The Homeownership Gap:
Trends in the Twin Cities Metro During the Housing Crisis

MPP Professional Paper

In Partial Fulfillment of the Master of Public Policy Degree Requirements
The Hubert H. Humphrey School of Public Affairs
The University of Minnesota

Kayla Schuchman

December 2, 2012

*Signature below of Paper Supervisor certifies successful completion of oral presentation **and** completion of final written version:*

_____   _____   _____
Ryan Allen, Assistant Professor, Paper Supervisor   Date, oral presentation   Date, paper completion

_____   _____
Edward G. Goetz, Professor, Second Committee Member   Date
Signature of Second Committee Member, certifying successful completion of professional paper

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A Report Prepared for Minnesota Housing

KAYLA SCHUCHMAN

Humphrey School of Public Affairs

Introduction

Homeownership is thought to be an important contributor to the economic and social well-being of individuals and communities, and as such has been supported by years of federal and state policy. One such state policy in support of homeownership is the Emerging Markets Homeownership Initiative convened by the Minnesota Housing Finance Agency ("Minnesota Housing"), the Federal Reserve Bank of Minneapolis, and Fannie Mae in 2004. Since the initiative was developed in 2004, the U.S. has undergone a housing crisis and the ensuing recession, and there have been massive changes in the state of homeownership. It is likely that the crisis has affected households of varying races, income, geography, and education differently, including who has access to homeownership and who has the ability to successfully sustain homeownership. Because of the important role homeownership is thought to play, and the drastic changes to the housing market in recent years, examining recent changes to White-minority homeownership gaps is critical. Further, the particular characteristics of the homeownership market in Minnesota cause this to be an important area of study. As of 2009, while the state of Minnesota had the highest overall homeownership rate in the nation (at 73.7 percent), it had the fifth largest White-minority gap in homeownership rates (at 34.1 percentage points) (Grover & Patterson 2010). Further, preliminary data analysis indicates that the situation in Minnesota has worsened, and that as of 2011, Minnesota continued to have the highest overall homeownership rate in the nation (at 72.8 percent), but now with the largest White-minority gap in homeownership rates in the nation (at 38.7 percentage points).[1] In addition, an increasing percentage of Minnesota residents are minorities, with this trend projected to continue so that minorities will represent nearly 25 percent of Minnesota's population by 2035 (Grover & Patterson 2010).

On June 30, 2005 Fannie Mae, The Federal Reserve Bank of Minneapolis, and Minnesota Housing presented to Governor Tim Pawlenty "The Emerging Markets Homeownership Initiative: A Business Plan to Increase Homeownership in Minnesota's Emerging Markets."[2] This EMHI Business Plan was the outcome of a series of meetings among business and community groups convened in the spring of 2004 to address the persistent homeownership gap in Minnesota between Whites and "Emerging Markets," or households of color, including those of Hispanic ethnicity. The goal specified in the Business Plan is to reach homeownership parity between minorities (emerging markets) and non-Hispanic Whites in the State of Minnesota. In addition, the Plan includes the interim goal of narrowing the homeownership rate gap to 23 percentage points by 2012. The Business Plan identified the following barriers to homeownership that need to be addressed in order to make progress in closing the gap:

- Wealth and downpayment disparities by race
- Credit and lending practices
- Cultural factors, preferences and immigration
- Discrimination
- Information, marketing and outreach
- Homebuyer counseling and financial education

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[1] Preliminary data analysis by Minnesota Housing for the annual EMHI initiative meeting
[2] http://www.mnhousing.gov/idc/groups/homes/documents/webcontent/mhfa_002552.pdf

Three strategies are then identified to address these needs:
- Provide trusted guidance: establish a temporary "trusted advisor" emerging markets lender network, and work to institutionalize practices friendly to emerging markets among the broader lender network
- Expand and tailor outreach: make homeownership resource information accessible to emerging markets and provide culturally sensitive homebuyer education for emerging markets
- Innovate structural support: expand access to entry cost assistance, develop and make accessible emerging market friendly financing products and processes, and address systemic issues of racism and housing supply

A lot has changed since 2005 when the Business Plan was written. It is important to evaluate what changes in homeownership occurred through the housing crisis, who was affected, whether any new barriers or issues emerged that need to be addressed, and what strategies should be employed to address these barriers or issues. Further, it is important to recalibrate expectations due to the setbacks toward progress incurred during the crisis, and to determine what new goals may be reasonably achieved. Looking at the Twin Cities Metro, this study will explore why minority homeownership may have declined during the housing crisis, and what the characteristics are of minority households for whom homeownership rates decreased the most, developing recommendations for updating the EMHI Business Plan based on these conclusions. This report will examine why homeownership is thought to be important, provide a history of policy efforts in the U.S. that support homeownership parity, and an overview of long-term trends in homeownership rates in the U.S. The report will then present research findings of past studies on the White-minority homeownership gap, and discuss the potential contributors to the gap proposed by the literature, including the subprime lending boom and foreclosure crisis. Finally, the report will examine changes in homeownership in the Twin Cities metropolitan area that occurred during the crisis, and present recommendations for ensuring strategies to address the homeownership gap remain relevant in light of the housing crisis.

The following conclusions emerge through this study:
- Declines in minority homeownership rates during the housing crisis appear likely to have resulted from both decreased entry into homeownership and increased exit from homeownership.
- The characteristics of geography appear to have had an impact on how minority homeownership rates changed in the housing crisis, with different minority groups having different experiences within a given geography. Minority homeownership in more central cities and suburbs appears to have been more heavily impacted than in exurban areas.
- Minority homeownership rates appear to have declined across a broad income spectrum.

- Minority homeownership rates appear to have declined more significantly for those households with lower levels of education, and to have been more stable for those households with higher levels of education.

These conclusions support the need for a reexamination of the goals, barriers, and strategies identified in the 2005 EMHI Business Plan, in light of the experience of minority households during the housing crisis.

Why homeownership is important

Because access to homeownership is reflective of, and contributive to, racial and ethnic inequality, it is important to understand the factors affecting access (Flippen 2010, citing Conley 1999). While there is some uncertainty in the literature regarding the advantages of homeownership, and growing attention to the disadvantages (Gerardi & Willen 2009), there seems to be a general consensus that homeownership can provide individual benefits in terms of wealth and well-being, and community benefits created by positive externalities associated with homeownership.

