (.0021)	
Percent Other Race by				
Black	.0027 (.0019)	-.0024 (.0025)	-.0062*** (.0017)	
Hispanic	-.0040** (.0017)	-.0057*** (.0022)	-.0002 (.0025)	
Asian	.0051* (.0028)	-.0092*** (.0031)	-.0055** (.0026)	
Other Race	-.0033* (.0030)	.0128 (.0084)	.0018 (.0034)	

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level

standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	84,488	166,249	141,623
R ² =	0.1714	0.1907	0.1365

**Table A6. Dprobit determinants of migration from suburb to city
including racial composition of original PUMA**

(Sample=household heads living in the suburb 5 years before Census)

Independent Variables	1980	1990	2000
<i>Race and ethnicity (Non-Hispanic white omitted)</i>			
Non-Hispanic black	.0037 (.0050)	-.0028 (.0032)	.1485*** (.0336)
Hispanic	.0718*** (.0236)	.0068 (.0068)	.0158 (.0175)
Asian	-.0092 (.0039)	.0003 (.0048)	.0715*** (.0348)
Other Race	.0126 (.0255)	-.0068** (.0002)	.0279 (.0302)
<i>Census Region (East North Central omitted)</i>			
New England	-.0082*** (.0013)	.0066*** (.0017)	.0073*** (.0021)
Middle Atlantic	-.0111*** (.0010)	-.0003 (.0008)	-.0072*** (.0014)
West North Central	-.0012 (.0017)	.0088*** (.0019)	.0124*** (.0028)
South Atlantic	.0159*** (.0021)	.0018** (.0009)	.0049*** (.0016)
East South Central	.0262*** (.0043)	.0111*** (.0022)	.0086*** (.0030)
West South Central	.0397*** (.0040)	.0111*** (.0017)	.0487*** (.0050)
Mountain	.0289*** (.0039)	.0114*** (.0023)	.0067** (.0036)
Pacific	.0239*** (.0025)	.0159*** (.0016)	.0137*** (.0028)
<i>Household Head Characteristics</i>			
Age	-.0009*** (.00004)	-.0003*** (.00002)	-.0003*** (.00004)
Male	-.0014 (.0019)	.0001 (.0007)	-.0024*** (.0009)
Married, spouse absent	.0121** (.0068)	.0107*** (.0036)	.0203*** (.0055)
Separated	.0036 (.0036)	.0027* (.0017)	.0113*** (.0037)
Divorced	.0068*** (.0026)	.0028*** (.0010)	.0093*** (.0020)
Widowed	-.0001 (.0024)	.0030*** (.0012)	.0117*** (.0031)
Single	.0143*** (.0047)	.0054*** (.0012)	.0176*** (.0023)
Number of Children ever born	.0005 (.0005)	.0002 (.0002)	---
Age at first marriage	.0003*** (.00008)	---	---
Mortgage (0/1)	.0026** (.0010)	.0023*** (.0005)	-.0009 (.0012)
House Value (in \$100,000) by			
White	-.0021* (.0012)	-.0011*** (.0002)	-.0007** (.0003)
Black	.0025 (.0054)	-.0030*** (.0010)	-.0073*** (.0012)
Hispanic	-.0042 (.0050)	-.0021*** (.0007)	-.0010 (.0013)
Asian	-.0027 (.0061)	-.0029*** (.0008)	-.0042*** (.0010)
Other Race	.0034 (.0169)	.0029 (.0032)	-.0025 (.0017)
Family income (in \$100,000)	.0059** (.0029)	.0013*** (.0005)	.0008 (.0006)
Number of families in household	.0017 (.0014)	-.0040 (.0005)	.0005 (.0010)
Two generation household	-.0115*** (.0035)	-.0055*** (.0013)	-.0061** (.0026)
Three or more generations	-.0067* (.0029)	-.0028* (.0012)	-.0045 (.0035)
Family size	.0004 (.0012)	-.0003 (.0004)	.0003 (.0010)

