

Regional Variation in Homeownership Progress of the Baby Boom Generation

Dowell Myers
Gary Painter
Zhou Yu
Sung Ho Ryu

School of Policy, Planning, and Development
University of Southern California

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Corresponding address is Dowell Myers, VKC363, University Park Campus, Los Angeles,
CA 90089-0626; Email: dowell@usc.edu; Tel: (213) 740-7095

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Abstract

Increases in homeownership are assessed for young adults in the 50 states and 100 most populous metropolitan areas. We find substantial improvement in the 1990s compared to the 1980s, when homeownership declined in most states. Focusing on the younger half of the Baby Boom generation, ages 35-44 in 2000, we explore what factors caused greater gains in homeownership in some metropolitan areas than others. Factors analyzed include prices and incomes, housing construction relative to employment growth, the rate of household formation, and the rate of immigration. Homeownership gains are modeled for four race-ethnic groups: white, black, Asians, and Latino.

Findings underscore the importance of maintaining housing construction consistent with employment growth in the region. This factor was four times greater in importance for blacks and Latinos than for whites. The effect of immigration was also important for Latinos, sharply depressing homeownership in regions where more are recently arrived immigrants.

Keywords: Homeownership; Baby Boomers; Immigration

Introduction

Homeownership is a principal indicator of economic and social well-being in America (Rossi and Weber 1996; Rohe, Van Zandt, and McCarthy 2002). After the 1990 census there was alarm that the homeownership rate of young households had dropped sharply (by more than 5 percentage points), signifying that the Baby Boom generation was failing to sustain the achievements of its predecessors (Myers et al. 1992; Green 1996). Of major interest is how fully this lagging generation has caught up in the ensuing decade.

Previous studies have found wide regional disparities in the homeownership trends of age groups. Analysis of the 50 states showed a substantial reversal of homeownership fortunes: states that had been lagging enjoyed rebounds as regional economic forces shifted between the 1980s and 1990s (Myers 2001). For example, 49 states experienced increases in homeownership during the 1990s, while only 18 experienced such increases in the 1980s (Simmons 2001b). A more careful analysis of these trends would select metropolitan areas as the study areas since they better represent actual housing markets. The analysis should also be disaggregated by race and Hispanic origin group, because the changing demographic mix could cause homeownership rates to decline even if each group was achieving at a higher rate than before.

The present study carries out an analysis of the increasing homeownership rates from 1990 to 2000 as the Baby Boom generation grows 10 years older and gains added experience in its housing career. After a summary description of states, we present a detailed analysis of trends in the 100 most populous metropolitan areas. In an effort to

explain the regional variation of rate of homeownership improvement, models are estimated with controls for several sets of factors.

These factors include several important variables that economists and demographers recognize as important influences on regional homeownership rates. First, it would be expected that metropolitan areas with relatively faster increases in house prices than incomes would have lower increases in homeownership than areas where the opposite was true. In addition, the relative balance of housing supply (new construction) and demand (employment growth) is expected to help explain the greater access to homeownership in some areas than others. Findings with regard to the effect of new construction are especially important because this is one variable that is most subject to policy influence. Further, in the case of Latinos and Asians, homeownership trends may be strongly impacted by immigration over the past decade, given that new arrivals are much more likely to be renters than owners. Accordingly, we estimate how the share of the age cohort that is comprised of recent immigrants, rather than longer-settled immigrants or native-borns, has impacted the homeownership rate in each metropolitan area. Finally, we also test for the effect of accelerated household formation on homeownership rates. We expect that areas where the age cohort has increased its household formation over the decade will have added relatively more renters and fewer owners within the Baby Boom age cohort, thereby depressing the area's homeownership rate.

The results are largely consistent with previous literature concerning the influence of metropolitan level house prices, incomes, and the role of the presence of immigrants in metropolitan areas. The strongest results concern the importance of housing supply, and

the balance between employment growth and changes in housing supply. Increases in single family permits leads to higher homeownership rates, but employment growth that exceeds growth in housing supply lowers regional homeownership rates. Finally, the analysis finds that increases in the rates of household formation has an independent negative effect on homeownership, but this effect operates largely through the area prices, incomes, employment growth, and changes in housing supply.

Background

Homeownership rises rapidly with age. The most critical years for homeownership attainment are ages 25-34 and 35-44. This is the life stage during which households establish their economic and residential careers. Given the relative permanence of the transition to homeownership, success in this life stage lays the basis for housing well-being in the middle and elderly years as well. Of additional importance in recent decades, the large Baby Boom generation (born 1946-64) has been situated in this age range. In 1990, the older half of the Baby Boomers was age 35-44, while the younger half was 25-34. By 2000, the younger Baby Boomers had advanced to age 35-44. Thus, analysis of homeownership trends in this age group is also analysis of the well-being of the Baby Boom generation.

National trends for young age groups

We first examine homeownership trends the nation in Table 1. During the 1980s, there was a pronounced decline in homeownership rates among young adults, even while rates increased among the elderly (Myers et al. 1992). Changes in homeownership rates were much more favorable for young households of almost all races in both age groups in

the 1990s than in the 1980s. Even where homeownership rates failed to rise, the decline of the previous decade was stemmed. The resurgence was even greater among blacks and Latinos than it was for non-Hispanic white households or for the age groups as a whole. Asian and Pacific Islanders comprise the one exception where homeownership rates continued to decline, especially at age 25-34. This may be due to the large number of immigrants joining the Asian group in this age group, or it could be due to Asians' concentration in some of the highest cost and lowest homeownership metropolitan areas (Painter, Yang, and Yu 2003).

In this study, we place particular emphasis on the 35-44 age group in 2000. In the past, the younger group has been considered the prime age for homeownership attainment. However, increasing emphasis is now being given to age 35-44. In recent years, the age at marriage and age of family formation has been delayed substantially, especially in the northeast and in the larger metropolitan areas. This is confounded also with longer periods of education, including increasing professional and postgraduate education. The result is that in some metropolitan areas, the path into homeownership begins at a very young age, while in others—especially those that are higher cost and where education levels are also higher—homeownership is more delayed. Taking a reading at age 35-44 provides a way to measure progress into homeownership of young adults that avoids these variations in lifestyle among people in their 20s. In effect, a comparison of the 35-44 age group in the two decades amounts to a comparison of the homeownership attainments of the earlier and later Baby Boom members when they were at the same stage of life. In turn, comparison to the still earlier cohort that occupied age

35-44 in 1980 provides an assessment of how the Baby Boomers have fared relative to their predecessors.

An additional rationale for concentrating on those age 35-44 in 2000 is that these households were formerly age 25-34 in 1990 and they transitioned into age 35-44 over the 1990s. Comparing these two age groups in the two censuses allows us to execute a quasi-panel or cohort longitudinal design (Myers 1999). The remainder of the Background section provides a simple comparison of the 35-44 age group between decades, while the detailed analysis that follows employs a longitudinal analysis of the progress of the younger Baby Boomers as they transitioned into age 35-44 over the 1990s.

Variations by state

These patterns were widely robust across the country. The number of states with rising homeownership rates in the 1990s greatly exceeded those of the 1980s, reversing the pattern of decline previously seen for homeownership among younger adults. Among all households in the nation, 49 states (except Arkansas) exhibited increases in homeownership rates during the 1990s. This contrasts to only 18 states with homeownership increases in the 1980s (see Figure 1).

Increases were less widespread among young to middle aged adults but were still substantial in comparison to the previous decade. At age 35-44, 22 states recorded increased homeownership rates, versus only 2 states in the 1980s. Among African-Americans, homeownership increased in 4 more states than average at that age. Among Latino households age 35-44 homeownership rates increased in 21 states during the

1990s. Unlike with other groups, the number of states with Latino homeownership gains was not substantially greater in the 1990s than the 1980s, in part because Latino gains had been unusually strong in the 1980s.

The greatest rebound in homeownership trends occurred in states where homeownership had declined the most in the previous decade. This is best measured by the correlation between decades of the homeownership rate trends. As shown in Table 2, for all races and ages combined, there was a substantial, negative correlation (-0.33). This signifies that states with larger declines in homeownership in the 1980s had larger increases in the 1990s. In the case of young adults, the negative correlation is even sharper, -0.46 at age 35-44.