Homeownership represents the single largest asset of most households (Flippen 2010), and recent studies have found that those households that own a home accumulate greater wealth, even for households with low incomes (Turner & Smith 2009, citing Di 2001, Turner 2002, Boehm & Schlottmann 2004). Owning a home can provide households a form of forced savings, in an asset that may provide an opportunity for appreciation (Flippen 2010). Homeownership can also act as a hedge against both rent prices (Hilber & Liu 2008) and inflation (Flippen 2010). For elderly households where income derived from assets comprises a large share of income, homeownership can result in large differences in well-being for owners and non-owners with similar incomes (Flippen 2001). Elderly homeowners with small or no mortgage balances pay far less for housing than elderly who rent, are less vulnerable to rent increases, and have more assets to draw upon as they age (Flippen 2001). Homeownership also provides tax benefits to owners. In contrast to landlords, who must pay taxes on rental income, and cannot deduct mortgage interest payments, homeowners do not pay taxes on imputed rents, and are able to deduct mortgage interest. Both tax benefits effectively lower the relative user cost of owner occupied housing (Hilber & Liu 2008).

Homeownership is also thought to provide social and psychological benefits to individuals. There is some evidence that making the move from renting to owning has positive effects on physical and psychological health, on overall happiness, and on attitudes such as improved self-esteem (Gerardi & Willen 2009). There is also evidence that homeownership may be associated with higher social status and greater life satisfaction (DeSilva & Elmelech 2012). Lastly, homeownership may provide greater user benefits than renting, as owning provides property rights to alter a house as the owner desires, and reduces the maintenance problem that arises from the fact that rental contracts cannot account for all possible scenarios (Hilber & Liu 2008).

Finally, and perhaps most importantly, homeownership is thought to create certain positive community externalities, as homeowners have a stronger incentive to improve their communities than renters (Gerardi & Willen 2009). There is some evidence that

homeownership is associated with increased maintenance and upkeep, increased volunteerism (Coulson & Dalton 2010), participation in the political process, community activism (Gerardi & Willen 2009), neighborhood stability (Turner & Smith 2009), and decreased crime (Gerardi & Willen 2009). There is also evidence supporting improved outcomes for children (Coulson & Dalton 2010), including positive effects on educational outcomes (Gerardi & Willen 2009).

Policy trends

Homeownership has long been a priority of U.S. policy, with strong governmental financial incentives for ownership, including federally funded or insured mortgages as well as the federal homeownership tax deduction (DeSilva & Elmelech 2012), estimated at fifty-four billion dollars as of 2001 (Flippen 2001). Since the 1960's several initiatives have been introduced, primarily to address the Black-White homeownership gap. The Fair Housing Act of 1968, Equal Credit Opportunity Act of 1974, The Home Mortgage Disclosure Act (HMDA) of 1975, and the Community Reinvestment Act (CRA) of 1977 included provisions for reducing the barriers to homeownership faced by Blacks (Freeman & Hamilton 2002). However, Black homeownership remained stubbornly low, and a number of high profile studies suggested ongoing discrimination as one of the barriers faced by Blacks. Thus, a new set of policy initiatives were launched in the late 1980's and 1990's. The Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) of 1989 was introduced, modifying HMDA to require banks to begin tracking the characteristics of applicants and borrowers, extending HMDA's coverage to more institutions, and requiring publication of CRA ratings (Freeman & Hamilton 2002). The Department of Housing and Urban Development (HUD) also increased Federal Housing Authority (FHA) loan limits and lowered FHA insurance premiums, as FHA has traditionally been an important homeownership tool for Black households (Freeman & Hamilton 2002). This 1990's policy movement also included the Federal Housing Enterprises Financial Safety and Soundness Act of 1992, which required government sponsored entities Fannie Mae and Freddie Mac to purchase more loans from low and moderate income households and neighborhoods, among which Blacks are overrepresented (Freeman & Hamilton 2002). The policy goal has been pursued through President Clinton's National Homeownership Strategy, followed by President Bush's 2002 goal of closing the gap by increasing minority homeownership by 5.5 million households by the end of the decade (Turner & Smith 2009). Many of these initiatives have aimed to increase homeownership through front-end programs that encourage entry into homeownership such as downpayment assistance, homebuyer training, new loan instruments, outreach programs, and liberalized underwriting standards (Turner & Smith 2009).

Homeownership trends over the years

Despite these policy efforts, while homeownership rates for both Whites and minorities have risen from 1960 levels, the homeownership rates of Black, Hispanic, and Asian households have lagged significantly behind that of Whites. The relative performance of the minority ethnic groups has changed over time, with Hispanics having homeownership rates well above Blacks in 1960, but below Blacks in 1980, and with Asians moving ahead of both Blacks and Hispanics in

the same decade (Coulson & Dalton 2010). The gap for Blacks and Hispanics relative to Whites increased significantly during the 1980's (Painter, Gabriel & Myers 2000), but from 1995 through the mid 2000's, homeownership rates rose more quickly for minorities than Whites (Kochar & Gonzalez-Barerra 2009). The period from 1994 to 2004 saw the fastest expansion in homeownership anytime in the 20th century except for the post-WWII boom (Kochar & Gonzalez-Barerra 2009), with the total U.S. homeownership rate reaching its highest level ever in 2004, at 69% (DeSilva & Elmelech 2012). However, even at the 2004 peak, less than half of Black and Hispanic households owned their homes, while 60% of Asian households, and more than 70% of White households owned (DeSilva & Elmelech 2012). From 2005 through 2008, homeownership rates fell for all groups, but most steeply for the country's largest minority groups – Blacks and native-born Hispanics – than for the rest of the population. From 2006 to 2007, the number of mortgage applications and originations fell 25.2 and 25 percent, respectively, and the fall for Blacks and Hispanics was most severe (Kochar & Gonzalez-Barerra 2009). By 2007, 70.5% of loan applications from Whites resulted in originations, 50.4% for Hispanics, and 46.9% for Blacks (Kochar & Gonzalez-Barerra 2009). Overall, White-minority homeownership gaps are still smaller than in 1995, but remain large (Kochar & Gonzalez-Barerra 2009).

Existing Research

Much of the existing research on the homeownership gap between Whites and minorities utilizes the decomposition method pioneered by Wachter and Megbolugbe (1992) to analyze the homeownership gap, decomposing the gap into observable or explained, and unobservable or unexplained, factors. Financial resources, life-cycle factors, and social-status factors, including income, educational attainment, age, marital status, presence of children under age 18, and a measure of occupational status are often included as variables. Locational variables capturing urban residence, housing market conditions, and neighborhood characteristics are also included in some studies.

