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Housing Inequality in the United States: A Decomposition Analysis of Racial and Ethnic Disparities in Homeownership*

by

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Abstract

In recent years, as the homeownership rate in the United States reached its highest level in history, homeownership itself remained unevenly distributed, particularly along racial and ethnic lines. By using data from the 2000 Integrated Public Use Microdata Series (IPUMS) and 2006 American Community Survey (ACS) to study the trajectory into homeownership of black, Asian, white, and Latino households, this paper explores the various socioeconomic and demographic characteristics, as well as the distinct immigration experiences and spatial patterns that shape racial and ethnic inequality in homeownership. The unique (merged) dataset enables the authors to distinguish assimilation (length of residence) from immigration cohort effects, and to control for various spatial characteristics at the PUMA (Public Use Microdata Area) level. The paper employs a decomposition technique that delineates the distinct effects that composition differentials have on the visible white-minority disparity in homeownership. The findings reveal substantial differences along racial-ethnic lines, highlight the importance of immigration and spatial context in determining Asian and Mexican homeownership rates, and emphasize the unique role that family structure and unobserved factors (e.g. prejudice and discrimination) continue to play in shaping the black-white homeownership gap.

INTRODUCTION

In recent years, the U.S. homeownership rate has reached its highest level in history,

increasing from 63.9 in 1990 to 69.0 in 2004, and then slightly decreasing to 68.1 in

2007.[1] This is a dramatic shift compared to the one percentage point increase in the

homeownership rate experienced in the previous three decades. Owning a home is

typically associated with economic, social, and psychological benefits in contemporary

American society. Limited access to subsidized rental housing, strong societal and

institutional support for private ownership, and the generous tax breaks that allow

homeowners to use interest, insurance, and property taxes paid on their residence to

reduce income tax liability, make homeownership a desirable asset and a key vehicle for

wealth accumulation in the U.S. For most people, homeownership is also a symbol of

independence and social status and owning a home is typically correlated with better

physical and psychological health, and greater life satisfaction (Page-Adams and

Sherraden 1997; Spilerman 2000). Many Americans believe that buying a home is a right

of passage and a "ticket to the middle class through asset accumulation, stability and

civic participation." (Karger 2007). For immigrants, owning a home symbolizes the

culmination of the assimilation process and fulfillment of the "American Dream" (Alba

and Logan 1992). At the community level, high rates of homeownership have been linked

to higher property values, improved housing maintenance, greater community attachment

and involvement, and enhanced neighborhood stability (Constant et al. 2007; Rohe and

Stegman 1994; Toussaint-Comeau and Rhine 2004).

  While housing is generally considered a desirable asset, homeownership is

unevenly distributed in the population, particularly along racial and ethnic lines. For

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[1] U.S. Bureau of Census (http://www.census.gov/compendia/statab/tables/09s0951.xls).

racial minorities and immigrants, the calculus of homeownership may be quite different. Most previous studies on housing market inequality focused on the black-white divide. Several studies have found evidence of discrimination (King and Mieszkowski 1973, Myers 2004; Dymsky 2005) and prejudice (Harris 1999) against blacks in the housing market, suggesting that the costs of homeownership may be higher and the expected returns lower for minority households. A more recent branch of the literature has given more attention to other minorities and highlighted the distinct opportunity structure and patterns of residential settlement that shape the trajectory into homeownership among immigrant minorities (Myers and Lee 1998; Borjas 2002; Ray et al. 2004; Rosenbaum and Friedman 2004).

The current study contributes to the literature on racial and ethnic in several ways. By merging files from the 2000 IPUMS and the 2006 American Community Survey (ACS) to study trajectory into homeownership of black, Asian, white, and Latino households we are able to carefully test hypotheses pertaining to the distinct role that racial/ethnic differences in demographic, socioeconomic, and spatial characteristics play in shaping minority-white variation in homeownership. Second, the merged dataset enables us to distinguish assimilation from immigration cohort effects, and to include both household-level and contextual (PUMA-level) variables. Finally, we employ a variant of the Blinder-Oaxaca decomposition method to estimate the portion of the white-minority homeownership gaps that is explained by between-group compositional differences in observed variables. We further disaggregate this explained gap to four parts that are attributable to white-minority differences in economic, demographic, immigration, and spatial characteristics.

4

THE THEORETICAL FRAMEWORK

Since the mid 1960s, the influx of immigrants to the U.S. from Asia and Latin America and racial-ethnic variation in fertility rates have markedly changed the racial-ethnic makeup of the population.[2] The substantial increase in, and diversity of, the non-white population coincided with growing socioeconomic disparities along race and ethnic origin. Copious research on housing market inequality in the U.S. reveals that minority households – particularly blacks and Latinos – are less likely to own a house and the value of the property they own is lower and tends to appreciate at a slower pace (Jackman and Jackman 1980; Bianchi et al.1982; Krivo 1995; Horton 1992; Long and Caudill 1992; Myers and Chung 1996; Harris 1999; McConnell and Marcelli 2007).

Various theories have been developed to elucidate the social and socioeconomic sources of the racial/ethnic gaps in housing consumption in general and homeownership in particular. Neoclassical economic theory models the decision to purchase a house as an inter-temporal expected utility maximization problem subject to a lifetime budget constraint. If there are no racial-ethnic differences in current and expected housing prices and interest rates, i.e. there is no discrimination and segregation in housing and credit markets, racial and ethnic inequality in homeownership is a mere reflection of between-group differences in income, values and attributes regarding homeownership, and life-cycle characteristics such as age, education, marital status, and number of children that affect housing preferences at the household level (Alba and Logan 1992; Flippen 2001).

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[2]According to the U.S. Census Bureau estimates, by 2050 about one in two Americans will be non-Hispanic white, more than a quarter will be Hispanic, and the percentage of blacks and Asian and Pacific Islanders will be 15 percent and 9 percent, respectively (U.S. Census Bureau 2008).

Drawing on the neoclassical economic perspective to conceptualize the housing conditions of minority group members, the spatial assimilation model (Massey and Denton 1993; in Flippen 2001) links homeownership with the pace of immigrants' labor market mobility in the host society. This literature posits that, with the passage of time, immigrants, who usually enter at the bottom of their particular occupational ladder, are likely to experience upward mobility and acquire a higher level of income (Portes and Rumbaut 1990: 47; Neidert and Farley 1985), which is then translated into improved residential outcomes. Recent studies, however, show that this straightforward temporal description of housing assimilation is limited, as it tends to ignore differences in "quality" of immigrant cohorts and in the market conditions that immigrant cohorts encounter in the host society. Both the socioeconomic and demographic characteristics of distinct immigrant cohorts—such as years of education, age at migration, and marital status—as well as the opportunity structure they face in the market upon arrival, in terms of access to credit, housing prices, and availability of rental units, have a distinct effect on the rate of advancement into homeownership. Empirical research shows that the absence of immigration cohorts in models predicting homeownership may lead to misleading interpretation of the role that temporal assimilation plays in shaping housing stratification (Myers and Lee 1998; Borjas 2002).

The description of a direct causal effect of labor market mobility on homeownership rate has also been criticized on the ground that race, ethnicity, and immigration characteristics have significant effects on housing inequality, even after racial/ethnic differences in labor market attributes are accounted. Whereas length of residence in the host society is positively correlated with homeownership, the actual rate

of advancement into homeownership varies by racial/ethnic origin and is faster for some

immigrant groups than others' (Alba and Logan 1992). Using Public Use Microdata

Sample (PUMS) data from 1980 and 1990, Myers and Woo Lee (1998) research on

immigrants in Southern California reports that while Asian immigrants achieved high

levels of homeownership shortly after arrival, Hispanic immigrants trajectory into

homeownership began with very low level but followed by rapid advancement.