A surprising observation is that the same pattern of homeownership reversal does not apply in the case of African-Americans and Latinos. The correlation is much weaker and generally positive for all age groups and for young adults (Table 2). As shown above for African-Americans, and especially for Latinos, the number of states with homeownership increases did not expand as greatly as for the total population, largely because the declines in the 1980s were not as widespread. What the correlation analysis adds is that the depth of increases or decreases are not correlated with subsequent trends in the same state. In fact, a further set of correlations reported in Table 2 indicates that, during both the 1980s and 1990s, the trends for African-Americans and Latinos were only moderately correlated with the overall homeownership trends in each state. In fact, during the 1980s, the trends in homeownership for African-Americans and Latinos were virtually unrelated, whereas in the 1990s the trends for the two minority groups bore a moderate similarity ($r= 0.36$).

Metropolitan areas with greatest increases and decreases in homeownership among young adults

Closer analysis of trends during the 1990s is carried out for more specifically defined geographic areas—the 100 largest metropolitan areas (primary or consolidated areas). Here we focus solely on the 35-44 age group, when homeownership achievement is expected to be attained by the majority of all those who are ever going to become homeowners. Comparison of this age group in 1990 and 2000 also has the advantage that it compares differences in homeownership attainment for the front half and trailing, second half of the Baby Boom generation.

Homeownership gains for adults age 35-44 varied markedly for these 100 largest metropolitan areas. During the 1990s, homeownership rates among all households age 35-44 increased in 55 of the metropolitan areas, with the largest increase observed in Austin, Texas (+6.9 percentage points), and the greatest decrease in Albany, New York (-4.7 percentage points).

Among African-American households of the same age, increases occurred in 48 metropolitan areas. The greatest increase was found in McAllen, Texas (+10.9 percentage points) and the greatest decrease in Scranton, Pennsylvania (-10.9 percentage points). Among Latino households of the same age, increases occurred in 41 metropolitan areas. The largest increase was found in Miami, Florida (+9.5 percentage points), while the greatest decrease occurred in Lexington, Kentucky (-19.2 percentage points).

The size of metropolitan area bears some relationship to the likelihood of increasing homeownership. We find that increases in homeownership rates for 35-44 year-olds during the 1990s were greatest for blacks and Latinos in metropolitan areas

where the size of their group was largest (correlations of 0.23 and 0.29, respectively). The explanation for this size effect is unknown but could reflect several factors. Larger areas might constitute housing markets that present more favorable investment returns for prospective home buyers. Alternatively, the largest metropolitan areas might have been more likely to be selected as the site for home buyer assistance programs, and so the size effect could reflect differential access to counseling assistance and mortgage programs. Finally, it is also possible that metropolitan areas with the greatest access to homeownership might have induced more employment growth and more in-migration.

Whatever the reasons for this size effect on trends in homeownership, we note that many of the most extreme decreases, and even some of the greatest increases, were in the case of metropolitan areas with very few households in the designated age-race group. This creates an instability in the measurement of homeownership rates, and the large changes draw attention to areas that are actually smallest and least important. Accordingly, it is potentially misleading to compare the relative increases in homeownership between metropolitan areas of such widely varying sizes. The increases in homeownership rates for African-Americans, for example, are obviously more important in New York or Atlanta than are the substantial declines registered in Madison, Wisconsin, or Honolulu.

To adjust for this size effect, and to better display the homeownership trends, we have plotted the data from the preceding tables of metropolitan areas in a series of maps. The distinctive design of these maps is that each metropolitan area is represented by a circle that is proportional to the size of the targeted population group, e.g., black household age 35-44. The color of the circle then indicates the amount of change in

homeownership rates. Those metropolitan areas with very small population groups become only small dots on the map and the larger ones stand out for their size. The maps, of course, also display a third dimension—the location of the metropolitan area.

The pattern of homeownership change for the entire 35-44 age group from 1990 to 2000 is displayed in Figure 2. Increases in the homeownership rate, shown in green, are prevalent across the country, with two notable exceptions. Homeownership in Los Angeles and other California metropolitan areas declined markedly, as indicated by the pink or red circles. Similarly, throughout the northeastern region of the U.S., metropolitan areas experienced declines in the homeownership rate at age 35-44 or at best minimal changes. The deepest declines were recorded in the smaller metropolitan areas in the region.

In the case of African-American households age 35-44, substantial gains in homeownership occurred throughout the east coast and south, with a few notable exceptions (Figure 3). The deep decline in homeownership among the large Philadelphia black population is unlike that of any other large city. Declines in Jacksonville, Florida, and Houston, Texas, also stand out, as do the deep declines in the small metropolitan areas of Arkansas and Oklahoma. In contrast, substantial gains are observed in Atlanta, Washington, D.C., and New York, metropolitan areas with among the largest black populations. In the Midwest, gains in homeownership were achieved in Chicago and Indianapolis, but elsewhere only minimal changes or even declines are observed. In the west, minimal changes were recorded in Los Angeles as well, but gains are observed in both northern California and Las Vegas.

Among Latino households age 35-44, gains in homeownership are spread throughout the country, including the large metropolitan areas of California, Texas, Florida, the northeast, and Chicago (Figure 4). What stands out, in contrast, is the large number of metropolitan areas with very small Latino populations throughout the south and Midwest. Almost all of these areas recorded deep declines in homeownership. In all likelihood, this decline reflects the rapid growth of Latino population through migration in the 1990s. Relatively few of these newcomers were likely homeowners, unlike the more settled residents of the large Latino population centers.

Explaining regional differences

The younger half of the baby boom generation clearly fared better in some locales than others. Despite the national averages for those reaching age 35-44 in 2000, homeownership attainment was enhanced substantially more in some metropolitan areas than others. Widening differences in regional economic growth, house prices, and homeownership created a volatile context for local chances of achieving homeownership. The pattern during the 1980s or early 1990s of booming prosperity in California and the northeast, was followed by a reversal of fortunes as employment growth and prices slumped in those regions (Landis, Elmer, and Zook 2002; Hughes 1996). In contrast, formerly lagging regions surged upward in the northwest, midwest, and south. The remainder of the paper focuses on how best to explain the regional differences in gains to homeownership.

Review of influences on homeownership

Prospects for homeownership are impacted in complex ways by several regional trends. Regional homeownership rates are fundamentally influenced by changes in housing supply and housing demand. Part of housing demand is related to employment growth in an area. Changes in employment can be expected to elevate housing prices, while at the same time, prices can also have a significant negative effect on labor force changes (Johnes and Hyclak 1999). What research has found, however, is that employment growth that increases housing demand and exerts pressure on house prices ought to stimulate new construction, but is often subject to regulatory constraints that limit housing supply (Malpezzi 2002; Mayer and Somerville 2000). When new construction lags behind employment growth, housing shortages develop that force up prices and restrict the opportunities for new home purchases (Cervero 1996). Thus the balance between the growth in employment and the growth in housing supply is an important element to a region's homeownership rates.

A second element that impacts regional housing demand are housing prices. Coulson (2002) found in a cross-sectional analysis with 1998 data that regional housing price has a strong relationship with the homeownership rate of the region. The effect of rising prices, however, is not always negative for homeownership rates. If regional income levels rise in tandem with prices, the effect can be neutral. Moreover, in many cases the rising house prices capture the increases in a region's amenities that cause households to be willing to pay more for housing (Gyourko and Tracy 1991). Rising prices may stimulate higher rates of home purchase because it triggers an investment incentive that overrides the consumer's affordability concerns (Henderson and Ioannides

1987). Thus, Myers et al (1992) showed the steepest declines in homeownership for young adults occurred in states with the steepest declines in prices, while homeownership rates held steady or even increased where prices rose most steeply. A recent study found the same relationship held in the 1990s as in the 1980s (Myers 2001). People could also alter living arrangements by reducing household formation in a response to rising housing cost. Therefore, rising housing costs may not always lead to a decline in demand for owner occupied housing (Pritchett 1977).

Demographic characteristics also play an important role in how consumers respond to market conditions. Older households who already own homes are largely insulated from market conditions, whereas young households freshly encounter the full market forces. In the past decade there has been a widespread recognition of the importance of this housing demography, although authors debate its exact interpretation (e.g., Hughes 1996; Green 1996; Gyourko and Linneman 1997). Large differences in homeownership rates between age groups and race-ethnic groups often dominate more refined relationships of market adjustment (Masnick 2002).