A large contingent of research, especially earlier studies, focuses specifically on the Black-White homeownership gap. This literature largely finds that differences in resources explain the majority of the Black-White gap, but a portion of the gap remains unexplained, or unobservable. For example, Freeman and Hamilton (2002), using the decomposition method, examine changes in the Black-White gap during the 1990's in New York City. At the beginning of the decade, the Black homeownership rate in New York City represented 56% of the White rate, but had increased to 68% of the White rate by the end of the decade. While Freeman and Hamilton (2002) find that the majority of the gap is due to observable factors, the decrease in the gap over the 1990's appears to have been due to improvements in unobservable factors. They conclude that the most plausible explanation for these improvements is due to decreased discrimination and increased targeting of loans to Blacks, in part due to the policy movement aimed at decreasing homeownership disparities of the late 1980's and 1990's (Freeman & Hamilton 2002).

While research shows that resources explain much of the Black-White and Hispanic-White homeownership gaps, they do not explain the Asian-White or the Black-Hispanic gap. Thus, another segment of the literature incorporates the effects of immigration on

homeownership rates into studies on homeownership inequalities, and analyzes homeownership gaps of Asians and Hispanics in addition to Blacks. The decomposition method is again used for these studies, but variables used also include such considerations as whether the survey interview was conducted in Spanish, length of U.S. residence, citizenship status, and national origin.

Flippen (2001) performs decompositions of the homeownership gap for preretirement age Blacks and Hispanics and finds that a larger share of the Black-White gap is attributable to observed characteristics than is the Hispanic-White gap, with 95 and 76 percent, respectively, of the gap being explained by observable factors. The study concludes that though Hispanic households have higher homeownership rates than Blacks due to marital stability and regional concentrations, once household characteristics are taken into account, Hispanic households are no less disadvantaged relative to Whites than are Blacks (Flippen 2001).

Coulson (1999) finds that differences in observable variables are insufficient to explain the Black-White gap, suggesting discrimination as the cause for the residual gap. The Asian-White gap is not due to resources, as Asians average higher incomes and educational attainment than Whites, however the gap is nearly completely explained by demographic differences – the large number of Asian immigrants, the relative youth of Asian heads of households, and regional concentrations of Asians. Unlike with Blacks, Coulson finds that given the observable characteristics of Asians, including their relative youth, regional concentrations, and immigrant make-up, Asians own more than other ethnic groups (Coulson 1999). While the Hispanic-White gap is largely explained by differences in resources, the Black-Hispanic gap is not, as Hispanics average higher incomes than Blacks. Immigration, location, age of the householder, and lower levels of education play a role in the Black-Hispanic gap (Coulson 1999).

Painter, Gabriel, and Myers (2000) perform a decomposition analysis of the homeownership gap for Blacks, Asians, and Hispanics, among recent movers in the Los Angeles MSA. The analysis breaks down the Black-White gap, which was 15 percentage points in 1980, and shows that though the Black-White gap due to unobservable factors was three percentage points in 1980, and by 1990, this unexplained gap had risen to 11 percentage points. The Hispanic-White gap in 1980 was only eight percentage points, and was wholly explainable by differences in income and education. By 1990, the unexplainable gap increased to three percentage points. Asians are found as likely as Whites to own (Painter, Gabriel, & Myers 2000).

DeSilva and Elmelech (2012) perform decompositions of the homeownership gaps for Blacks, Asians, and Hispanics, however Hispanics are separated into Mexican, Puerto Rican, and other Hispanic groups, rather than analyzed as one group. Their results indicate that for Asians, Mexicans, and other Hispanics, the gap can be explained mostly or completely by differences in observable factors. The Asian-White gap is explained entirely by immigration and spatial variables, the Mexican-White and other Hispanic-White gaps are explained by all sets of variables – socioeconomic, demographic, immigration, and spatial variables – with linguistic isolation, low education and occupational status, young age, short duration of residence in the US, and concentration in areas with high numbers of recent immigrants being particularly important in explaining the gap. In contrast, for Blacks and Puerto Ricans the gap is largely unexplained – 42.12% of the gap for Blacks is unexplained, and 31.48% for Puerto Ricans. Of the explained portion, income and marital status are particularly important variables. The study concludes that the unexplained gap may be due to institutional discrimination in housing and

credit markets, cultural expectations and preferences, commitment to establishing residence in the US, accumulated wealth, or credit history (DeSilva & Elmelech 2012).

Looking at synthetic cohorts from each census from 1960 to 2000, Coulson and Dalton (2010) perform decompositions of the homeownership gap, considering the effects of age and time. They find that from 1960 to 2000, while non-White households often experience convergence with the homeownership rates of their White counterparts, divergence is also common. Changes in minority cohort homeownership rates over time are largely due to how household characteristics are translated into homeownership (unobservable factors) rather than changes in household characteristics (observable factors) themselves. Their results indicate that from 1980 to 2000, if the gaps were solely due to differences in observable household characteristics, minority homeownership rates would have converged with White homeownership rates, but that due to the existence of unobservable effects, rates did not converge. More specifically, the results indicate that from 1980, Hispanics and Asians experienced improvements in observable household characteristics that would indicate convergence of their homeownership rates with those of Whites, however, these improvements were offset by unobservable factors and rates did not converge as much as they otherwise would have. Blacks also experienced improvements in observable household characteristics, however changes in unobservable factors also indicated convergence, or only slightly offset these improvements, and thus the Black-White gap narrowed. The authors conclude that given the similarity of the Asian and Hispanic experiences, perhaps immigration was a part of the unobservable factors that prevented convergence for Asian and Hispanic households.

Many studies in the literature do not include data on credit nor wealth, as these variables are not readily available in the data sources typically used. Because the literature finds that observable household characteristics explain most, but not all, of the Black-White gap, another contingent in the literature looks at factors not typically included as variables that may explain the residual, unexplained Black-White gap. Hilber and Liu (2008) estimate probit regressions for Blacks and Whites, first using the traditional housing tenure model, and then adding in household wealth, followed by parental wealth and income, and then adding locational preferences regarding degree of urbanization. Estimates from the initial, traditional model, show that the probability for homeownership is 6.5 percentage points lower for Black households than for White households. The model incorporating household wealth finds the gap reduced to 1.9 percentage points, and the coefficient on the dummy variable for Black, though still negative, is no longer significant at the 10% level. Hilber and Liu (2008) find that parental income does not have a significant impact on homeownership probability, but that having parental wealth greater than $10,000 does. Adding in the locational preferences dummy variables, the results show that households in more urbanized areas are less likely to own. Lastly, the models are run separately by race to allow for the effects of variables to differ by race. The results of this analysis indicate that household income, household wealth, parental wealth, and more urbanized locations have more effect on the probability of Black homeownership than that of White homeownership.