Explanations for the differential pace in trajectory into homeownership have been

attributed to an array of cultural and structural factors that reiterate the significance of

homeownership as an important measure not only of economic assimilation, but also of

acculturation and social integration (Constant et al. 2007). Inadequate English language

proficiency has been cited as a key barrier that limits access not only to lucrative and

rewarding jobs but also to relevant information about housing opportunities, as well as

credit and mortgage options[3]:

> Obtaining the broad array of information and successfully completing all
> the business transactions required to obtain larger, reasonably priced,
> owned housing, may be harder for immigrants and their offspring…
> poorer ability in English could make it difficult to negotiate the necessary
> transactions. Also, recent immigrants not have established the credit rating
> necessary to acquire home loan (Krivo 1995: 601).

Drawing on structural explanations to housing stratification, research has reported that

racial and ethnic minorities are more likely than whites to face hurdles in investment

opportunities and to encounter institutional discrimination in the credit market and the

housing market (Dymski 2006). Consequently, minority households are significantly

disadvantaged when trying to convert their labor market remuneration into housing

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[3]A survey conducted by the National Association of Hispanic Real Estate Professionals (NAHREP) in 2000
cited the lack of information as the leading barrier to Hispanic homeownership. (In Ray et al. 2004).

assets; relative to whites, minority households pay a higher price for homeownership (King and Mieszkowski 1973; Alba and Logan 1992; Myers 2004). Distinct residential patterns also contribute to differential housing outcomes along immigration and racial/ethnic lines. Because immigrants tend to reside in specific regions and concentrate in large metropolitan areas where employment opportunities are available, but demand for housing is high, they face affordability problems that reduces their likelihood of owning a home (Stegman et al. 2000; Balakrishnan and Wu 1992: Baldassare 1986; Harris 1999).

The combination of racial segregation and prejudice lowers the expected returns to housing investments of minority households because the rates of appreciation in housing prices are considerably lower in minority neighborhoods (Harris 1999; Reid 2004).

Attempts to explain the persistence of residential segregation along racial and ethnic lines draw largely on racial economic inequality, racial prejudice and institutional discrimination, and preference for segregation (Charles 2000). Testing the economic-based hypothesis, previous studies found that minority-white differences in economic resources are good predictors of Latino and Asian residential proximity to whites, but have more limited explanatory power of black-white segregation (Charles 2000). Race/ethnicity-based explanations can be generally divided into two lines of research; while some studies view institutional discrimination and racial prejudice as key determinants of residential segregation along racial lines other studies posit that distinct

racial/ethnic preferences for neighborhood racial composition is key to an understanding of residential segregation (Charles 2000).[4]

While the spatial segregation literature has received much attention in recent years, examination of the link between residential characteristics and homeownership of non-black minority and immigrant households is relatively scarce. Studying the racial/ethnic composition of metropolitan areas in the U.S. Borjas (2002) has recently reported that residence in ethnic enclaves—measured as the number of non-native adults from a particular country as a proportion of the entire adult population in the metropolitan area—has a statistically significant and strong effect on homeownership among members of that country of origin.[5]

The current study utilized data from 2000 and 2006—a period of rising homeownership rates—and extends previous research on housing inequality by studying household-level and spatial determinants of racial and ethnic differences in homeownership. In addition to blacks and whites—the two racial groups whose housing status received more attention in the past—the ethnic coverage includes Asians and Latinos. This paper studies the extent to which immigration characteristics, labor market attainment, and residential patterns shape trajectories to homeownership both between

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[4]Research on the origin of these preferences, however, is inconclusive and includes such factors as ethno-centric social preferences, white out-group preferences and groups' effort to preserve their relative status advantages (see review in Camille Zubrinsky Charles 2000).

[5]Borjas (2002) also discusses the potential problem of endogeneity that emerges from the use of the ethnic makeup of the metropolitan area as a predictor of homeownership; the factors that lead a household to reside in a particular location also lead to specific housing and labor market outcomes. If immigrants have a strong propensity to ownership and, as a result, tend to reside in areas where it is easier to enter the owner-occupied sector, "ethnic enclaves would form in areas that have relatively high homeownership rates, creating spurious positive correlation between any measure of the size of the ethnic enclave and homeownership rates in the immigrants population." While this problem has been difficult to resolve because there are very few instrumental variables that can be used to identify the relevant parameters, a comparative analysis of immigrants and refugees that aimed to test the presence of endogeneity in the study do not support the hypothesis that the positive correlation between ethnic clustering and homeownership rates can be attributed solely to endogeneity bias (Borjas 2002, pp. 473-474).

and within racial/ethnic groups. By using decomposition methods, we are also able to assess the extent to which racial/ethnic variation in both composition of, and returns to, various demographic and socioeconomic characteristics, shape the white-minority gaps in homeownership.

DATA AND VARIABLES

The data come from a merged file from the 2000 Census and the 2006 American Community Survey (ACS).[6] The two datasets include identical variables and both have data on the Public Use Microdata Area (PUMA) where the housing unit is located. The PUMA is the lowest level of geographic identifier in these datasets and it generally follows the boundaries of county groups, single counties, or census-defined "places." PUMAs consist of a minimum of 100,000 residents and do not cross state lines. Both datasets have the same PUMA boundaries, a feature that enables us to merge the two files and create spatial variables at the PUMA level. In accordance with the conceptual framework and research questions that guide this study, four sets of variables are key to the analysis. *The race/ethnic variables* include five categories that describe the racial and ethnic origin of the head of household; non-Hispanic white, non-Hispanic black, Asian, Mexican and Other Hispanic. *The life-cycle and socioeconomic variables* include the individual-level (head of household) characteristics age, age cohort, years of education, Socioeconomic Index (SEI) that measures the occupational status, employment status, marital status, and household characteristics that include number of children, and household income. Following Myers and Lee (1998) and Borjas (2002) we use several variables that capture the various complex ways by which the *immigration attributes*

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[6]Due to the large sample size, we randomly sampled 20% of the 2000 IPUMS cases.

influence a household's ability and desire to purchase a house. The variable "years since migration" measures the duration effect. Dummy variables for immigrant cohorts measure the differences in the "quality" of cohorts and socio-economic circumstances peculiar to each cohort. Age at migration captures the different assimilation processes faced by immigrants who arrive at different points of their lifecycle. The dummy variable for linguistic isolation captures the unique assimilation problems faced by immigrants with little or no English language skills. *The spatial indicators* include PUMA-level variables that measure (1) the number of non-Hispanic white adults (18-64 years) as a percentage of the total adult population in the PUMA, the proportion of recent immigrants (defined as percentage of adults that reside in the U.S. for 20 years or less), and the mean household income in the PUMA. These variable are chosen to capture the racial, immigrant, and economic environment of the household's location. The variables region and metropolitan area are used primarily as control variables.[7]

FINDINGS

Table 1 reports the mean values of the socioeconomic and demographic variables for the five racial and ethnic groups. The homeownership rate of the white population far exceeds the levels reported for non-whites; while 70% of non-Hispanic white households are homeowners, the comparable rate for Asian households is 55% and among other groups, the rates are lower than 50%. The socioeconomic and demographic

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[7]We acknowledge that PUMAs are not the ideal spatial unit to describe racial segregation in housing markets. In small cities and rural areas, a PUMA may cover an entire county whereas racial and ethnic segregation may occur at the much smaller census tract or block group level (see Myers 2004). However, we proceed to use PUMAs as the unit of "neighborhoods" because it is the smallest geographical unit available in the census micro data while acknowledging the obvious problems associated with interpreting our results outside of large cities. The use of PUMA is an improvement over most other studies of homeownership at the national level that use metropolitan areas to define residential areas (Borjas 2002).

characteristics vary considerably by racial and ethnic origin. Data on marital status, a variable that is strongly associated with homeownership, reveal that while two thirds of Asians and almost 60% of white householders are married, about one third of the black householders are married and 43.6% of the black householders are female. Levels of education and occupational status are particularly high among Asians, followed by whites. While the majority of Mexican and black householders are employed (74.6% and 69.4%, respectively), the two groups report the lowest levels of average annual household income ($46,618 and $42,865, respectively). Asian households report the highest average annual income in the population ($77,956), followed by whites ($70,215), even though only 15% of the Asian householders are native-born, and about 20% are newcomers who arrived after 1995. The immigration makeup of the PUMAs, reveal that in contrast to Asian, Mexican, and other-Hispanic households, whites and blacks reside in PUMAs that have a relatively small number of recent immigrants. White households tend to reside in PUMAs whose residents are predominantly (80%) whites whereas the typical Asian household lives in areas with 59% white residents, and the average black and Latino households live in areas with about 50% white residents. Asians and whites are more likely than other groups to reside in PUMAs with a high average household income.