More recently, housing scholars have begun to focus on the role of immigration in shaping housing demand (Pitkin et al. 1997; Myers, Megbolugbe, and Lee 1998; Painter, Gabriel, and Myers 2001; Joint Center for Housing Studies 2002). Coulson (2002) finds that immigrant status is perhaps the most important demographic factor in homeownership attainment. Borjas (2002) suggested that immigrants have lower homeownership rates than natives and such differences have widened over time, implying that growing immigrant presence could depress homeownership.

Less recognized is the effect of household formation on homeownership rates, a relationship suggested by (Hendershott 1988) and (Green 1996). In theory, rising supply of housing, especially multifamily housing, increases opportunities and lowers the cost of household formation (Skaburskis 1994). When headship rises, however, the increase typically comes from new renter households who are added to the denominator of the homeownership rate, thereby lowering the overall rate. Analysis of trends in the 1990s for the 50 states among young adults found a strong inverse correlation ($r = -0.50$) between increase in household formation and increase in the homeownership rate (Myers 2001).

Hypotheses explaining regional differences in homeownership

The preceding review identifies several factors that can help explain why greater homeownership increases occurred in some metropolitan areas than others. Given the firm agreement that differences in homeownership attainment exist between age groups and race-ethnic groups, there is little value in testing those factors here. Instead, we will focus on measuring the attainment of a single cohort, those age 25-34 in 1990 and 35-44 in 2000. This second half of the baby boom generation had suffered substantial declines in homeownership relative to early generations when they were the same age. The overall question to be answered is how much did their homeownership increase during the 1990s and in what metropolitan areas were they most successful. Our analysis will separately examine the attainments of each of the four major race-ethnic groups. Rather than compare whites and blacks, for example, we will investigate under what market conditions did each group fare best. Four main hypotheses are specified for investigation.

Household formation. First, we expect that areas where the age cohort has increased its rate of household formation over the decade will have added relatively more renters and fewer owners to the cohort. Accordingly, rising headship rates should lead to falling homeownership rates. However, once we control for price and supply effects which impact both homeownership and household formation, it is unclear whether household formation will retain its negative effect.

Price effect relative to regional incomes. Second, we expect that areas with relatively faster increases in house prices than incomes should have lower increases in homeownership. In general, higher prices should depress gains in homeownership, but we are also mindful of the counter hypothesis that rising prices that are a function of increased values of amenities create an investment incentive for increased homeownership.

New construction relative to employment growth. Third, we expect that metropolitan areas with greater housing construction relative to employment growth should have increased opportunities for homeownership. The impact of single-family construction should be greater than multifamily construction. Since one of the principal effects of added supply is on prices, once price changes are introduced in the model the construction effect may be reduced. However, the increased absolute number of housing opportunities should still wield significant influence.

Effect of the growing immigrant population. Finally, we expect that metropolitan areas where a large share of the 35-44 age cohort in 2000 is comprised of recent immigrants will have substantially lower homeownership, whereas those with a higher share of native-borns or long-settled immigrants will have higher homeownership. This

hypothesis will be tested only for Latinos and Asians, because the white and black groups contain relatively few immigrants in most metropolitan areas.

Data and methods

The study builds on data from the 2000 census combined with comparable data from the 1990 census. Our aim is to analyze trends over time for comparably defined geographic units and to determine what conditions in those areas may have led to greater increases in homeownership. Following the descriptive analysis presented previously, we estimate a series of multivariate regressions to evaluate the relative contributions of different contextual factors for the attainment of homeownership.

Data

The study combines data from several sources, most of which are derived from the decennial censuses. Summary file data from the census are available for more specifically defined geographic areas than is possible for the microdata files. This permits more accurate definition of comparable geographic areas for purposes of trend analysis, as described below. Data are taken from a series of different summary files. Summary files 1 and 2 report data on per capita household formation and per household homeownership rates of different age and race-ethnic groups. Unpublished tabulations from the census yield the immigration status (native or foreign born, and decade of entry for the foreign born) of different race-ethnic groups.

These demographic data are then supplemented by contextual data for each metropolitan area. Personal income and employment trends are taken from the regional economic and income system (REIS) database provided by the Bureau of Economic

Analysis (Bureau of Economic Analysis 2003). Housing prices are provided by Office of Federal Housing Enterprise Oversight's Housing Price Index (HPI) (Office of Federal Housing Enterprise Oversight 2001). Housing construction trends are taken from the Census Bureau C-40 reports (U.S. Census Bureau 2003). Definitions of all variables used in the modeling of cohort homeownership progress are given in Table 3.

Geographic areas

Detailed analysis focuses on a sample of the 100 most populous metropolitan areas, although some preliminary analysis is reported for the 50 states and nation. The metro areas are defined according to the geographic definitions used in the 2000 census. The areas are comprised of one or more whole counties, with the exception of New England where metro areas are built from aggregations of townships. Data from the 1990 census is re-arranged to conform to these 2000 definitions. For this study we do not use primary metropolitan statistical areas that are subsets of the larger consolidated metropolitan statistical areas. Instead, we use the whole CMSA as a unit. Thus, our set of 100 largest metropolitan areas consists of both CMSAs and freestanding MSAs.

Sample

The sample for analysis is the 100 largest metropolitan areas, as defined above. We have characterized those units by a series of alternative demographic stratifications. Separate analyses are conducted of various age groups and race-ethnic groups residing within the geographic sample. Each of these alternative stratifications defines a target group whose homeownership is analyzed across the sample of metropolitan areas.

Methods

As shown earlier, the attainment of homeownership varies considerably across metropolitan areas. The formulation adopted in this study emphasizes the growth in homeownership as cohorts advance 10 years through their housing careers. Although many households have achieved homeownership by age 25-34, including wealthier households and those for whom access to homeownership is easiest, the transition from age 25-34 to 35-44 is a pivotal age range in which homeownership is added by those who are slower to achieve this status. After age 35-44 the accumulation of homeowner status slows and begins to level off. Accordingly, our analysis estimates homeownership rates at age 35-44 in 2000, controlling for the rates achieved when the cohort was age 25-34 in 1990, and subject to key contextual factors prevailing in each market area.

Multivariate estimation is conducted through weighted least squares regression, with weights supplied by each metro area's size of the race-ethnic-age target group under analysis. Models are specified as a lagged cohort regression, following the cohort economic design introduced by Pitkin (1990). The homeownership rate of a designated cohort in 2000 is specified as a function of the cohort's rate in 1990 (when it was 10 years younger) and a series of changes impacting the market context of the metropolitan area over the decade. Such a cohort longitudinal design has marked advantages over cross-sectional analysis with census data because it approximates a quasi-panel design (Myers 1999). A weakness of the design is that cohort membership in each metropolitan area is not closed: in and out migration churns the membership of the cohort. Offsetting this weakness is the lower rate of migration common to age 35-44, inclusion of the

employment growth rate as a proxy for higher and lower migration flows, and direct measurement of immigration status in the case of Latino and Asian households.

The model is specified as follows:

$$Hown_{2000}^{35-44} = \beta_0 + \beta_1 Hown_{1990}^{25-34} + \beta X + \varepsilon$$

where:

$Hown_{2000}^{35-44}$: Homeowners as a percent of households, age 35-44 in 2000

$Hown_{1990}^{25-34}$: Homeowners as a percent of households, age 25-34 in 1990

X is an vector of explanatory factors: Headship_change, Income_change, Price_change, Job_growth, Construction_SF and MF, and Immigrant prevalence (also see Table 3).

The homeownership rate in 2000 for the 35-44 age group is modeled as a function of the cohort's homeownership rate 10 years earlier when it was 10 years younger, as modified by a series of additional factors. As described in Table 3, Headship_change is the difference in percent of people who are householders, 2000 and 1990. The market context variables are all measured over the most recent 5-year period prior to the 2000 census, rather than the full decade. The most recent period has more immediate impact on homeownership status than the more distant period. Income_change is the percent change in per capita income, 1995-2000, adjusted for CPI. Price_change is the percent change in housing price, 1995-2000, adjusted for CPI. Job_growth is absolute change in number of jobs, 1995-2000. Construction_SF, and MF is the absolute number of building permits, summed 1995-1999. Immigrant_prevalence is the percentage of households in a given race-ethnic group that: arrived in U.S. between 1990 and 2000 (Immigrant_new), have lived 10-19 years in the U.S. (Immigrant_1019), and that have lived 20 years or

longer in the U.S. (Immigrant_20+). The reference group for Immigrant_prevalence is the native-born.