While Calem, Firestone, and Wachter (2010) do not directly examine White-minority homeownership gaps, they analyze the effect of credit impairment, as well as wealth and income constraints, on the probability of homeownership, particularly among low-income

households. The effects of credit and wealth constraints on homeownership are hypothesized in the literature to be components of the residual, unexplained White-minority homeownership gaps, and thus warrant examination. Calem, Firestone, and Wachter (2010) find that credit impairment, with an effect of 2.6 percentage points, has a larger effect on the probability of homeownership among low-income households than does wealth or income constraints. They find that the joint impact of impaired credit and lack of credit history is about 3.6 percentage points, and the joint impact of wealth and income constraints is approximately 3.3 percentage points. In total, the results show that credit impairment, lack of credit history, and wealth and income constraints, have a 7.1 percentage point effect on the probability of homeownership (Calem, Firestone, & Wachter 2010).

Given persistently wide homeownership gaps, and the fact that research based on household and individual level factors have been only partly successful at explaining White-minority homeownership gaps, other studies have looked for alternative ways to explain the homeownership gap problem. For example, Flippen (2010) used logit models to examine the effect of metropolitan context, including characteristics of the housing stock, residential segregation, and migration patterns, on Black and Hispanic homeownership. Another area of study identified in the literature is for researchers to examine how the recent housing crisis has affected minority homeownership.

The housing crisis was an unprecedented experience in the U.S. housing market that involved loosening underwriting standards and increasing household debt loads, an expansion of subprime lending, followed by delinquencies, foreclosures, and the collapse of the housing finance industry. Beginning in the early 1990's, given low interest rates, financial institutions began refocusing their efforts from a goal of long-term repayments to a goal of earning upfront fees and selling off mortgages quickly on the secondary market (Wyly et al. 2009). By the period from 2004 to 2006, lenders were selling approximately two-thirds of the loans they originated (Wyly et al. 2009). Around 2000, banks also began to face competitive pressure from non-bank mortgage companies, exempt from most state interest rate caps and with direct access to Wall Street capital, and began buying up or organizing their own subprime subsidiaries (Wyly et al. 2009). A rapid expansion of subprime credit occurred from 2004 to 2006, underwriting standards deteriorated, and house prices appreciated rapidly (Calem, Firestone & Wachter 2010). Homebuying surged from 1994 onward, fueled by economic expansion from 1991 to 2000, low interest rates, loosening mortgage underwriting standards, and growth in subprime lending (Kochar & Gonzalez-Barerra 2009). With increasing homeownership from 1995 to 2004 came an increase in the absolute size of household debt, as well as the size of debt relative to household income (Kochar & Gonzalez-Barerra 2009). The increasing risks taken by the mortgage industry were "partitioned, priced and exchanged on markets worldwide – seemingly freed of the material constraints of inner-city homeowners struggling to make monthly payments (Wyly et al. 2009)." These risk management mechanisms proved unsuccessful, and the market collapsed in 2007 (Calem, Firestone & Wachter 2010).

The value of subprime originations rose from $35 billion in 1994 to over $600 billion in 2005 and 2006 (Gerardi & Willen 2009). Subprime lenders tend to provide financing for applicants lacking solid credit histories, with less net worth, or other financial constraints (Kochar & Gonzalez-Barerra 2009). The loans provided tend to be higher priced, with higher interest rates than traditional mortgage loans. An example of a popular subprime lending

product is the 2/28 contract. The 2/28 contract accounted for approximately 80% of variable rate subprime loans, and 53% of all subprime loans outstanding at the end of 2007 (Haughwout, Mayer & Tracy 2009). The 2/28 is an adjustable rate mortgage (ARM) in which borrowers are charged an initial interest rate that resets after two years based on short-term rates at the time of reset, followed by biannual resets thereafter (Haughwout, Mayer & Tracy 2009). While homeowners taking on such debt obligations expected to refinance when rates reset, given rising interest rates and home value depreciation, this proved not to be an option. Given the target population, as well as inherent risks of such financing structures, subprime lending translated into a rise in delinquencies and foreclosures beginning in 2005, and thus declining homeownership rates (Kochar & Gonzalez-Barerra 2009). According to estimates by Gerardi, Shapiro, and Willen (2007), homeowners who purchase homes with subprime loans have almost a 20% chance of losing their home to foreclosure, a chance seven times greater than those who use the prime mortgage market. As the market began to collapse, subprime lending, as measured by the number of higher-priced loans originated, fell from 944,500 loans in 2006 to 393,373 loans in 2007 (Kochar & Gonzalez-Barerra 2009).

Some have argued that subprime lending provided the ability for many Americans to purchase a home who otherwise would have been unable to do so. For example Haughwout, Mayer, and Tracy (2009) believe the subprime boom had this positive effect, and also find no evidence of adverse pricing to minority borrowers, or to borrowers in minority neighborhoods. Others view subprime lending as a predatory practice targeted to minority borrowers and neighborhoods with a history of exclusion from the financial markets that causes them to be more easily deceived into taking on expensive or risky debt obligations. For example, Wyly et al. (2009) states "It is universally recognized, by analysts across the political spectrum, that subprime lending is disproportionately concentrated among racial and ethnic minority individuals and neighborhoods. For more than a decade, progressives have documented the proliferation of ever more aggressive tactics of deception, fraud and legal-yet-abusive practices in the subprime market…" This study also finds that even after accounting for a wide range of individual characteristics, Blacks and Hispanics that received financing in 2006 were twice as likely as otherwise identical Whites to receive high-cost loans (Wyly et al. 2009). Kochar and Gonzalez-Barerra (2009) find similar evidence. They find that in 2007, Hispanics were two and a half times as likely to receive a higher-priced loan as Whites, and Blacks about three times as likely. Further, they find that while high-income Hispanics and Blacks are about as likely to receive a higher-priced as low-income Hispanics and Blacks, the share of higher-priced loan originations to Whites drop substantially with increasing income (Kochar & Gonzalez-Barerra 2009). Their study also indicates that rates of subprime loans are higher for Blacks and Hispanics, with an average rate spread in 2007 being 4.7 percentage points for Blacks, 4.1 for Hispanics, and 3.9 for Whites (Kochar & Gonzalez-Barerra 2009). Irrespective of whether the practice was predatory towards minorities, the claim that the subprime boom had a positive effect because it increased access to homeownership is questionable, given that subprime borrowers with risky and expensive financing structures would be expected to be more likely to exit homeownership. One study of homeownership in Massachusetts does find a substantial increase in the minority share of homebuyers at the peak of subprime lending, however, the study also reports a coinciding increase in the minority share of home sales, implying a mitigating effect on any gains in minority homeownership rates (Gerardi & Willen 2009).