MULTIVARIATE ANALYSIS: POOLED SAMPLE

Our goal in this paper is to determine the sources of the persistent racial/ethnic inequality in homeownership. Drawing on the mentioned-above review of the literature, we contend that much of the gap can be explained by differences across the racial and ethnic groups in four broad dimensions: (1) demographic factors (2) socio-economic attributes (3)

12

immigrant experience and (4) locational characteristics. We begin the analysis with a set

of logistic regressions for the pooled sample to identify racial-ethnic differences

controlling for these four sets of variables. Our baseline model (Table 2, Column 1)

includes controls for demographic, education, and socio-economic variables.[8] Here, we

find that in comparison to the homeownership gap reported in Table 1, the white-minority

gap for non-Hispanic blacks and other Hispanics falls by a third from about 30% to

19.5% and the gap is more than halved for Mexicans. These results indicate that because

blacks, Mexicans, and other Hispanics, face distinct demographic, economic, and

educational disadvantages in the housing market they may be less able to afford a home.

Because these minority groups are younger on average and, in the case of blacks, less

likely to be married, the life-cycle situation may also contribute to a lower demand for

owned housing. The case of Asian households is quite different; the white-Asian

homeownership remains almost intact (it increases slightly from 15.4% to 17.1%) when

the socioeconomic and demographic controls are introduced. This finding suggests that

the white-Asian variation in demographic, economic, and educational background plays

only a marginal role in explaining the relatively low homeownership rate of Asians.

In the next model (Table 2, Column 2) a set of control variables that determine the

impact of immigration on home ownership were introduced. We find that there is a small

duration effect of about 1% for every two and half years an immigrant head of household

lives in the U.S. Age at migration also has a small positive effect that is diminishing

(curvilinear). Not surprisingly, household linguistic isolation has a negative effect,

reducing the likelihood of homeownership by about 7 percentage points. Recent

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[8]All our regressions include a dummy variable for the survey year and a set of interactive dummy variables
for region and metropolitan status. All estimates are weighted by the household sampling weight.

immigrants (those arrived in 1996-2005) are less likely than native-born and early

comers, to own a home. While these coefficients of the immigration variables tell us how

the immigrant experience influences home ownership rates independently of the racial

and ethnic impacts, we are most interested in finding out how the race and ethnicity

effects on home ownership are mediated by immigration characteristics. We examine this

by looking at how the race-ethnicity coefficients change when we add the immigration

variables.[9] Because we don't allow the impact of immigration on homeownership to

differ systematically across race-ethnic groups, the extent to which the coefficient of one

race-ethnic dummy variable changes relative to the coefficient of another race-ethnic

dummy variable depends entirely on the differences in the immigrant proportions and

characteristics across racial and ethnic groups.[10] When we add the immigration controls,

all race-ethnicity coefficients decrease. This decrease is negligible for non-Hispanic

blacks because only a tiny fraction of this group are foreign born. At the other extreme,

the homeownership gap between Asians and whites almost entirely disappears when the

immigration controls are added. The racial experience of Asians is intimately tied to their

immigrant experience because a large percentage of Asians are immigrants and the

differences between Asians and whites in all but the immigration dimension are fairly

small. For Mexicans, the homeownership gap is halved to about 5%, whereas the

reduction in the gap is less pronounced for "other Hispanics." These results confirm our

expectation that both race and immigration influence homeownership. The extent to

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[9]A change in the magnitude of the racial-ethnic coefficients is the product of two independent factors: (1) the impact of immigration on homeownership controlling for race-ethnicity, socio-economic, education and demographic variables, and (2) the impact of race-ethnicity on immigration controlling for socio-economic, education, and demographic variables. It is important to note that these two effects are assumed independent in this analysis.

[10]In the next section, we estimate a less restrictive model with interaction terms that attempt to capture how the immigrant experiences in home ownership vary by racial and ethnic origin.

which immigration explains white-minority gaps in homeownership is largest for Asians, followed by Mexicans, other Hispanics and blacks.

In our next models (Table 2, Columns 3 and 4), we examine whether the racial-ethnic differences in home ownership can be explained by the fact that the spatial characteristics of the various groups differ. As noted above, there is a large literature (Borjas 2002; Myers 2004; Saiz and Wachter 2006; Charles 2000) that attempts to establish whether the spatial variation in the distribution of minorities and immigrants is attributable to prejudice or negative preferences (preference of whites to live apart from minorities), positive preferences (preference of each group to live close to others of the same group) or the economic advantages of enclaves (access to credit and housing markets, employment, etc.). Our goal here is not to reexamine the causes of spatial characteristics, but to ascertain the extent to which racial and ethnic gaps in homeownership are explained by these characteristics. We do this by adding control variables at the PUMA level that capture the racial, immigrant, and economic characteristics of the PUMAs.[11] As expected, we find that PUMAs with a large percentage of recent immigrants have lower homeownership rates. We also find that low income PUMAs have lower homeownership rates. Surprisingly, we find that when controlling for income and recency of immigration at the PUMA level, the percentage of non-Hispanic whites in the PUMA has a negative effect on homeownership. We don't have a sensible explanation for this result. We do find, however, that racial-ethnic gaps decrease when the PUMA controls are added, although by a much smaller magnitude

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[11]In a subsequent study, we plan to estimate a regression with PUMA fixed effects as a more general way of controlling for PUMA effects that are both observed and unobserved by focusing exclusively on within PUMA variation in homeownership. The advantage of the present specification is the ability to obtain estimates for the different PUMA level variables.

than when the immigration controls were added. We would expect that the addition of the PUMA level controls to the baseline model (Column 3) will reduce the homeownership gap by the largest amount for racial-ethnic groups that tend to be confined in immigrant enclaves. The reduction is again negligible for non-Hispanic blacks. The gap reduces from 17.1% to 12.3% for Asians, from 11.5% to 6.5% for Mexicans, and from 19.7% to 11.6% for other Hispanics. When both immigrant and PUMA controls are added (Table 2, column 4), almost the entire homeownership gap of Asians and Mexicans is eliminated and for other Hispanic, the remaining gap is 8%. For non-Hispanic blacks, on the other hand, neither the immigration nor spatial variables explain a substantial fraction of the homeownership gap; the white-black gap remains 18%.

MODEL WITH RACE-ETHNIC INTERACTIONS

Our first set of estimates is limited by the assumption that race-ethnicity and other factors influence homeownership independently. We realize, however, that the immigrant assimilation process, for example, may be quite different for different racial-ethnic groups. If black immigrants find it much harder to purchase a house than Asian immigrants due to statistical discrimination in the housing market, the duration effect would be smaller for blacks than for Asians. To capture the racial-ethnic differences in the impact that socioeconomic, immigration, and PUMA-level characteristics have on homeownership, we use a more general specification with all possible interactions. Practically speaking, this amounts to estimating a separate logit equation for each race-ethnic group. The findings are reported in Table 3.