Analysis is focused on the cohort age 35-44 in 2000 and 25-34 in 1990, and separate models are estimated for the following race-ethnic groups: non-Hispanic whites, non-Hispanic blacks, Latinos, and Asian and Pacific Islanders. The immigration variables are included only in the analysis of the latter two groups, because a large share of the target cohort is foreign-born, whereas that factor is negligible for whites and blacks in most metropolitan areas.

Results

Four main hypotheses were presented earlier with regard to the causes of greater homeownership increases in some metropolitan areas than others. First, we expect that areas where the cohort has increased its household formation over the decade will have added relatively more renters and fewer owners to the cohort. Second, we expect that areas with relatively faster increases in house prices than incomes should have lower increases in homeownership. Third, we expect that metropolitan areas with greater housing construction relative to employment growth should have increased opportunities for homeownership. Finally, in the case of Latinos and Asians we expect that metropolitan areas where a large share of the 35-44 age cohort in 2000 is comprised of recent immigrants will have substantially lower homeownership, whereas those with a higher share of native-borns or long-settled immigrants will have higher homeownership.

Results of the model estimations are reported in two sets. First, we show the estimation of the base model and each separate set of explanatory factors (Table 4). Results are presented separately for each of the four race-ethnic population groups. Finally, we present the full model estimations with all factors included, again shown separately for each race-ethnic group (Table 5). The combined set of results are discussed with regard to each of the four hypotheses.

Base model

The base model estimates homeownership rates in 2000 solely in relation to the homeownership rate of the same cohort when it was 10 years younger in 1990, plus an intercept. As might be expected the R-squared is very high for this base model, with the exception of Asians. Were it not for the intercept, the coefficient on the 1990 homeownership rate measures the ratio of the 2000 rate to the 1990 rate. It defines the average upward slope of the homeownership trajectory as the cohort passes from age 25-34 to 35-44 in each metropolitan area. This coefficient ranges from 1.36 for blacks to 0.54 for Asians (Model 1, Table 4).

Latinos are next highest at 1.23, in part because the intercepts are very low for blacks and Latinos, thus placing more weight on the coefficient. Among Asians, the very high intercept and lower coefficient for 1990 homeownership indicates that past history of the cohort is much less relevant for Asians than for others.

Household formation

The hypothesis that increases in household formation depresses gains in homeownership is supported only in models that exclude the other contextual factors

(Model 2, Table 4). For whites, blacks, Latinos and Asians, the estimated coefficients are, respectively, -0.73 , -0.46 , -0.21 , and -0.36 . This indicates that much of the rise in household formation rates translates into an opposite trend in homeownership rates. Nonetheless, net of the other factors thought to influence gains in homeownership, the household formation effect largely disappears (Table 5). In the full estimation, the effect of headship increase is insignificant for whites and blacks, is positive for Latinos (model A only), and has the expected negative effect only for Asians. Apparently, the gross effect of headship increases is washed away by controls for income, prices, job growth and housing supply increases.

Income and price trends

Estimations of the effects of income and price trends are generally very similar for both the gross effects (Table 4) and the full model (Table 5). The results generally support the hypothesis that metropolitan areas with faster increases in incomes relative to housing prices should have greater gains in homeownership. Although both factors are insignificant in the case of our black sample, the relationship is affirmed in the case of whites and Latinos. Among Asians, however, the estimation is insignificant in the gross model or significant with sign the opposite of our expectations. The findings for this group show that, net of other factors, income growth depresses homeownership, while housing price rises encourage homeownership (Model 5). Although we have argued that it is possible that rising prices might be consistent with greater gains in homeownership, the estimated income effect for Asians is clearly anomalous.

Employment and housing growth

The strongest set of explanatory factors appears to be employment and housing growth. In the gross models of Table 4, the largest increase in incremental R-squared over the base model is achieved for every race-ethnic group when Model 4 is compared to Model 1. The estimations yield virtually identical coefficients in the gross and full models.

Results show that employment growth in metropolitan areas depresses gains in homeownership. In the case of all four target populations, the coefficients are significant, with the correct sign, and of similar magnitude. This factor signifies the effect of employment growth relative to housing construction in the same time period. The negative sign also may indicate that employment growth is proxying in-migration to the metropolitan area, with the probable result that more renters are being added than owners via the migration stream. Notwithstanding this factor, the dominant effect of employment growth is relative to housing growth because it directly measures the relative increase in housing opportunities.

The effect of housing construction is consistent with our hypothesis. The volume of single family housing permits has a pronounced positive effect on gains in homeownership that is consistent across all four target populations. In addition, in some cases the volume of multifamily construction also has a positive effect on homeownership gains. In models of Table 5, these factors are all adjusted for the effect of rising prices on homeownership, but the coefficients scarcely change from the unadjusted coefficients of Table 4. Clearly, the supply of new housing makes a difference for access to homeownership. In fact, the single-family construction effects on

homeownership chances for blacks and Latinos are four to five times greater than for whites (Table 5).

Immigration

A large share of the Latino and Asian cohorts are foreign-born, and many of these are newly arrived immigrants. The importance of these immigrants in the housing market has been widely documented (Pitkin et al. 1997; Joint Center for Housing Studies 2002; Painter, Gabriel, and Myers 2001). Less recognized is how the growth in immigrants could depress the overall homeownership rate in a metropolitan area. Estimation results for Latino and cohorts strongly support our hypothesis, while those for Asians yield contrary or mixed support.

The gross effects of immigration are shown in Table 4. Among Latinos, the share of households that is comprised of immigrants who arrived in the last decade has a significant negative effect on the cohort's homeownership rate. Among Asians, the share that is new immigrants has a significant opposite effect, raising the homeownership rate. These findings are uncontrolled for other factors.

In the full model, the share that is newcomers strengthens its effect among Latinos and loses its effect among Asians (Table 5). There is an enormous impact on homeownership rates of Latinos. For every 10 percent share of the cohort that is new arrivals, the cohort's homeownership rate falls nearly 5 percentage points relative to if the cohort were all native-born Latinos. Among Asians, there is no negative effect of new arrivals, consistent with what we expect based on prior studies of Asian immigrants.

In the case of long-settled immigrants, a different pattern of impacts is found (Table 5). For every 10 percent share of the Latino cohort that is immigrants who have settled in the U.S. for at least 20 years, the cohort's homeownership rate increases 2 percentage points above what would be expected if the cohort were all native-born. In the case of Asians, the homeownership rate would increase by nearly 3 percentage points. This pattern of homeownership achievement in excess of native-borns is consistent with the findings of prior studies. Recall that the cohort is age 35-44 in 2000 and that more than 20 years of residence in the U.S. implies they immigrated as teenagers or younger. These young immigrants have had a long time to adjust to social and economic conditions in the U.S., living their entire housing careers in this context, and this advantage may be combined with stronger immigrant ambitions for homeownership than is common among the native-born.

Discussion

The preceding findings compare the housing career progress of the younger members of the large Baby Boom generation observed in the 100 largest metropolitan areas, with analysis stratified by the four major race-ethnic categories. Rather than comparing cross-sectional differences observed across areas, this design directly measures the net gains to homeownership that accrue over a decade's time in each area as the cohort advances 10 years further into its housing career, passing from age 25-34 to 35-44. Because homeownership rises sharply through the younger age range, the average gain experienced in each metropolitan area was 21.8 percentage points.

Household formation rates shifted slightly over the decade and their impact on homeownership rates net of other factors was less than expected. The impact of prices

and incomes was more substantial, but these also had relatively modest (and inconsistent) effects for the four race-ethnic groups. Per capita income is likely not the best measure of incomes available for home purchase, and alternative income instruments should be tested in future research with newly released microdata from the 2000 census. Nonetheless, this measure of income trends is a reasonable indicator of overall income trends in the region relative to overall house price trends.

The strongest empirical findings, and with the greatest policy significance, are with regard to the rate of housing construction relative to employment growth. Growth in employment is an excellent indicator of number of potential new households in the region, and housing construction that fails to keep pace severely constrains opportunities for both household formation and advances into homeownership. The employment and housing growth variables together account for a larger incremental R-squared than any other set of variables tested. It is also noteworthy that the effects on homeownership advancement by black and Latino households were especially crucial. In fact, the coefficients on single-family construction were four to five times greater than they were for whites.

The role of immigration in shaping homeownership rates is also highlighted in this study. We found that recently arrived immigrants who are Latino have a substantial negative effect on the homeownership rate of Latinos in a metropolitan area. This could help explain the many metropolitan areas with small Latino populations throughout the heartland of the United States that experienced declining homeownership in the 1990s (Figure 4). Many of these small populations are newly seeded by a wave of new immigrants during the decade. In contrast, larger, well-established Latino areas appear to

have enjoyed increases in homeownership. That is consistent with the finding that areas with longer settled immigrants enjoyed gains in homeownership that were even higher than for native-borns.