The number of foreclosures nationally increased nearly 75% from 2006 to 2007 (Allen 2009), and the national foreclosure rate tripled from 2006 to 2008, from 0.6% to 1.8% (Kochar & Gonzalez-Barerra 2009). The foreclosure rate was 5% or more in 33 of the 3,141 U.S. counties, 12 of which were in California, and 10 of which were in Florida (Kochar & Gonzalez-Barerra 2009). Foreclosures were also concentrated in urban neighborhoods, disproportionately affecting communities of color (Gerardi & Willen 2009). In Minnesota, according to HousingLink, almost as many foreclosures occurred in the first three quarters of 2008 as in all four quarters of 2007, with the center of foreclosure activity in Minnesota being the Twin Cities metro area, where two-thirds of Minnesota foreclosures occurred in 2008 (Allen 2009). In Minneapolis, among households with children enrolled in the Minneapolis Public Schools that experienced a foreclosure, African-Americans and Hispanics were overrepresented, as were homeowners who spoke a language other than English in the home (Allen 2009).

With the subprime lending boom and foreclosure crisis bringing drastic changes to the housing market and disproportionately affecting minorities, both nationwide and in Minnesota, an examination of the characteristics of those most heavily affected is warranted to ensure strategies of addressing the homeownership gap remain effective. An analysis of the age of household heads most impacted by the crisis may provide insight into whether minority homeownership rates declined due to decreased entry into homeownership or increased exit from homeownership. Because first-time homebuyers are most often among the 25 to 34 and 35 to 44 age groups (Grover & Patterson 2010), if homeownership rates declined more for younger households, it would be expected that this was more likely due to decreased entry into homeownership, whereas a decline in homeownership rates for older households would suggest a possible increase in exit from homeownership due to sale or foreclosure. An examination of the income and educational attainment levels of minority households impacted in the crisis may provide an indication of whether minority homeowners were negatively impacted across the board, without regard to household resources, or if negative impacts were incurred more often to lower income, lower education households that may have been more vulnerable to changing conditions in the housing market and economy. Lastly, to gain some insight into whether the characteristics of housing stock, local housing policy, demographics, and local housing market conditions had differential effects on minority homeowners, an analysis of the geography of impacted minority homeowners is warranted. The analysis that follows will examine what the characteristics are of those whose homeownership rates were most impacted during the housing crisis in terms of age, geography, household income, and educational attainment, and to develop recommendations for housing policy in Minnesota based on these conclusions.

Methodology

Homeownership data for the 11-county Twin Cities metro area were reviewed for the period leading up to the housing crisis and the period during the crisis for White, Asian, Black, and Hispanic heads of households by age group, geography, income group, and education level. Three-year samples of data from the U.S. Census Bureau's American Community Survey, retrieved from the Integrated Public Use Microdata Series (Ruggles et al, 2010), for the period

of 2005 – 2007 were used to represent the state of homeownership prior to the housing crisis, and data for the period 2008 – 2010 used to represent the period during the crisis. The 2005 – 2007 sample included 21,739 households and the 2008 – 2010 sample included 22,059 households.

Households reporting ownership as "N/A" were excluded from the sample. Tenure of N/A in American Community Survey data represents vacant or group quarters units. Eliminating the 1,951 households living in group quarters also eliminated the 1,951 households for which income data were not reported, bringing the total sample size to 20,945 households for the 2005 – 2007 sample and 20,902 households for the 2008 – 2010 sample. Household weights reported for each household were employed as frequency weights in the analysis to weight the data so that each household represented the number of cases specified by the value of the weight.

A series of crosstabulations were completed by race and age group, by race and geography, by race and income group, and by race and education level, for the pre-housing crisis and housing crisis era samples, and homeownership rates and homeownership gaps were compared for each group in each time period. From the crosstabulations, groups that experienced large declines in homeownership rates and large increases in the homeownership gap were identified, as were groups that experienced increases or only small declines in homeownership rates, and decreases or only small increases in the homeownership gap.

T-tests were then completed to compare the mean homeownership rate in the 2005 – 2007 period to the mean rate in the 2008 – 2010 period by race for each age group, geographic area, income group, and education level, in order to determine whether changes in the homeownership rate were statistically significant.[3]

Race
Racial/ethnic groups with the largest presence among Minnesota households – African-Americans, Asians, and Hispanics – were examined (Grover & Patterson 2010). Household heads identifying as Hispanic, including those who identify as Mexican, Puerto Rican, Cuban, and other Hispanic were identified with a dummy variable and analyzed as Hispanic. Non-Hispanic household heads identifying as White only were analyzed as "Whites," non-Hispanic household heads identifying as Asian only were analyzed as "Asians," and non-Hispanic household heads identifying as Black only were analyzed as "Blacks." All other races, and those identifying as more than one race were not analyzed.

Geography:
Data were analyzed for 11 of the 13 counties included in the Minneapolis-St. Paul-Bloomington, MN-WI Metropolitan Statistical Area. Pierce and St. Croix County in Wisconsin were excluded, and the following counties were included:
- Anoka County, MN
- Carver County, MN
- Chisago County, MN

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[3] Bartlett's test for equal variance was performed, and the null hypothesis of equal variance was rejected with P = 0.0000. T-tests were therefore completed assuming unequal variances between time periods.

- Dakota County, MN
- Hennepin County, MN
- Isanti County, MN
- Ramsey County, MN
- Scott County, MN
- Sherburne County, MN
- Washington County, MN
- Wright County, MN

To analyze trends in homeownership rates and White-minority homeownership gaps by geography, data were obtained by Public Use Microdata Areas (PUMAs). PUMAs are combinations of contiguous counties or census tracts comprising at least 100,000 residents.[4] PUMAs were then combined into dummy variables roughly representing the following geographies:

- Anoka County
- Carver and Scott Counties
- Washington County
- Dakota County
- Suburban Hennepin County
- Minneapolis
- Sherburne, Isanti, Chisago, and Wright Counties
- Suburban Ramsey County
- St. Paul

Appendix II provides details on the definition of these dummy variables by the specific PUMAs included in each dummy variable area.