Our results suggest some important racial-ethnic differences in how the explanatory factors influence homeownership. It appears that the assimilation process is quite rapid for Asians and very difficult for other Hispanics; the duration effect (years since migration) is strongest for Asians, followed by blacks, Mexican and whites and is non-existent for other Hispanics. Relative to native-born households of the same racial/ethnic origin, white immigrants who arrived recently (1996-2005) have a particularly strong disadvantage, whereas the differences between native-born and foreign-born households among the Mexican population and the "other Hispanic" population are insignificant. The linguistic isolation effect, however, is strongest among Mexicans and other Hispanics, followed by whites. Blacks and Asians do not have significant linguistic isolation effects; the result for Asians is particularly interesting and may indicate the presence of extended families and other network and enclave effects that compensate for the linguistic disadvantage in finding access to the housing market. The household income effect is strongest for Asians, suggesting their ability to overcome racial-ethnic disadvantages via economic mobility. With the exception of the white model, the percentage of non-Hispanic whites in the PUMA is negatively associated with homeownership; as the percent of whites increases the likelihood of minority ownership decreases. The racial and immigrant composition effect (at the PUMA level) is strongest for Mexicans; both the percent of whites and the percent of recent immigrants in the PUMA have particularly strong negative effects on the likelihood of ownership among Mexicans.

BLINDER-OAXACA-FAIRLIE DECOMPOSITION

We use the full interactions model to calculate the portion of the race-ethnic gap in home

ownership that is explained by the race-ethnic differences in the mean observed

characteristics. Because our dependent variable is dichotomous and the regression model

is non-linear, we adopt Fairlie's (1999) extension of the Blinder-Oaxaca decomposition.[12]

The literature on the Blinder-Oaxaca decomposition has grappled with the choice of

appropriate coefficients for the construction of the explained part. In the context of our

example, we could use the white coefficients (as shown above) or the minority

coefficients to construct the explained part. In the first (second) method, the explained

part is the difference in home ownership rates if both groups shared the coefficients of the

advantaged (disadvantaged) group, but had their own means. In the context of our

research question, the first approach is more appropriate because it allows us to estimate

how much the home ownership gap will narrow if minority groups had the similar

marginal "returns" in the housing market as the majority (white) group.

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[12] Here the difference in the mean home ownership rate P between the two groups, white(W) and minority (M) are decomposed as follows;

$$P^W - P^M = \left[\sum_{i=1}^{N^W} \frac{F(X_i^W \hat{\beta}^W)}{N^W} - \sum_{i=1}^{N^M} \frac{F(X_i^M \hat{\beta}^W)}{N^M} \right] - \left[\sum_{i=1}^{N^W} \frac{F(X_i^M \hat{\beta}^W)}{N^W} - \sum_{i=1}^{N^M} \frac{F(X_i^M \hat{\beta}^M)}{N^M} \right]$$

where $F(X_i \hat{\beta})$ is the logistic function, X is a row vector of independent variables and $\hat{\beta}$ is the corresponding vector of parameter estimates.

The first term represents the part of the racial gap that is explained by group differences in the independent variables. The remainder is the unexplained part, or the part of the home ownership differences that are attributable to coefficient (or process) differences and group differences in unmeasured or unobserved variables (i.e. intercepts). The decomposition of the explained and unexplained parts can be carried out easily by running the logistic regression and computing the relevant predicted probabilities using the cumulative logistic distribution function (F).

INDIVIDUAL COMPONENTS OF THE EXPLAINED DIFFERENCES

The calculation of the contribution of individual variables to the group differences in home ownership is somewhat complicated in a nonlinear regression model such as logistic regression. If we have two groups of equal size N, the contribution of variables X_1 to the group difference in home ownership can be expressed as

$$\frac{1}{N}\sum_{i=1}^{N}\left[F(\hat{\beta}_0 + X_1^W\hat{\beta}_1^W + X_2^W\hat{\beta}_2^W) - F(\hat{\beta}_0 + X_1^M\hat{\beta}_1^W + X_2^W\hat{\beta}_2^W)\right]$$

In a linear regression, this expression reduces to $\beta_1^W(\bar{X}_1^W - \bar{X}_1^M)$ and the estimation of the partial contributions can be constructed using the group means of the relevant X variable independently of other X variables. In the logistic case, however, we need to keep the values of all other X variables the same, and increase the value of the relevant variable by a unit to compute the marginal contribution to the group difference. The computation of pair-wise differences in the predicted values is further complicated by the fact that the two groups are typically not of equal size. Fairlie (2005) proposes a method where we draw a random sample of the larger group of the same size as the smaller group, rank order the two subsamples by their predicted probabilities, observations are paired by ranks and the differences calculated using the above expression. To avoid sampling issues associated with drawing a random paired sample of equal size, he proposes the estimation of the differences using a large number of random subsamples and taking the means of the estimated contributions. We follow this approach using the STATA code written by Fairlie. The detailed results from the Blinder-Oaxaca-Fairlie decomposition analysis are presented in appendix A.

Table 4 reports the results of the decomposition analysis. For Asians, Mexicans and other Hispanics, mean differences in the observed characteristics explain as much as 83-94% of the homeownership gap. If these minority groups had the same socio-economic, education, demographic, immigrant, and spatial characteristics as whites, their homeownership rates would be only marginally lower than that of whites. For non-Hispanic blacks, however, as much as 40% of the homeownership gap remains unexplained. Table 4 and Figure 1 present the decomposition in terms of the five broad factors that were introduced at the outset. The results are quite striking and confirm our previous findings. For Asians, there are no socioeconomic, demographic, or education disadvantages; in fact, there is a slight advantage. Most of the white-Asian homeownership gap is explained by immigration and to a lesser extent, spatial characteristics. For the two Hispanic populations (Mexicans and other Hispanics), the story is quite similar and mixed; all factors seem to be at play here. While the proportional impact of immigration is markedly smaller for these groups than for Asians, the role of immigration and spatial characteristics cannot be overlooked when studying the white-Hispanic homeownership gaps.

The outcomes for non-Hispanic blacks differ in several important ways (1) as mentioned earlier, only about 60% of the gap is explained by the four factors (2) immigration and education variables play a minimal role in homeownership differences (3) spatial variables are influential but to a lesser degree than for other minorities (4) the economic disadvantages of blacks are transmitted to housing market disadvantage to a larger degree than for any other group except Mexicans (5) demographic variables constitute almost 30% of the explained portion of the black-white homeownership gap.

Blacks are most strikingly different from the other minority households in two demographic aspects that have a direct and strong impact on the demand for housing, marriage and gender. As many as 35% of black household heads have never married, and more than 55% of black households are headed by a female. These numbers stand out in relation not only to the minorities but also to whites. Compared to Mexicans and Hispanics, the fertility rates are also lower for blacks. It is not surprising that marriage, children and the presence of a male household head offer obvious incentives for homeownership, and non-Hispanic blacks have a unique set of demographic characteristics that make homeownership less desirable or affordable.

DISCUSSION AND CONCLUSIONS

In the literature on race and ethnic inequality, homeownership is viewed both as a key measure of economic well-being and wealth, and as a significant indicator of social assimilation and attachment to the community. The current study utilized recent data from two national surveys to study the demographic, economic, and spatial determinants of inequality in homeownership in the years 2000-2006. Findings from the multivariate analysis showed that, as an explanation of racial and ethnic inequality, the neoclassical economic theory is not sufficient; even after controlling for household income, occupational status, education, marital status, age and various demographic characteristics, immigration, and spatial attributes remain key to an understanding of racial-ethnic differences in homeownership. These effects, however, are not uniform, as they tend to vary by racial/ethnic origin. When studying the racial/ethnic groups separately, it becomes clear that trajectory into homeownership is quite rapid among

Asian immigrants, a pattern that signifies a high rate of assimilation. Our multivariate analysis also corroborates the merit of distinguishing assimilation (length of residence) from immigration cohort effect; relative to native-born of the same racial/ethnic origin, white immigrants, particularly but not solely recent arrivals, face significant disadvantages in the owner-occupied sector, even after controlling for the socioeconomic, demographic, and assimilation attributes. Presumably, the overall high rate of homeownership among native-born white households makes it very difficult for foreign-born to catch-up with the native-born population. Consequently, housing stratification along immigration lines is more visible among white than any other racial/ethnic category.