The complexity of this pattern of immigrant effects indicates that minority groups with substantial foreign born shares cannot be analyzed by a single indicator for the ethnic group. Declines for Latinos, for example, cannot be interpreted in the same way as declines for black households. We need to know the nativity status and duration in the U.S. if we are to understand the trend.

Conclusion

This study has noted, as others have found (Simmons 2001b, 2001a), the secular increase in homeownership rates that occurred in almost every state in the U.S. These positive gains also occurred for those in the Baby Boom generation, and stand in contrast to the poor performance of these age groups in the decade of the 1980s. In contrast to previous work, this study focuses on the gains in homeownership in the 100 most populous metropolitan areas.

We found a large degree of variation across the United States in terms of those areas that increased homeownership rates, and those that decreased. Further, some places of growth in homeownership rates for blacks and Latinos, such as Southern California and New York, were places that experienced lower homeownership rates across the 1990s for the rest of the population.

The multivariate analysis focuses on households in the 35-44 age group. Analysis of this age group provides a key benchmark for the progress of households into the ranks

of homeownership. In 2000, this age group was entered by the younger half of the large Baby Boom generation. We have appropriately treated the Baby Boom as a cohort passing through age groups, and accordingly we were able to track the net increases in homeownership accrued by the cohort over time as it passed from ages 25-34 to 35-44.

The models analyze the relative importance of household formation, changes in house prices and income, growth in employment vs. growth in housing supply, and immigrant status among Latinos and Asians. Results concerning house prices, incomes, and immigrant status agree with past literature (e.g., Painter, Gabriel, and Myers 2001). The results concerning the role of household formation suggests that while an increasing headship rate leads to lower metropolitan area homeownership rates, this effect operates largely through the area prices, incomes, employment growth, and housing supply. The strongest results concern the importance of housing supply as a determinant of homeownership. In particular, increasing the number of single family housing permits led to higher homeownership. At the same time, growth in employment without associated growing in supply led to a decline in homeownership

Of all the explanatory variables, the rate of construction is the most amenable to policy influence, and so its importance for enhancing prospects for homeownership deserves underscoring. The dominant set of policy effects on new construction are wielded at the level of municipal and county government. Zoning, comprehensive planning, growth management, and other tools of smart growth all can be used to stimulate a level of housing construction that is balanced with the rate of employment growth in the region. A major obstacle is that, although the housing market effects operate at the level of the metropolitan region, the employment growth and housing

construction locate themselves in local jurisdictions. It is not always the case that the localities that are sustaining employment or housing growth are the same. Often the two types of growth occur in different locations, with the tax and other economic benefits of employment growth accruing to one set of localities while the serve expenditures and other economic costs of housing construction accrue to a different set of localities. Recognizing this imbalance, local officials often suppress the rate of housing construction. Thus, a new set of policy tools is needed that reduces the disparity between interests of localities on the one hand and the regional market place or regional welfare on the other. These instruments center on various means of tax revenue sharing, whether through rebates from the state to localities, or exchanges among localities that share a regional economy.

Overall, the results of this study confirm that the 1990s were a decade of progress into homeownership for young households of all racial ethnic groups across the United States. At the same time, progress was not uniform as some metropolitan areas experienced declines due to the presence of new immigrants, supply constraints, or some other factor. Further work is needed to better understand the contributions of regional factors vis-à-vis national trends fostering homeownership.

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Table 1. Homeownership Rates for Young Adults of Different Races and Hispanic Origin, United States, 1980 to 2000

| | 1980 | 1990 | 2000 | change 80-90 | change 90-00 |
|--------------------------|-------------|-------------|-------------|--------------|--------------|
| All households | 64.4 | 64.2 | 66.2 | --0.2 | 2.0 |
| Non-Hispanic white | 68.5 | 69.1 | 72.4 | 0.6 | 3.4 |
| Black (includes Latinos) | 44.4 | 43.4 | 46.3 | --1.0 | 2.9 |
| Asian/PI | 52.5 | 52.2 | 53.2 | --0.3 | 1.0 |
| Latino | 43.4 | 42.4 | 45.7 | --1.0 | 3.3 |
| 25-34 | 51.6 | 45.3 | 45.6 | --6.3 | 0.3 |
| Non-Hispanic white | 55.7 | 51.0 | 53.0 | --4.7 | 1.9 |
| Black (includes Latinos) | 29.7 | 23.3 | 27.3 | --6.4 | 4.0 |
| Asian/PI | 38.2 | 34.9 | 31.8 | --3.3 | --3.1 |
| Latino | 33.9 | 28.9 | 32.9 | --5.1 | 4.0 |
| 35-44 | 71.2 | 66.2 | 66.2 | --5.0 | 0.0 |
| Non-Hispanic white | 75.6 | 71.8 | 73.2 | --3.8 | 1.4 |
| Black (includes Latinos) | 47.6 | 43.0 | 44.6 | --4.6 | 1.5 |
| Asian/PI | 61.0 | 58.0 | 57.8 | --3.0 | --0.2 |
| Latino | 49.6 | 45.6 | 48.8 | --3.9 | 3.2 |

Source: U.S. Bureau of the Census. 2000 Census Summary File 1 (SF 1) 100-Percent Data.

1990 Census of Housing: General Housing Characteristics of [State]. 1990CH-1-X.

1980 Census 5% PUMS data and 1980 Census of Housing Subject Report--structural characteristics of the housing inventory.

Table 2. Correlations of Homeownership Changes in the 1990s versus the 1980s and Comparing Race/Hispanic Origin

Correlation Between Changes in the 1990s and 1980s

| | All Ages | 25-34 | 35-44 |
|-----------|----------|-------|-------|
| All Races | -0.33 | -0.59 | -0.46 |
| Black | 0.15 | 0.12 | 0.05 |
| Latino | 0.10 | 0.01 | -0.05 |

Correlation Between Changes for Groups in the 1980s

| | All Ages | 25-34 | 35-44 |
|------------------|----------|-------|-------|
| Black and All | 0.32 | 0.24 | 0.31 |
| Latino and All | 0.43 | 0.31 | 0.36 |
| Black and Latino | 0.16 | 0.09 | 0.07 |

Correlation Between Changes for Groups in the 1990s

| | All Ages | 25-34 | 35-44 |
|------------------|----------|-------|-------|
| Black and All | 0.43 | 0.28 | 0.42 |
| Latino and All | 0.31 | 0.35 | 0.32 |
| Black and Latino | 0.36 | 0.30 | 0.41 |

Table 3. Definition of Variables

| Variable | | Definition |
|-----------------|--|--|
| Dependent | <i>Hown</i> ^{35 - 44} ₂₀₀₀ | Homeowners as a percent of households, age 35-44 in 2000 |
| Independent | <i>Hown</i> ^{25 - 34} ₁₉₉₀ | Homeowners as a percent of households, age 25-34 in 1990 |
| | Headship_change | Difference in percent of people who are householders, 2000 and 1990 |
| | Income_change | Percent change in per capita income, 1995-2000, CPI adjusted |
| | Price_change | Percent change in housing price, 1995-2000, CPI adjusted |
| | Job_growth | Absolute change in number of jobs, 1995-2000 |
| | Construction_SF | Absolute number of SF building permits, summed 1995-1999 |
| | Construction_MF | Absolute number of MF building permits, summed 1995-2000 |
| | Immigrant_new | Percentage of households in a given race-ethnic group that arrived in U.S. between 1990 and 2000 |
| | Immigrant_1019 | Percentage of households in a given race-ethnic group that have lived 10=19 years in the U.S. |
| | Immigrant_20+ | Percentage of households in a given race-ethnic group that have lived 20 years or longer in the U.S. |
| Weight | target group | Target group Household, by age and race in 2000 |