Age Group
Consistent with the homeownership gap literature, data were obtained for household heads of the typical ownership age range, including those household heads between the ages of 18 and 65. Limiting the sample to pre-retirement age households eliminates from the analysis changes in homeownership rates due to life-cycle factors expected to influence older households, such as lower levels of labor force participation and downsizing to accommodate a shrinking household size or diminishing mobility. Household heads within the target age range were then grouped into age group dummy variables for the following age groups:

- 18 to 24 year olds
- 25 to 34 year olds
- 35 to 44 year olds
- 45 to 54 year olds
- 55 to 65 year olds

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[4] http://www.census.gov/acs/www/Downloads/handbooks/ACSPUMS.pdf

Income Group
Assuming a somewhat diminishing relationship between income and the likelihood of homeownership, income dummies were created with $20,000 intervals until reaching higher income levels, for which the intervals were increased to $40,000, coming up with income group dummy variables for the following income levels:
- Household income of $20,000 or less
- Household income of $20,001 to $40,000
- Household income of $40,001 to $60,000
- Household income of $60,001 to $80,000
- Household income of $80,001 to $100,000
- Household income of $100,001 to $120,000
- Household income of $120,001 to $160,000
- Household income of $160,001 to $200,000
- Household income of $200,001 or greater

Education Level
Household heads were then grouped into the following education level dummy variables:
- Less than a high school education (less than grade 12)
- High school education (grade 12)
- Some college or Associate's Degree (1 to 2 years of college)
- Four-year college degree
- Five or more years of college

The vast majority of households in the samples for both time periods are white, with African-Americans representing the largest minority group, followed by Asians, and then Hispanics. The vast majority of households also have a high school education, some college or an Associate's Degree, or a four-year college degree, and have household income between $20,001 and $100,000. The Suburban Hennepin County area has the largest share of the population, with all other geographic areas having between six and thirteen percent of the metro area's households. A summary of the data is available in Appendix I.

Results

African-Americans have the largest ownership gap with Whites, at 51.60 percentage points in the 2005 – 2007 time period and 51.77 percentage points in the 2008 – 2010 period. Hispanics have a smaller gap than Blacks, but it is still quite large at 31.17 percentage points in the 2005 – 2007 period and 32.66 percentage points in the 2008 – 2010 time period. Asians have the smallest gap with Whites, at 15.69 percentage points in the 2005 – 2007 period and 18.15 percentage points in the 2008 – 2010 period. Overall, however, Asians were most negatively impacted in the crisis. While Whites experienced a decline in the homeownership rate of 2.11 percentage points, the homeownership rate of Asians dropped 4.57 percentage points, and the gap with Whites therefore increased 2.46 percentage points. Hispanics saw their homeownership rate decrease 3.60 percentage points, and the gap with Whites increased

1.49 percentage points. Blacks saw their homeownership rate decrease by 2.28 percentage points, and the gap with Whites increased just 0.17 percentage points.

**Figure 1. Change in Homeownership Gap
2005-07 to 2008-10**
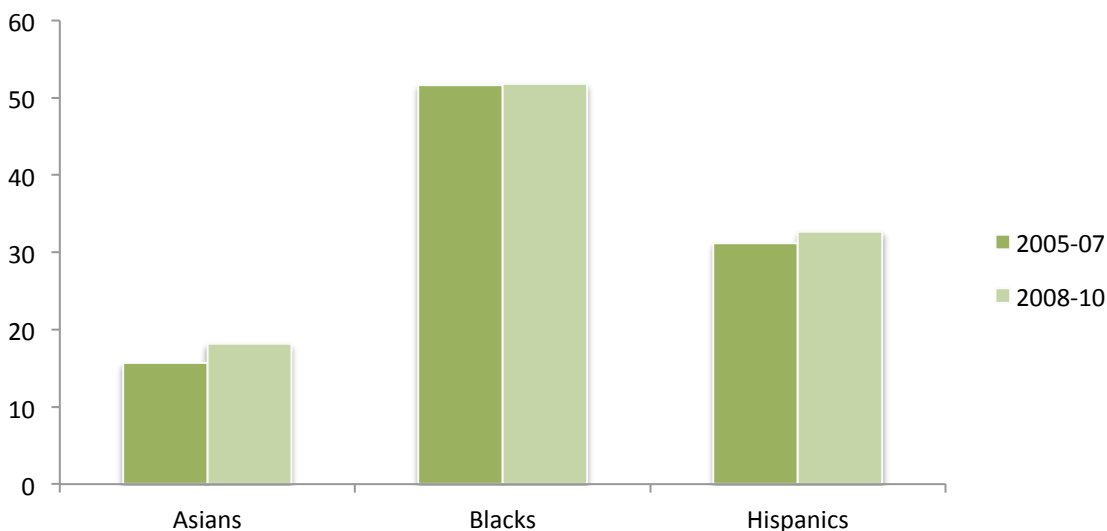
Age Group Trends:

The homeownership rate generally increases with age for all three races and Hispanics. For Whites, younger households were hit hardest in the housing crisis, while older households fared better. White household heads age 18 to 24 experienced the largest decline in the homeownership rate (-10.79 percentage points), followed by those age 25 to 34 (-4.96 percentage points). T-tests for the difference in mean homeownership rates for the 2005 – 2007 and the 2008 – 2010 period indicate that Whites in the 18 to 24 and 25 to 34 age groups, as well as the 35 to 44 age group, experienced statistically significant[5] declines in homeownership rates.

For Asians in both time periods, the gap starts out smallest for young households, with Asians age 18 to 24 actually having a larger homeownership rate than Whites, but grows quickly for households in the 25 to 34 age group, which had the largest gap with Whites in both time periods (17.49 percentage points in the 2005 – 2007 period and 24.55 percentage points in the 2008 – 2010 period). The 25 to 34 age group was hard hit in the housing crisis, experiencing a large decline in homeownership rate (-12.02 percentage points) and a large increase in the gap with Whites (+7.06 percentage points). The 55 to 65 age group also experienced a large decline in the homeownership rate (-7.45 percentage points) and a large increase in the homeownership gap with Whites (+6.45 percentage points), with those in the middle (the 35 to 44 and 45 to 54 age groups) faring the best. T-tests for the difference in mean homeownership rates for the 2005 – 2007 and the 2008 – 2010 period indicate that the decline in the homeownership rate for the 25 to 34 age group was statistically significant, and that the decline