Another finding that distinguishes whites from minority populations is the association between trajectory into homeownership and the racial composition of the community; residence in areas with a relatively large proportion of white residents seems to depress minority likelihood of homeownership. Because our models controlled for various economic and demographic attributes, this finding is likely attributable to groups preferences and/or institutional discrimination in the housing market. The use of decomposition analyses reveal some interesting findings vis a vis these probable sources of the white-minority homeownership gap.

With the exception of blacks, most of the minority-white gap was "explained" and much of the explained gap was attributed to differences in immigration and spatial characteristics. Some researchers, especially in the labor market literature, have attributed the unexplained gap to discrimination, because it reflects different degrees to which the same variables are rewarded in the market. However, we stop short of making such

claims in the housing market because different coefficients or "returns" to specific variables in our models do not necessarily imply discrimination. For example, age-homeownership profile of distinct racial-ethnic groups may be different due to variation in cultural and social expectations and preferences. Note, however, that a large explained component may indicate the lack of discrimination or prejudice in that particular market, but it does not preclude the possibility that the homeownership disadvantage arises from discrimination in another market or context, such as the educational system or the labor market[13].

Drawing on the neoclassical economic theory and the spatial assimilation model, and using the four broad dimensions that the analysis focused on—demographic factors, education and socioeconomic attributes, immigrant experience, and spatial characteristics—and focusing on the explained part of the minority-white homeownership gap, three distinct models of minority trajectory into homeownership emerge from the data. The Asian-white inequality is unique in that it is relatively small in comparison to the black-white and the Latino-white gaps, but this gap can be entirely explained by the differences in immigration and spatial attributes. As the human capital and family attributes of Asian households resemble those that characterize white households, these factors have practically no impact on the lower rates of homeownership that Asians have relative to whites.

In contrast to the Asian-white model, the black-white pattern stems from a different set of possible explanations that were tested. We are not surprised that immigration has no impact on the black-white gap, but in contrast to our expectation, we

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[13]   See Altonji and Blank (1999) for a survey of literature that documents racial discrimination in the labor market.

did not find a substantial effect of spatial context on the white-black homeownership differences. One plausible explanation for this finding is that, as noted above (footnote 5), PUMAs are relatively large and may not be the ideal geographical unit to study racial/ethnic variation in residential characteristics. However, what the multivariate and decomposition analyses reported in the paper have revealed is a more intricate picture: while the two racial groups tend to reside in PUMAs that substantially differ in their racial, immigration, and economic contexts, these residential differences seem to explain a relatively small part of the (explained) white-black homeownership gap (10%). Note, however, that a substantial part of the black-white ownership gap is "unexplained," a finding that is in line with the persistent evidence on the distinct opportunity structure that black households face in the credit and the housing market (Dymski 2006). The one set of variables that seems to play an important role in shaping the relatively low homeownership rate of black households in the contemporary U.S. housing market is their unique family structure, specifically the relatively high number of households with unmarried and female heads, that continue to hinder their trajectory to homeownership.

The Latino-white model is characterized by a more "balanced" pattern that includes a combination of demographic, economic, immigration, and spatial factors. There are some differences between the Mexican and the other Hispanic category; only a marginal portion of the Mexican-white gap is "unexplained" and, relative to other Hispanic groups, the economic and education characteristics of Mexican households have a more detrimental effect on trajectory into homeownership. However, the housing market status of both populations─Mexicans and other Hispanics─is shaped, to large extent, by various economic, demographic and spatial factors, such as linguistic isolation,

age structure, low level of education and occupational status, residence in areas with high

number of recent immigrants, and recency of arrival.

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	Total		White		Black	
Table 1: Descriptive Statistics	970724		737232		106239	
			0.726196		0.124136	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
	-------------	----------	-------------	----------	-------------	----------
Home ownership	0.638	0.001	0.707	0.001	0.429	0.003
Immigrant cohorts						
Native born	0.854	0.001	0.953	0.000	0.906	0.002
Before 1975	0.036	0.000	0.019	0.000	0.017	0.001
1976-1985	0.037	0.000	0.008	0.000	0.027	0.001
1986-1995	0.043	0.000	0.011	0.000	0.029	0.001
1996-2005	0.030	0.000	0.009	0.000	0.021	0.001
Years since migration (for immigrants)	18.950	0.062	23.165	0.150	17.071	0.208
Age at migration (for immigrants)	22.245	0.056	20.588	0.132	23.946	0.202
Linguistic isolation	0.046	0.000	0.008	0.000	0.012	0.001
PUMA characteristics						
% of recent immigrants (less than 20 years in US)	0.094	0.000	0.072	0.000	0.105	0.001
% of non-Hispanic white adults	0.726	0.000	0.803	0.000	0.525	0.002
mean household income (1000's of dollars)	63.283	0.036	64.671	0.040	55.319	0.101
Birth cohorts						
Before 1945	0.109	0.000	0.121	0.001	0.094	0.001
1945-1954	0.239	0.001	0.255	0.001	0.218	0.002
1955-1964	0.283	0.001	0.285	0.001	0.283	0.002
1965-1990	0.369	0.001	0.338	0.001	0.405	0.003
	42.562	0.021	43.341	0.023	41.566	0.066
Marital status						
Married	0.552	0.001	0.580	0.001	0.342	0.003
Separated	0.036	0.000	0.026	0.000	0.082	0.002
Divorced	0.166	0.001	0.175	0.001	0.180	0.002
Widowed	0.031	0.000	0.030	0.000	0.044	0.001
Never married	0.215	0.001	0.190	0.001	0.353	0.003
Sex (Male=1)	0.621	0.001	0.648	0.001	0.436	0.003
No. of children	0.932	0.002	0.835	0.002	1.044	0.007
Education						
Less than high school	0.106	0.001	0.066	0.000	0.134	0.002
High school	0.292	0.001	0.286	0.001	0.360	0.003
1 to 3 years of college	0.307	0.001	0.320	0.001	0.330	0.003
4+ years of college	0.295	0.001	0.328	0.001	0.177	0.002
Household income (1000's of dollars)	64.572	0.102	70.215	0.121	42.865	0.242
Employment status						
Employed	0.786	0.001	0.811	0.001	0.694	0.003
Unemployed	0.035	0.000	0.029	0.000	0.065	0.002

Not in labor force	0.178	0.001	0.160	0.001	0.242	0.002
Socioeconomic (occupational) status	42.047	0.045	44.654	0.050	34.442	0.139
Year of survey	0.519	0.001	0.509	0.001	0.527	0.003
Region						
New England Division	0.050	0.000	0.059	0.000	0.021	0.001
Middle Atlantic Division	0.136	0.001	0.134	0.001	0.142	0.002
East North Central Div.	0.163	0.001	0.182	0.001	0.157	0.002
West North Central Div.	0.071	0.000	0.086	0.001	0.035	0.001
South Atlantic Division	0.191	0.001	0.180	0.001	0.328	0.003
East South Central Div.	0.063	0.000	0.067	0.000	0.100	0.002
West South Central Div.	0.110	0.001	0.095	0.001	0.129	0.002
Mountain Division	0.067	0.000	0.070	0.001	0.017	0.001
Pacific Division	0.150	0.001	0.126	0.001	0.071	0.001
Metropolitan Area (dummy)	0.774	0.001	0.730	0.001	0.861	0.002