Table 4. Weighted Regression of the Homeownership Rate at Age 35-44, by Race and Hispanic Origin, 100 Largest Metropolitan Area

| | White | | | | | Black | | | | |
|---|-----------|------------|-----------|---------------|---------|-----------|------------|-----------|---------------|---------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
| Intercept | 30.74 *** | 35.24 *** | 26.08 *** | 34.67 *** | | 14.11 *** | 21.52 *** | 12.38 *** | 17.70 *** | |
| <i>Hown</i> ₂₅₋₃₄ ₁₉₉₀ | 0.845 *** | 0.856 *** | 0.902 *** | 0.760 *** | | 1.356 *** | 1.272 *** | 1.387 *** | 1.115 *** | |
| Headship_change | | -0.723 *** | | | | | -0.456 *** | | | |
| Income_change | | | 0.132 * | | | | | 0.091 | | |
| Price_change | | | 0.013 | | | | | -0.003 | | |
| Job_growth | | | | -0.000011 *** | | | | | -0.000014 *** | |
| Construction_SF | | | | 0.000019 ** | | | | | 0.000061 *** | |
| Construction_MF | | | | 0.000070 *** | | | | | 0.000015 | |
| Immigrant_new | | | | | | | | | | |
| Immigrant_1019 | | | | | | | | | | |
| Immigrant_20+ | | | | | | | | | | |
| DF | 1 | 2 | 3 | 4 | | 1 | 2 | 3 | 4 | |
| F value | 494.3 | 340.8 | 181.0 | 216.7 | | 459.2 | 275.6 | 152.5 | 267.4 | |
| R-Square | 0.835 | 0.875 | 0.850 | 0.901 | | 0.824 | 0.850 | 0.827 | 0.918 | |
| Incremental R-Square | - | 0.041 | 0.015 | 0.067 | | - | 0.026 | 0.002 | 0.094 | |

| | Latino | | | | | Asian | | | | |
|---|-----------|-----------|------------|---------------|------------|-----------|------------|-----------|---------------|------------|
| | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 | Model 1 | Model 2 | Model 3 | Model 4 | Model 5 |
| Intercept | 13.06 *** | 15.57 *** | 10.21 *** | 15.65 *** | 12.90 *** | 37.99 *** | 40.56 *** | 37.91 *** | 37.94 *** | 35.40 *** |
| <i>Hown</i> ₂₅₋₃₄ ₁₉₉₀ | 1.227 *** | 1.214 *** | 1.239 *** | 1.107 *** | 1.251 *** | 0.540 *** | 0.594 *** | 0.546 *** | 0.628 *** | 0.372 *** |
| Headship_change | | -0.207 | | | | | -0.361 *** | | | |
| Income_change | | | 0.406 *** | | | | | -0.124 | | |
| Price_change | | | -0.222 *** | | | | | 0.114 | | |
| Job_growth | | | | -0.000011 *** | | | | | -0.000019 *** | |
| Construction_SF | | | | 0.000063 *** | | | | | 0.000036 *** | |
| Construction_MF | | | | -0.000010 | | | | | 0.000078 ** | |
| Immigrant_new | | | | | -0.224 *** | | | | | 0.299 *** |
| Immigrant_1019 | | | | | 0.041 | | | | | -0.361 *** |
| Immigrant_20+ | | | | | 0.055 | | | | | 0.829 *** |
| DF | 1 | 2 | 3 | 4 | 4 | 1 | 2 | 3 | 4 | 4 |
| F value | 881.9 | 444.7 | 344.6 | 280.5 | 255.7 | 59.73 | 42.07 | 20.92 | 73.86 | 29.53 |
| R-Square | 0.900 | 0.902 | 0.915 | 0.922 | 0.915 | 0.379 | 0.465 | 0.395 | 0.757 | 0.554 |
| Incremental R-Square | - | 0.002 | 0.015 | 0.022 | 0.015 | - | 0.086 | 0.017 | 0.378 | 0.176 |

* p< 0.1 ** p< 0.05 *** p< 0.01

Table 5. Weighted Homeownership Regression with Full Models

| | White | | Black | | Latino | | Asian | |
|--|---------------|---------------|---------------|---------------|---------------|---------------|--------------|---------|
| | Model A | Model A | Model A | Model B | Model A | Model B | Model A | Model B |
| Intercept | 30.93 *** | 17.07 *** | 6.992 ** | 16.21 *** | 40.68 *** | 42.11 *** | | |
| <i>Hown</i> ²⁵⁻³⁴ ₁₉₉₀ | 0.826 *** | 1.135 *** | 1.126 *** | 1.078 *** | 0.639 *** | 0.497 *** | | |
| Headship_change | -0.200 | -0.053 | 0.410 ** | -0.176 | -0.241 *** | -0.206 *** | | |
| Income_change | 0.119 ** | 0.055 | 0.484 *** | 0.186 ** | -0.240 *** | -0.184 ** | | |
| Price_change | 0.040 | 0.022 | -0.221 *** | -0.069 * | 0.268 *** | 0.237 *** | | |
| Job_growth | -0.000010 *** | -0.000013 *** | -0.000015 *** | -0.000019 *** | -0.000020 *** | -0.000019 *** | | |
| Construction_SF | 0.000016 ** | 0.000061 *** | 0.000081 *** | 0.000051 *** | 0.000056 *** | 0.000063 *** | | |
| Construction_MF | 0.000061 *** | 0.000009 | 0.000000 | 0.000095 *** | 0.000018 | 0.000018 | | |
| Immigrant_new | | | | -0.486 *** | | -0.011 | | |
| Immigrant_1019 | | | | 0.094 * | | -0.079 | | |
| Immigrant_20+ | | | | 0.211 *** | | 0.292 *** | | |
| DF | 7 | 7 | 7 | 10 | 7 | 10 | | |
| F value | 162.6 | 153.8 | 219.8 | 347.4 | 108.2 | 89.18 | | |
| R-Square | 0.925 | 0.921 | 0.944 | 0.975 | 0.892 | 0.909 | | |