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[5] At the five percent level of significance. Unless otherwise noted, statistical significance of all t-tests will be reported at the five percent level of significance.
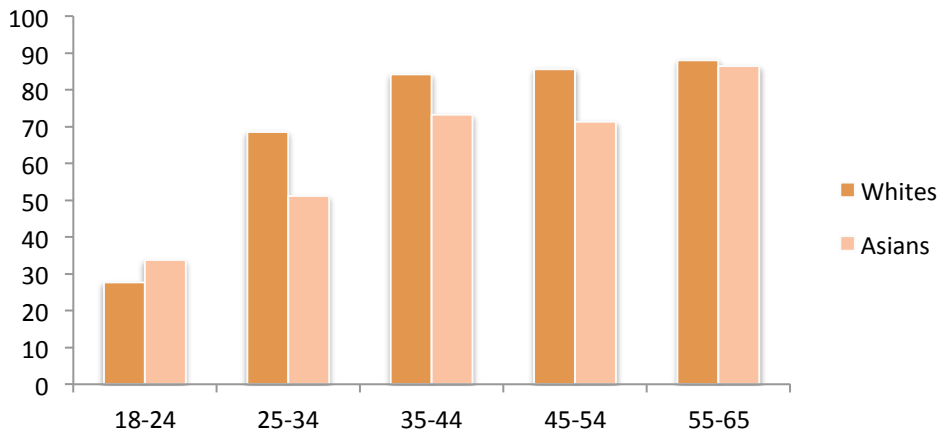
for the 55 to 65 age group was statistically significant at just above a five percent level of significance (P = 5.48 percent).
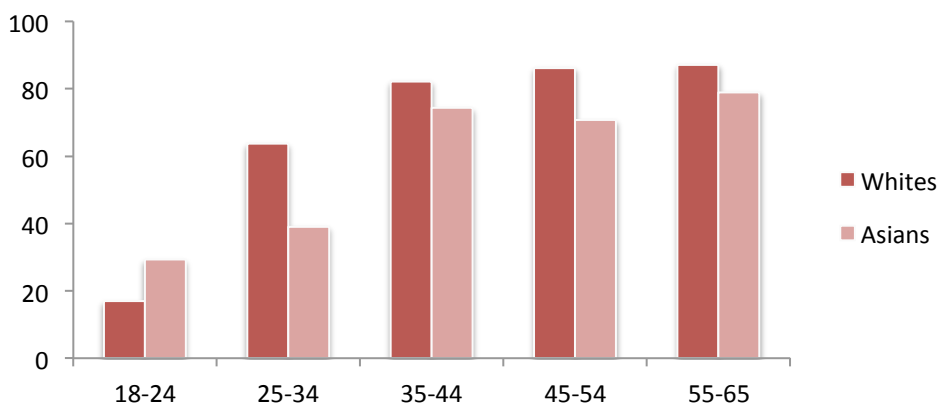
Figure 2. Homeownership Rates for Asian Households by Age Group, 2005-07 and 2008-10
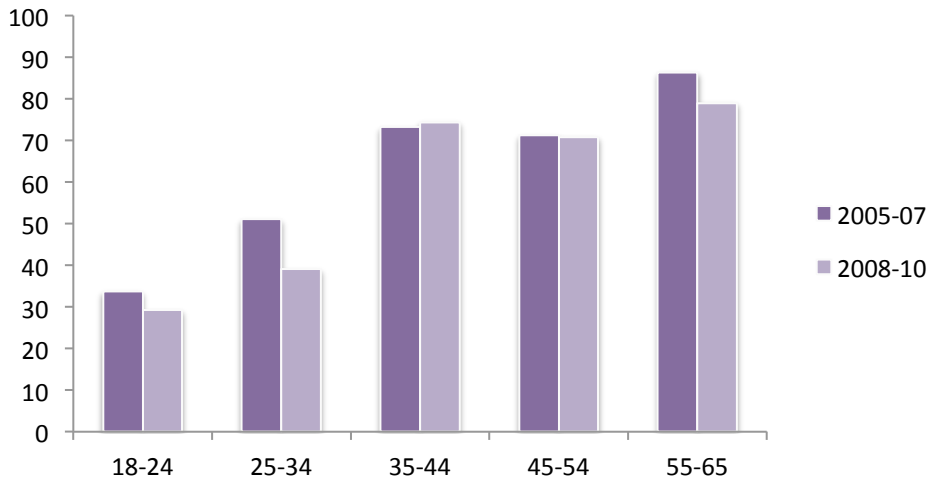
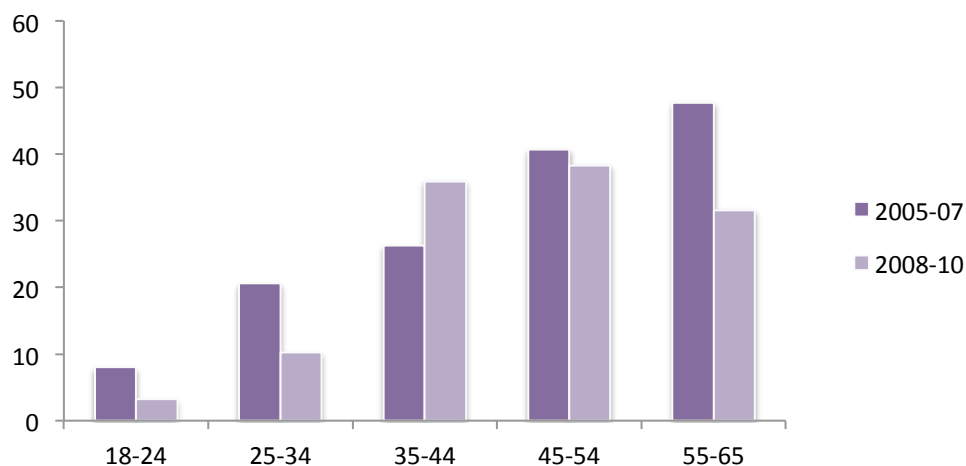**Figure 3. Homeownership Rates for White and Asian Households by Age Group, 2005-07**

**Figure 4. Homeownership Rates for White and Asian
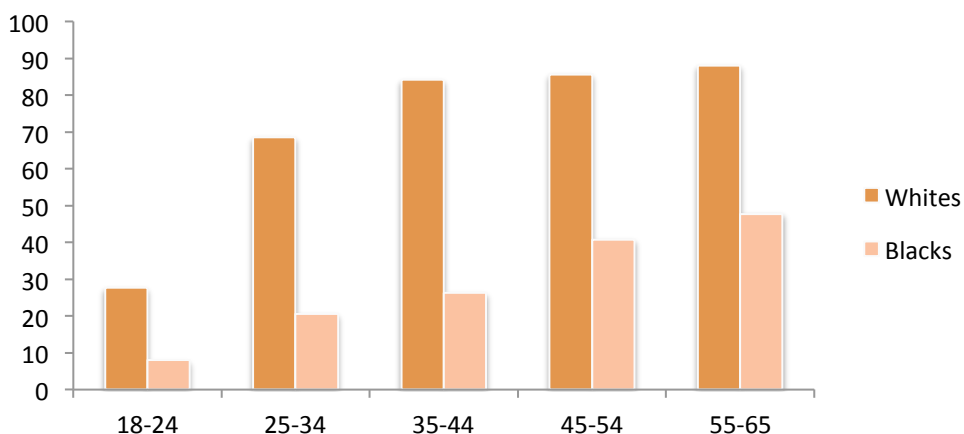Households by Age Group, 2008-10**