Table 1: Descriptive Statistics (Cont.)	Asian		Mexican		Other Hispanic	
	31690		54490		41073	
	0.03815		0.064923		0.046595	
	Mean	Std. Err.	Mean	Std. Err.	Mean	Std. Err.
Home ownership	0.553	0.005	0.471	0.004	0.428	0.004
Immigrant cohorts						
Native born	0.149	0.003	0.416	0.004	0.368	0.004
Before 1975	0.137	0.003	0.107	0.002	0.167	0.003
1976-1985	0.250	0.004	0.161	0.003	0.167	0.003
1986-1995	0.268	0.004	0.194	0.003	0.191	0.003
1996-2005	0.196	0.004	0.122	0.003	0.106	0.003
Years since migration (for immigrants)	16.412	0.104	17.277	0.114	19.736	0.138
Age at migration (for immigrants)	25.228	0.114	20.823	0.100	22.046	0.117
Linguistic isolation	0.237	0.004	0.287	0.004	0.234	0.004
PUMA characteristics						
% of recent immigrants (less than 20 years in US)	0.188	0.001	0.181	0.001	0.221	0.001
% of non-Hispanic white adults	0.591	0.002	0.496	0.002	0.489	0.002
mean household income (1000's of dollars)	75.114	0.227	57.877	0.136	60.714	0.197
Birth cohorts						
Before 1945	0.077	0.002	0.052	0.001	0.075	0.002
1945-1954	0.213	0.004	0.153	0.002	0.184	0.003
1955-1964	0.273	0.004	0.258	0.003	0.288	0.004
1965-1990	0.438	0.005	0.538	0.004	0.453	0.004
	41.126	0.105	38.250	0.085	40.254	0.097
Marital status						
Married	0.666	0.005	0.613	0.004	0.509	0.004
Separated	0.017	0.001	0.056	0.002	0.069	0.002
Divorced	0.075	0.003	0.102	0.002	0.148	0.003
Widowed	0.021	0.001	0.022	0.001	0.027	0.001
Never married	0.221	0.004	0.206	0.003	0.247	0.004
Sex (Male=1)	0.698	0.004	0.665	0.004	0.567	0.004
No. of children	1.053	0.011	1.545	0.011	1.204	0.011
Education						
Less than high school	0.079	0.002	0.410	0.004	0.251	0.004
High school	0.161	0.004	0.297	0.004	0.303	0.004
1 to 3 years of college	0.211	0.004	0.206	0.003	0.273	0.004
4+ years of college	0.549	0.005	0.087	0.002	0.173	0.003
Household income (1000's of dollars)	77.956	0.669	45.618	0.306	49.909	0.402
Employment status						
Employed	0.780	0.004	0.746	0.003	0.709	0.004
Unemployed	0.033	0.002	0.048	0.002	0.049	0.002
Not in labor force	0.187	0.004	0.207	0.003	0.242	0.004
Socioeconomic (occupational) status	49.192	0.261	28.949	0.182	34.076	0.218

Year of survey		0.569	0.004	0.580	0.003	0.531	0.004
Region							
	New England Division	0.037	0.002	0.004	0.001	0.061	0.002
	Middle Atlantic Division	0.168	0.004	0.018	0.001	0.284	0.004
	East North Central Div.	0.091	0.003	0.088	0.002	0.050	0.002
	West North Central Div.	0.036	0.002	0.026	0.001	0.011	0.001
	South Atlantic Division	0.117	0.003	0.058	0.002	0.247	0.004
	East South Central Div.	0.014	0.001	0.010	0.001	0.008	0.001
	West South Central Div.	0.073	0.002	0.269	0.003	0.107	0.003
	Mountain Division	0.037	0.002	0.130	0.003	0.076	0.002
	Pacific Division	0.426	0.005	0.398	0.004	0.156	0.003
Metropolitan Area (dummy)		0.953	0.002	0.874	0.003	0.930	0.002

Table 2: Pooled Sample Weighted Logit Estimates - Marginal Effects

	Baseline b/se	Immigration b/se	PUMA b/se	Full b/se
Non-Hispanic black (d)	-.1956994***	-.1922857***	-.1879616***	-.1827133***
	(.0037024)	(.0037151)	(.004034)	(.0040367)
Asian (d)	-.1710196***	-.0379578***	-.1236969***	-.0303855***
	(.0059458)	(.0063816)	(.0061207)	(.006479)
Mexican (d)	-.1155712***	-.0507886***	-.0659014***	-.0254161***
	(.0052366)	(.0054978)	(.0053866)	(.0055721)
Other Hispanic (d)	-.197402***	-.1314026***	-.1159667***	-.0800802***
	(.005521)	(.0061331)	(.0057869)	(.0061917)
Born 1945-1954 (d)	-.0414878***	-.0462965***	-.0424319***	-.0475158***
	(.0058898)	(.0059927)	(.005936)	(.0060304)
Born 1955-1964 (d)	-.0373216***	-.0439172***	-.0389584***	-.0463455***
	(.0087137)	(.0088586)	(.0087818)	(.0089146)
Born 1965-1990 (d)	-.0191109	-.0237376*	-.0203179	-.0258967*
	(.0104424)	(.0105738)	(.0105208)	(.0106382)
Age	.0433733***	.0441673***	.0439562***	.0443995***
	(.0009982)	(.001007)	(.0010002)	(.001009)
Age squared	-.0003468***	-.0003553***	-.0003518***	-.0003576***
	(.0000125)	(.0000126)	(.0000125)	(.0000126)
Separated (d)	-.3371765***	-.3470585***	-.3380837***	-.3468333***
	(.006058)	(.0060458)	(.0060956)	(.0060764)
Divorced (d)	-.2578029***	-.2715786***	-.2594284***	-.271045***
	(.0032422)	(.0032544)	(.0032567)	(.0032655)
Widowed (d)	-.1146881***	-.1242128***	-.1151329***	-.1229461***
	(.0066545)	(.0067316)	(.0066942)	(.0067452)
Never married (d)	-.2751392***	-.2879477***	-.2698532***	-.2812632***
	(.0031975)	(.0031997)	(.0032173)	(.0032201)
Male (d)	.0256722***	.028944***	.025628***	.028167***
	(.0023715)	(.0023854)	(.0023788)	(.0023916)
No. of children	.0256365***	.025424***	.0257731***	.0250572***
	(.0010479)	(.0010567)	(.0010538)	(.001061)
High school (d)	.0924631***	.0806787***	.0871203***	.0799913***
	(.0034746)	(.0035939)	(.0035272)	(.003622)
Some college (d)	.1130691***	.0994299***	.1076608***	.098848***
	(.0035707)	(.003687)	(.0036323)	(.0037221)
College degree (d)	.1323356***	.1300997***	.1306761***	.1308917***
	(.0038902)	(.0039455)	(.0039461)	(.003988)
Log household income	.0616523***	.0583276***	.0614041***	.0582337***
	(.0015887)	(.0015244)	(.0016099)	(.0015453)
Unemployed (d)	-.055668***	-.0593168***	-.0538205***	-.0572585***
	(.0063281)	(.0063682)	(.0064011)	(.0064279)
Not in labor force (d)	.0007161	-.0038606	.0019166	-.0018213
	(.0028917)	(.0029211)	(.0029066)	(.0029332)
Socioeconomic (occupational) status	.0014691***	.0012993***	.0014889***	.0013454***
	(.0000498)	(.0000496)	(.0000501)	(.0000499)
Year of Survey (d)	.0094502***	.0142171***	.0016448	.0079376***
	(.0023249)	(.0023664)	(.0023449)	(.0023808)
Immigrate before 1975(d)		-.1421202***		-.1021756***
		(.0275843)		(.027528)
Immigrate 1976-1985 (d)		-.0704099***		-.0385939
		(.0201878)		(.0198206)
Immigrate 1986-1995 (d)		-.0811827***		-.0617667***
		(.0172527)		(.0172405)
Immigrate 1996-2005 (d)		-.2429628***		-.2531186***
		(.0173501)		(.0175591)
Years since migration		.0038763***		.0032501***
		(.0006043)		(.0006145)
Age at migration		.0021921**		.003899***
		(.0008104)		(.0008247)
Age at migration squared		-.0001753***		-.000192***
		(.0000153)		(.0000156)
Linguistic isolation (d)		-.0705887***		-.0621826***
		(.0064313)		(.0065192)

Table 2s: Pooled Sample Weighted Logit Estimates - Marginal Effects (Cont.)