* p< 0.1 ** p< 0.05 *** p< 0.01

Figure 1. Number of States with Rising Homeownership

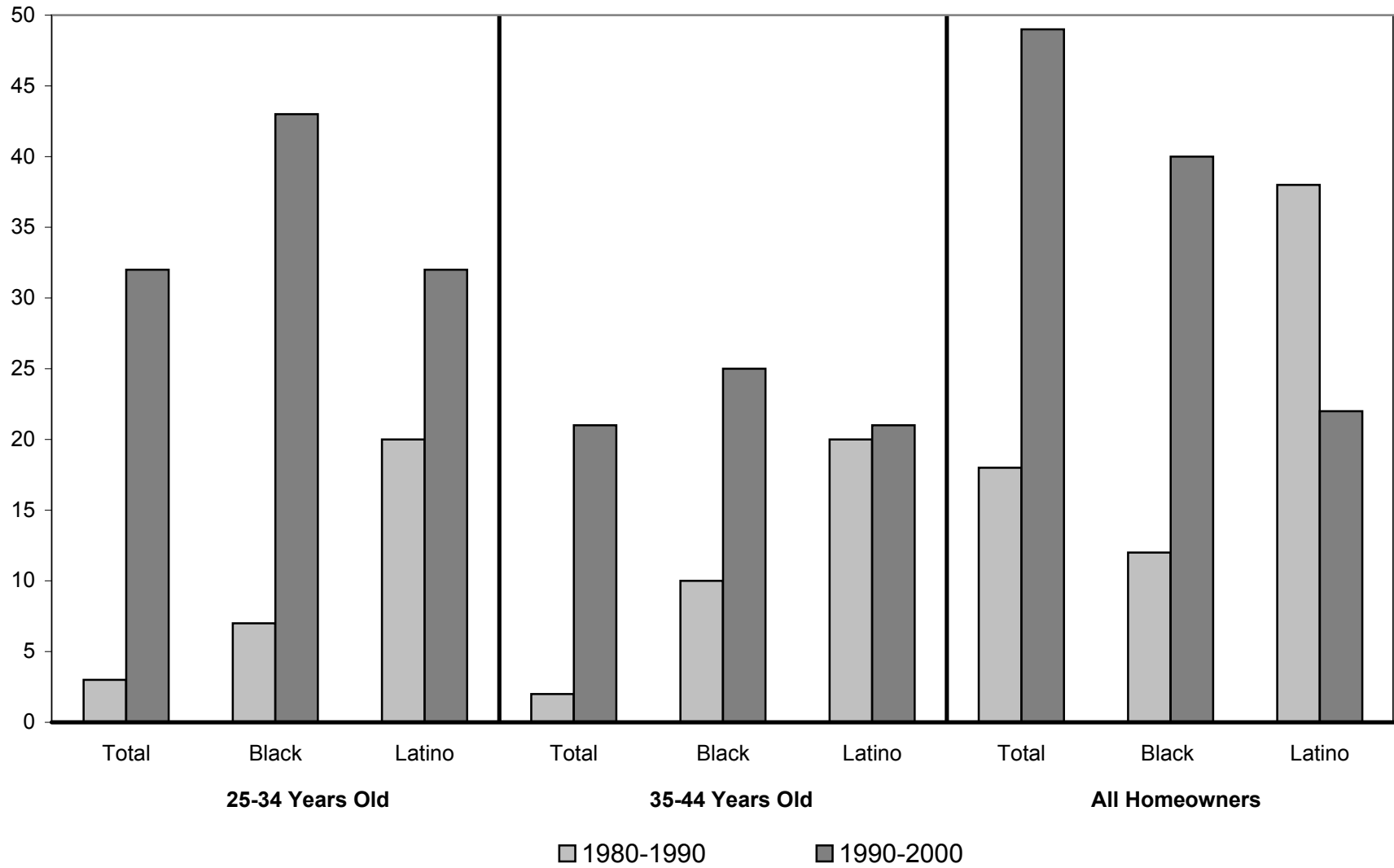
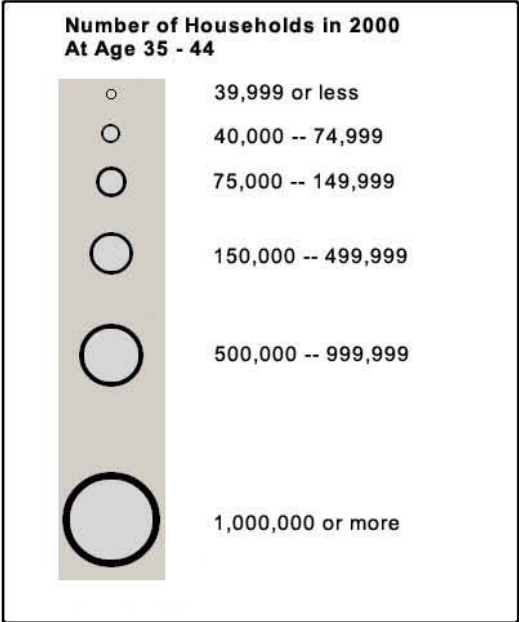
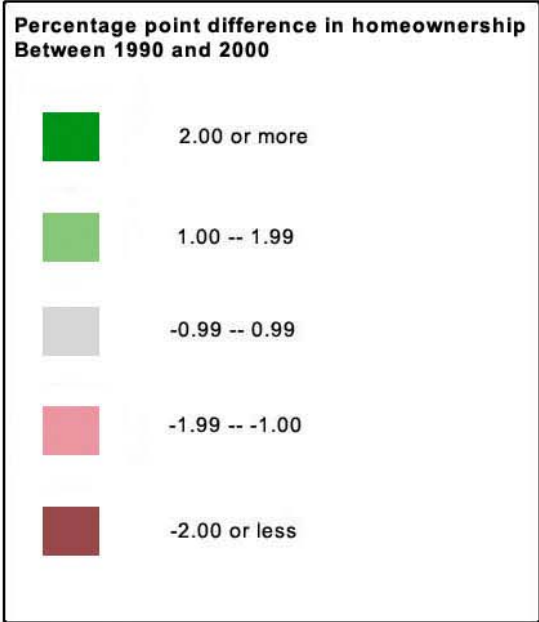
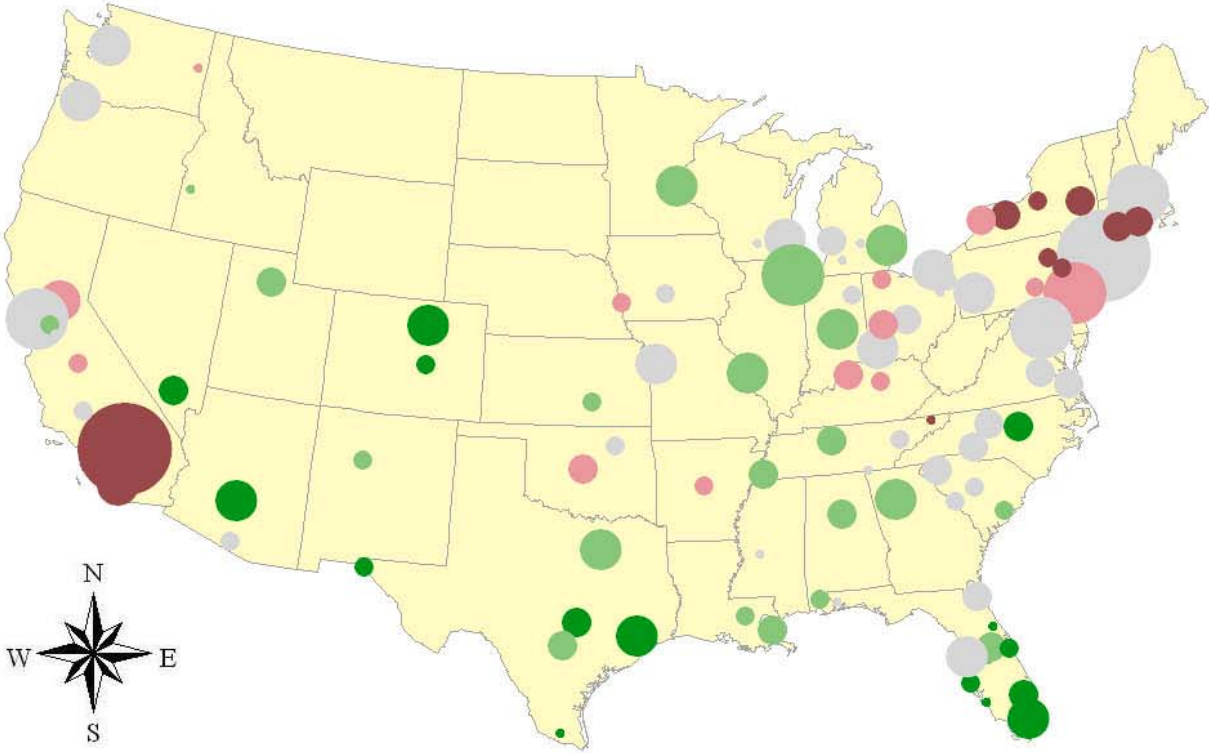