Number of children		-.0042*** (.0014)	-.0013** (.0006)	-.0040*** (.0014)
Age of eldest child		-.00003 (.0002)	.00002 (.00009)	.0003 (.0002)
Age of youngest child		-.00007 (.0002)	-.00006 (.00009)	-.0003 (.0002)
No schooling completed		-.0133* (.0026)	.0019 (.0031)	.0069 (.0081)
Some schooling		-.0031*** (.0011)	.0002 (.0007)	.0023 (.0018)
Some college		.0033*** (.0011)	.0015*** (.0006)	.0060*** (.0013)
Four plus years of college		.0095*** (.0013)	---	---
Associate's degree		---	.0009 (.0008)	.0005 (.0018)
College degree (Bachelor's)		---	.0048*** (.0008)	.0144*** (.0015)
Higher degree		---	.0083*** (.0011)	.0207*** (.0020)
Unemployed		-.0053*** (.0016)	.0047*** (.0017)	.0128*** (.0036)
Poor English-speaking ability		-.0050 (.0039)	.0005 (.0016)	.0066* (.0043)
Linguistic isolation		---	.0031** (.0016)	.0032 (.0031)
Years in the U.S. (omitted natives)				
	0 to 5	.0427*** (.0215)	.0098** (.0063)	.0183*** (.0087)
	6 to 10	.0125** (.0065)	.0131*** (.0034)	-.0015 (.0028)
	11 to 15	.0266*** (.0076)	.0076*** (.0023)	-.0022 (.0027)
	15 to 20	.0132*** (.0060)	.0029* (.0018)	.0106*** (.0037)
	21 or more	.0022 (.0025)	.0023*** (.0009)	.0082*** (.0021)
Works in city		-.0079*** (.0013)	.0152*** (.0010)	.0672*** (.0025)
Works in suburb		-.0163*** (.0008)	-.0016*** (.0004)	-.0111*** (.0009)
Interactions (omitted Percent white by)				
Percent black by				
	White	-.0012*** (.00007)	-.0013*** (.00008)	.0004*** (.0001)
	Black	-.0003** (.0001)	-.0004 (.0003)	-.0022*** (.0003)
	Hispanic	-.00398*** (.0005)	-.0012*** (.0002)	-.0004 (.0006)
	Asian	-.0002 (.0004)	-.0005** (.0002)	-.0001 (.0006)
	Other Race	-.0005 (.0009)	.0006 (.00098)	.0005 (.0008)
Percent Hispanic by				
	White	-.0001** (.00006)	-.0002*** (.00005)	-.00008 (.0001)
	Black	-.0012*** (.0003)	.00009 (.0002)	.0021*** (.0003)
	Hispanic	-.0005*** (.0001)	.0001 (.0001)	.0013*** (.0005)
	Asian	.0005** (.0003)	.0004* (.0002)	.0005 (.0004)
	Other Race	-.0017 (.0010)	.00097 (.0007)	-.0005 (.0007)
Percent Asian by				
	White	-.0002 (.0002)	.0016*** (.0002)	-.0001 (.0004)
	Black	.0004 (.0006)	.0017*** (.0006)	.0009 (.0010)
	Hispanic	-.0008 (.0006)	.0007* (.0004)	-.0011 (.0015)
	Asian	-.0001 (.0001)	.00009 (.0006)	-.00001 (.0017)
	Other Race	-.0001 (.0015)	-.0007 (.0024)	-.0002 (.0021)
Percent Other Race by				

White	-.00009 (.0003)	-.0028*** (.0005)	.0006 (.0006)
Black	.0026 (.0019)	-.0052** (.0025)	-.0056*** (.0016)
Hispanic	-.0041** (.0028)	-.0085*** (.0021)	.0004 (.0024)
Asian	.00497* (.0028)	-.0120*** (.0031)	-.0049* (.0025)
Other Race	-.0034 (.00295)	.0100 (.0084)	.0024 (.0034)

Note:

***=significant at the 1% level, **=significant at the 5% level, *=significant at the 10% level

standard errors are in parentheses

	<u>1980</u>	<u>1990</u>	<u>2000</u>
number of observations=	84,488	166,249	141,623
R ² =	0.1714	0.1907	0.1365

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