	Baseline b/se	Immigration b/se	PUMA b/se	Full b/se
% of recent immigrants in PUMA			-.7269743*** (.0148937)	-.6419641*** (.015321)
% of non-Hispanic white adults in PUMA			-.0650085*** (.0077203)	-.0459699*** (.0077336)
Log mean household income in PUMA			.0355773*** (.004408)	.0392067*** (.004409)
intercept				
obs	970697	970697	970697	970697
d.f.	40	48	43	51
chi sq	62070.548	64315.271	65149.025	66356.120
log likelihood	-477584	-470589	-472607	-466763
log likelihood (constant only)	-635271	-635271	-635271	-635271

(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Table 3: Weighted Logit Estimates by Race- Marginal Effects

	White NH b/se	Black NH b/se	Asian b/se	Mexican b/se	Other Hispanic b/se
Immigrate before 1975 (d)	-0.14767**	-0.12362	-0.23246**	0.00220	-0.00543
	(0.04812)	(0.09141)	(0.08014)	(0.06482)	(0.06810)
Immigrate 1976-1985 (d)	-0.13462***	-0.09920	-0.12364	0.07267	0.02930
	(0.03597)	(0.07627)	(0.07285)	(0.05177)	(0.05519)
Immigrate 1986-1995 (d)	-0.16223***	-0.09458	-0.08823	0.05438	0.01444
	(0.03099)	(0.06304)	(0.06568)	(0.04472)	(0.04919)
Immigrate 1996-2005 (d)	-0.34757***	-0.24615***	-0.26546***	-0.07616	-0.10616*
	(0.02982)	(0.03898)	(0.05695)	(0.04232)	(0.04395)
Years since migration	0.00264**	0.00577*	0.00846***	0.00434*	0.00088
	(0.00090)	(0.00284)	(0.00248)	(0.00172)	(0.00160)
Age at migration	0.00814***	0.00736	0.00228	-0.00145	0.00237
	(0.00113)	(0.00404)	(0.00240)	(0.00230)	(0.00214)
Age at migration squared	-0.00023***	-0.00021**	-0.00022***	-0.00012**	-0.00017***
	(0.00002)	(0.00008)	(0.00004)	(0.00005)	(0.00004)
Linguistic isolation (d)	-0.05072***	-0.06899	-0.02355	-0.08241***	-0.09888***
	(0.01204)	(0.03721)	(0.01535)	(0.01161)	(0.01403)
% of recent immigrants in PUMA	-0.51021***	-0.78096***	-0.58053***	-0.92342***	-0.59077***
	(0.01780)	(0.03987)	(0.06632)	(0.05962)	(0.05502)
% of non-Hispanic white adults in PUMA	0.04701***	-0.13471***	-0.15733***	-0.34301***	-0.17537***
	(0.00879)	(0.01633)	(0.04037)	(0.03395)	(0.03264)
Log mean household income in PUMA	0.02046***	0.08915***	0.13776***	0.03926	0.13907***
	(0.00442)	(0.01441)	(0.02138)	(0.02176)	(0.02134)
Born 1945-1954 (d)	-0.03390***	-0.04021*	-0.09668**	-0.05140	-0.12459***
	(0.00590)	(0.01615)	(0.03364)	(0.03141)	(0.02903)
Born 1955-1964 (d)	-0.02900***	-0.01928	-0.13508**	-0.07582	-0.17000***
	(0.00876)	(0.02448)	(0.04869)	(0.04439)	(0.04278)
Born 1965-1990 (d)	-0.00798	0.00215	-0.13165*	-0.08900	-0.12728*
	(0.01037)	(0.03120)	(0.05813)	(0.05336)	(0.05538)
Age	0.03942***	0.04017***	0.05274***	0.03675***	0.04839***
	(0.00098)	(0.00339)	(0.00637)	(0.00455)	(0.00492)
Age squared	-0.00032***	-0.00029***	-0.00043***	-0.00029***	-0.00043***
	(0.00001)	(0.00004)	(0.00008)	(0.00006)	(0.00006)
Separated (d)	-0.37384***	-0.23770***	-0.19071***	-0.23611***	-0.26133***
	(0.00798)	(0.00874)	(0.03999)	(0.01779)	(0.01670)
Divorced (d)	-0.26846***	-0.18955***	-0.20163***	-0.19257***	-0.18211***
	(0.00360)	(0.00784)	(0.02171)	(0.01334)	(0.01297)
Widowed (d)	-0.11270***	-0.10631***	-0.11139***	-0.10147***	-0.07729**
	(0.00761)	(0.01336)	(0.03296)	(0.02991)	(0.02720)
Never married (d)	-0.27277***	-0.23625***	-0.17914***	-0.20457***	-0.22507***
	(0.00372)	(0.00785)	(0.01806)	(0.01203)	(0.01314)
Male (d)	0.02560***	0.04634***	-0.01426	0.02587*	0.03184**
	(0.00235)	(0.00734)	(0.01383)	(0.01149)	(0.01213)
No. of children	0.02352***	0.01289***	0.03804***	0.02689***	0.02505***
	(0.00115)	(0.00279)	(0.00631)	(0.00355)	(0.00506)
High school (d)	0.07485***	0.07940***	0.05707*	0.06474***	0.05007***
	(0.00378)	(0.01129)	(0.02482)	(0.01206)	(0.01488)
Some college (d)	0.08711***	0.11693***	0.09790***	0.11357***	0.08504***
	(0.00388)	(0.01216)	(0.02279)	(0.01388)	(0.01698)
College degree (d)	0.11159***	0.22467***	0.10405***	0.13725***	0.13173***
	(0.00412)	(0.01452)	(0.02406)	(0.01927)	(0.02005)
Log household income	0.05007***	0.04942***	0.09566***	0.06767***	0.04595***
	(0.00142)	(0.00375)	(0.01053)	(0.00850)	(0.00976)
Unemployed (d)	-0.05602***	-0.08078***	-0.04076	0.02929	-0.04630
	(0.00680)	(0.01407)	(0.03897)	(0.02409)	(0.02756)
Not in labor force (d)	-0.00273	-0.02466**	0.02006	0.04518***	0.01778
	(0.00305)	(0.00807)	(0.01527)	(0.01147)	(0.01275)
Socioeconomic (occupational) status	0.00106***	0.00181***	0.00053	0.00213***	0.00222***
	(0.00005)	(0.00016)	(0.00028)	(0.00024)	(0.00026)
Year of survey (d)	0.00641**	-0.02015**	0.03305*	0.01743	0.04571***
	(0.00233)	(0.00758)	(0.01456)	(0.01044)	(0.01329)
intercept					