Figure 2. Change in Homeownership Rate in Top 100 U.S. Metropolitan Areas

At Age 35 - 44, 1990 - 2000

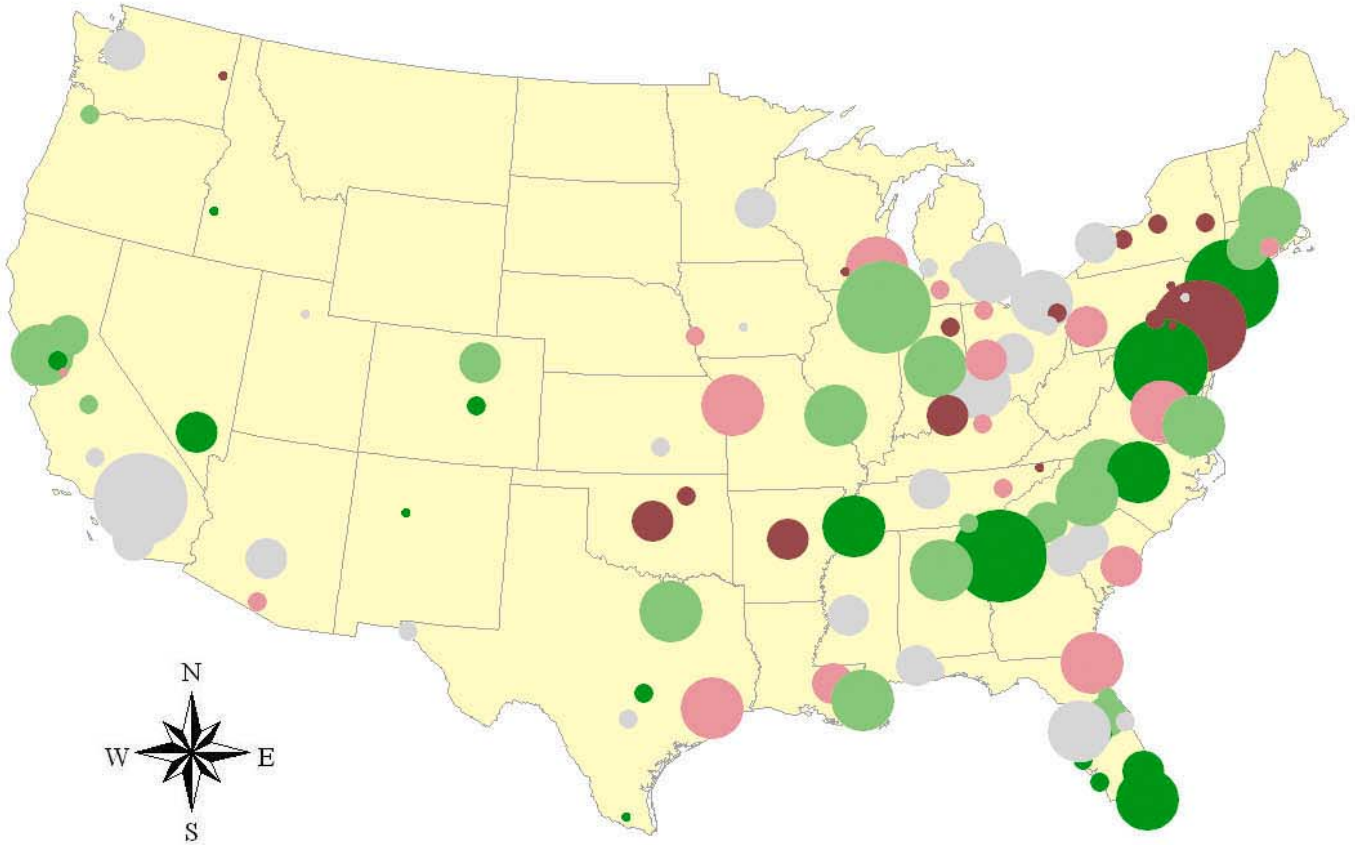







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Liang Wei
Population Dynamics Research Group
School of Policy, Planning, and Development
University of Southern California






Figure 3.

Change in Black Homeownership Rate in Top 100 U.S. Metropolitan Areas

At Age 35 - 44, 1990 - 2000



| Percentage Point Change in Black Homeownership between 1990 and 2000 | |
|---|----------------|
|  | 3.00 or more |
|  | 1.00 -- 2.99 |
|  | -0.99 -- 0.99 |
|  | -2.99 -- -1.00 |
|  | -3.00 or less |

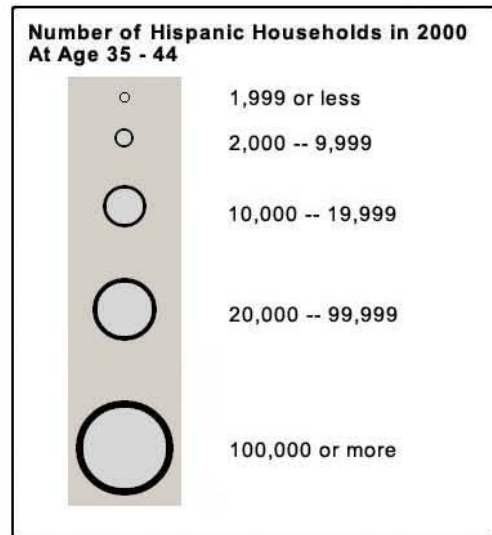
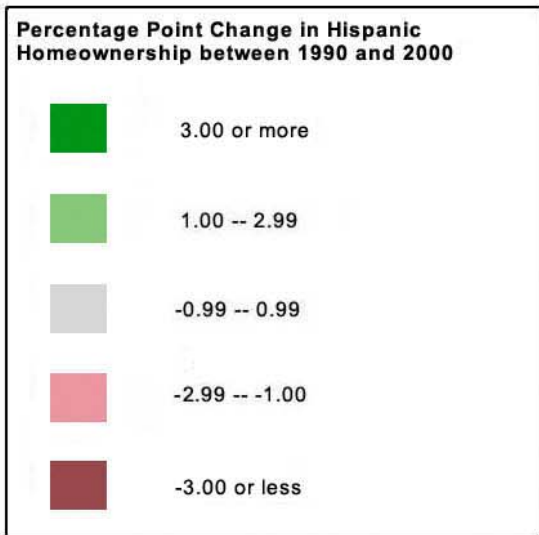
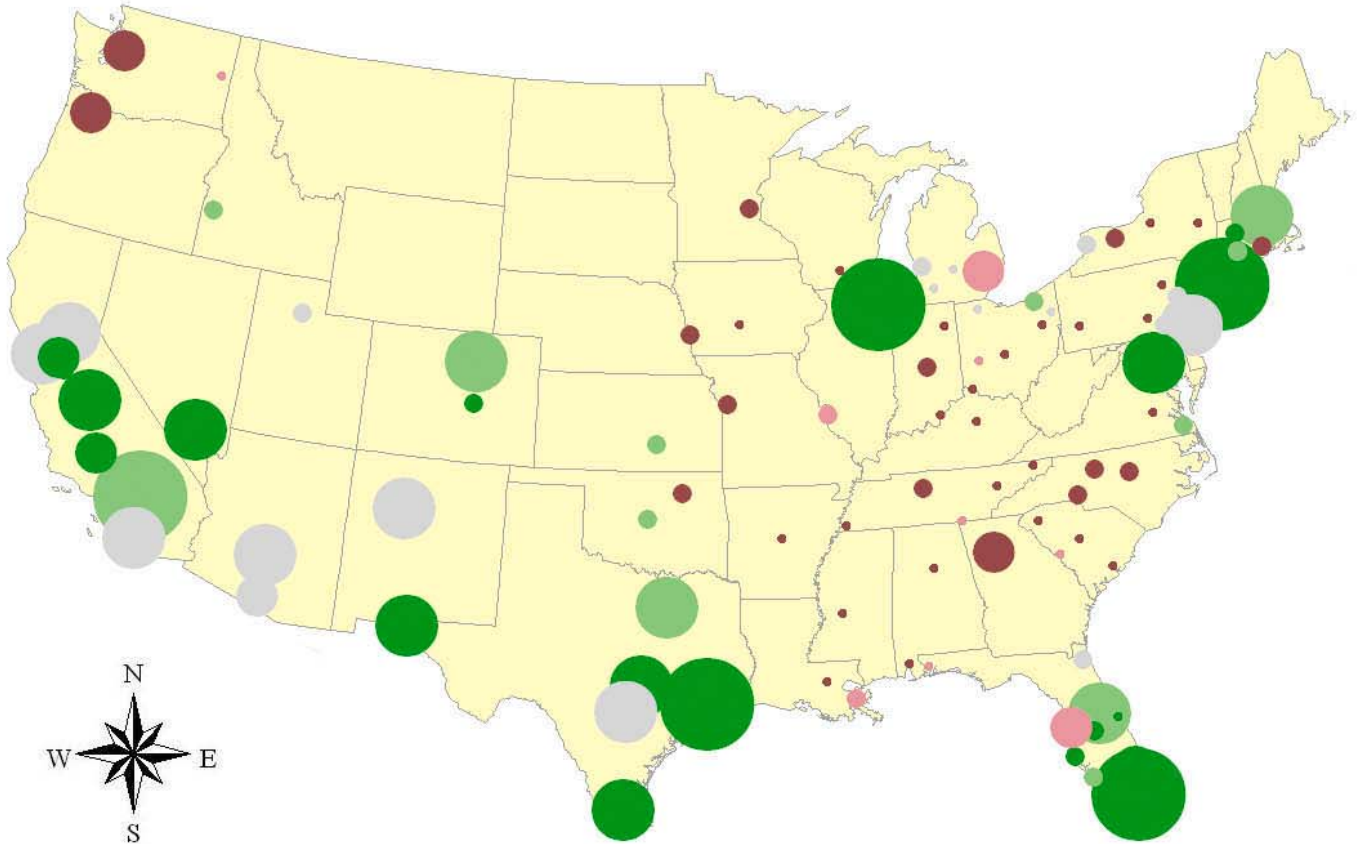
| Number of Black Households in 2000 At Age 35 - 44 | |
|---|------------------|
|  | 1,999 or less |
|  | 2,000 -- 9,999 |
|  | 10,000 -- 19,999 |
|  | 20,000 -- 99,999 |
|  | 100,000 or more |

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 Population Dynamics Research Group
 School of Policy, Planning, and Development
 University of Southern California

Figure 4.

Change in Hispanic Homeownership Rate in Top 100 U.S. Metropolitan Areas

At Age 35 - 44, 1990 - 2000



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