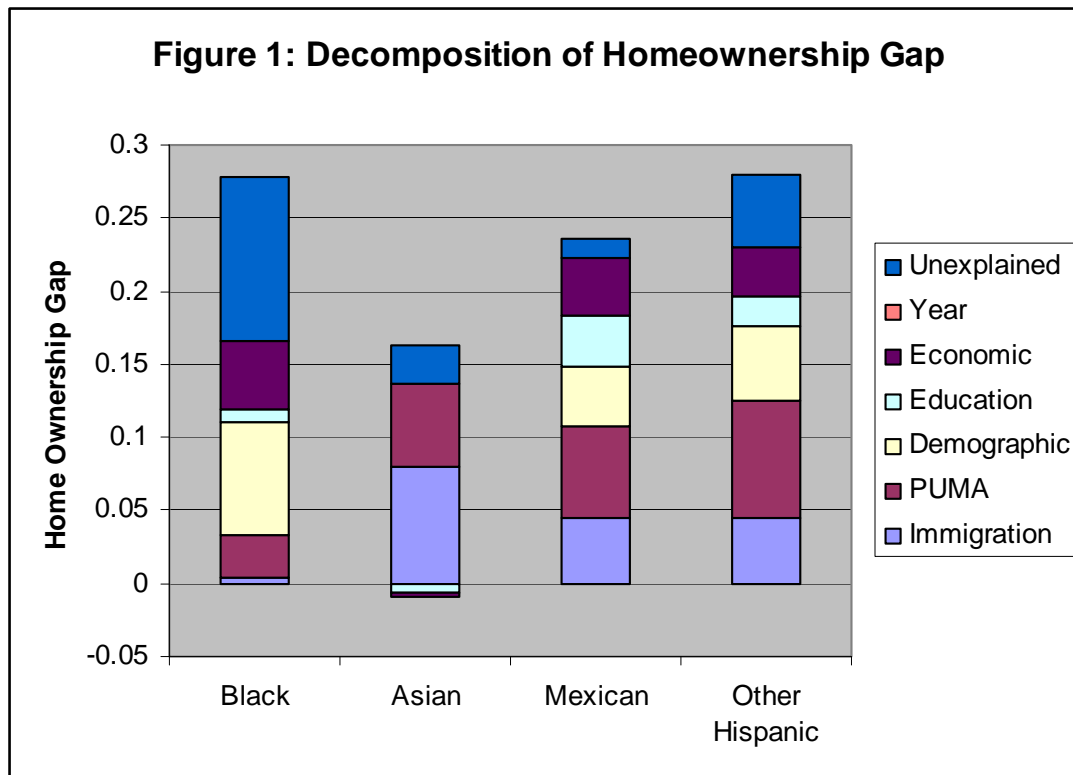| obs	737213	106234	31690	54489	41071
d.f.	47	47	47	47	47
chi sq	49314.630	6345.307	2552.909	3434.181	3052.462
log likelihood	-335966	-57117	-15919	-29718	-21335
log likelihood (constant only)	-445975	-72566	-21788	-37677	-28039

All models include dummy variables for Region, Metropolitan Area and Region*Metropolitan Area
(d) for discrete change of dummy variable from 0 to 1
* p<0.05, ** p<0.01, *** p<0.001

Table 4: Summary of Blinder-Oaxaca-Fairlie decomposition

	Black	Asian	Mexican	Other Hispanic
Total Gap	0.278	0.154	0.236	0.279
% of Gap Explained	0.598	0.827	0.939	0.822
Immigration	0.012	0.521	0.192	0.158
PUMA	0.107	0.367	0.265	0.290
Demographic	0.278	−0.004	0.173	0.185
Education	0.033	−0.036	0.144	0.068
Economic	0.168	−0.018	0.167	0.121

Figure 1: Decomposition of Homeownership Gap

Appendix A: Blinder-Oaxaca-Fairlie Decomposition

	Other Hispanic	Black NH	Asian	Mexican
	b/se	b/se	b/se	b/se
Immigrate Before 1975	0.00012	0.00995**	0.00826**	0.01414**
	(0.00017)	(0.00354)	(0.00296)	(0.00488)
Immigrate 1976-1985	0.00201***	0.02234***	0.01523***	0.01618***
	(0.00054)	(0.00597)	(0.00407)	(0.00425)
Immigrate 1986-1995	0.00246***	0.03323***	0.02569***	0.02476***
	(0.00045)	(0.00613)	(0.00457)	(0.00436)
Immigrate 1996-2005	0.00219***	0.05039***	0.02728***	0.02344***
	(0.00012)	(0.00347)	(0.00174)	(0.00154)
Years since migration	-0.00173*	-0.02812**	-0.02084**	-0.02559**
	(0.00073)	(0.01037)	(0.00770)	(0.00945)
Age at migration	-0.00704***	-0.12441***	-0.07174***	-0.08185***
	(0.00095)	(0.01622)	(0.00967)	(0.01085)
Age at migration squared	0.00533***	0.10754***	0.04980***	0.06355***
	(0.00038)	(0.00805)	(0.00398)	(0.00493)
Linguistic isolation	0.00005***	0.00930***	0.01165***	0.00952***
	(0.00001)	(0.00210)	(0.00263)	(0.00214)
% of recent immigrants in PUMA	0.01622***	0.05049***	0.04812***	0.06684***
	(0.00058)	(0.00178)	(0.00173)	(0.00237)
% of non-Hispanic white adults in PUMA	0.01099***	0.00848***	0.01254***	0.01286***
	(0.00208)	(0.00159)	(0.00236)	(0.00242)
Log mean household income in PUMA	0.00251***	-0.00244***	0.00188***	0.00133***
	(0.00054)	(0.00052)	(0.00041)	(0.00029)
Born 1945-1954	-0.00074***	-0.00126***	-0.00282***	-0.00186***
	(0.00009)	(0.00019)	(0.00045)	(0.00029)
Born 1955-1964	-0.00049***	-0.00089***	-0.00144***	-0.00059***
	(0.00012)	(0.00026)	(0.00041)	(0.00016)
Born 1965-1990	0.00044	0.00083	0.00149	0.00089
	(0.00057)	(0.00107)	(0.00193)	(0.00115)
Age	0.11637***	0.08603***	0.16977***	0.11378***
	(0.00261)	(0.00184)	(0.00287)	(0.00213)
Age squared	-0.08923***	-0.05988***	-0.10747***	-0.07554***
	(0.00279)	(0.00201)	(0.00295)	(0.00227)
Separated	0.01624***	-0.00201***	0.00742***	0.01013***
	(0.00033)	(0.00007)	(0.00015)	(0.00019)
Divorced	-0.00418***	-0.02452***	-0.01694***	-0.00735***
	(0.00013)	(0.00040)	(0.00035)	(0.00024)
Widowed	-0.00039***	-0.00143***	-0.00151***	-0.00100***
	(0.00002)	(0.00008)	(0.00008)	(0.00005)
Never married	0.03965***	0.00896***	0.00895***	0.01955***
	(0.00057)	(0.00024)	(0.00024)	(0.00033)
Male	0.00515***	-0.00133***	-0.00049***	0.00199***
	(0.00047)	(0.00012)	(0.00005)	(0.00018)
No. of children	-0.00560***	-0.00516***	-0.01607***	-0.00841***
	(0.00029)	(0.00026)	(0.00079)	(0.00042)
High school	-0.00290***	0.01011***	0.00093***	0.00026***
	(0.00012)	(0.00056)	(0.00008)	(0.00006)
Some college	0.00027***	0.01036***	0.01049***	0.00488***
	(0.00004)	(0.00050)	(0.00051)	(0.00024)
College degree	0.01192***	-0.02607***	0.02248***	0.01393***
	(0.00043)	(0.00106)	(0.00087)	(0.00052)
Log household income	0.03552***	0.00193***	0.02348***	0.02278***
	(0.00085)	(0.00007)	(0.00059)	(0.00056)
Unemployed	0.00167***	0.00020***	0.00093***	0.00101***
	(0.00019)	(0.00003)	(0.00011)	(0.00012)
Not in labor force	0.00019	0.00001	0.00011	0.00020
	(0.00022)	(0.00001)	(0.00012)	(0.00022)
Socioeconomic (occupational) status	0.00928***	-0.00498***	0.01488***	0.00966***
	(0.00042)	(0.00024)	(0.00069)	(0.00045)
Year of survey	-0.00014**	-0.00034**	-0.00038**	-0.00012**
	(0.00005)	(0.00013)	(0.00014)	(0.00004)
obs	843447	768903	791702	778284

All models include dummy variables for Region, Metropolitan Area and Region*Metropolitan Area
* p<0.05, ** p<0.01, *** p<0.001