The gap for young Black households, similar to young Asian households, starts off small but increases quickly for older households. For Blacks in the 2005 – 2007 period, 35 to 44 year old households had the largest gap with Whites (57.84 percentage points), however, through the housing crisis this group saw the most improvement in their homeownership rate (+9.61 percentage points) and in their gap with Whites (-11.66 percentage points). The 55 to 65 year old group was hardest hit, experiencing the largest decline in the homeownership rate (-16.16 percentage points) and the largest increase in the gap with Whites (+15.16 percentage points), followed by the 25 to 34 age group with a decline in the homeownership rate of 10.39 percentage points and an increase in the gap of 5.43 percentage points. T-tests for the difference in mean homeownership rates for the 2005 – 2007 and the 2008 – 2010 period indicate that the decline in the homeownership rate for the 55 to 65 age group was statistically significant. T-tests also indicate the decrease in the homeownership rate in the 2008 – 2010 period for Blacks age 25 to 34 was statistically significant.
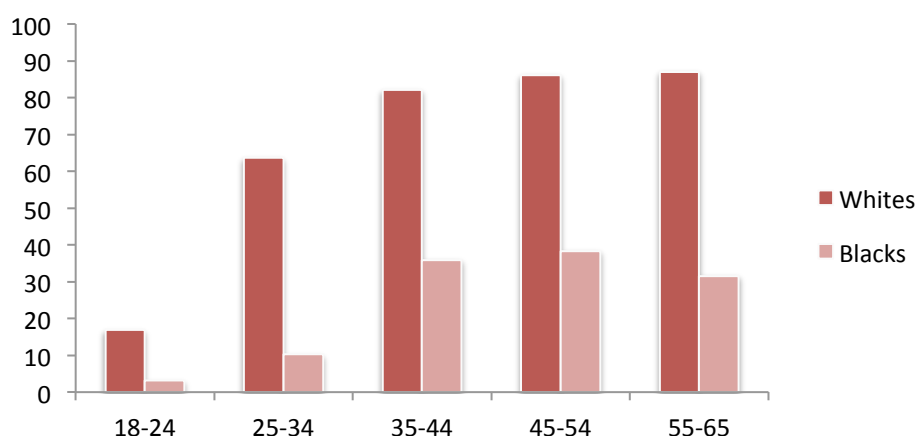
**Figure 5. Homeownership Rates for Black Households by
Age Group, 2005-07 and 2008-10**

Figure 6. Homeownership Rates for White and Black Households by Age Group, 2005-07
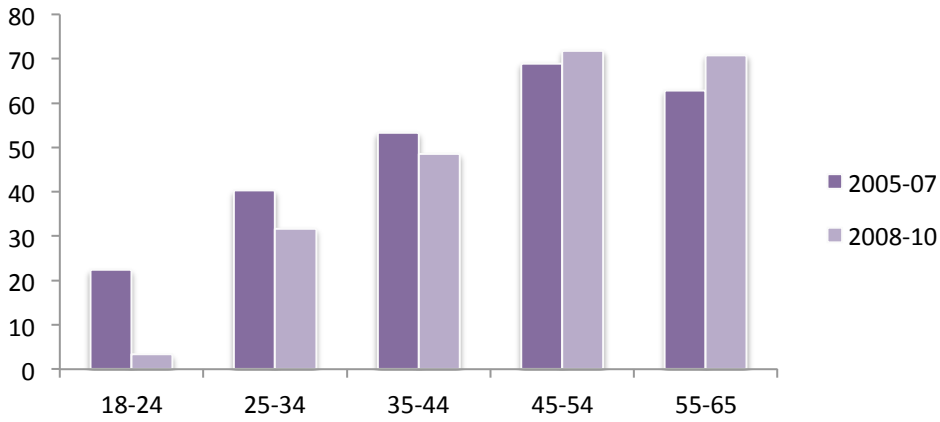

Figure 7. Homeownership Rates for White and Black Households by Age Group, 2008-10


Similarly to young Asian and Black households, the gap for young Hispanics starts off small, but increases greatly for older households. However, for Hispanics, 18 to 24 year olds didn't fare well in the crisis. This group saw the largest decline in their homeownership rate (-19.07 percentage points) and the largest increase in their gap (+8.28 percentage points). Older households age 55 to 65 fared best, with an increase in the homeownership rate of 7.90 percentage points, and an 8.90 percentage point reduction in the gap. 45 to 54 year olds also did relatively well, with an increase in the homeownership rate of 2.79 percentage points and a decline in the gap of 2.30 percentage points. However, for Hispanics, only the t-test for the 25 to 34 age group indicate a statistically significant decline in the homeownership rate in the 2008 – 2010 period, and with t-tests for the 35 to 44 age group indicating a decline in the homeownership rate significant at just over a five percent level of significance (P = 5.24).
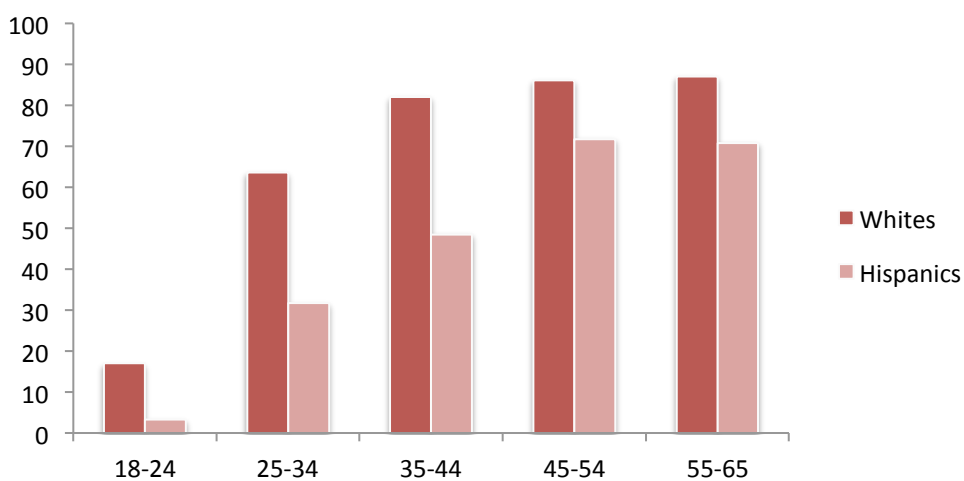
**Figure 8. Homeownership Rates for Hispanic Households
by Age Group, 2005-07 and 2008-10**

**Figure 9. Homeownership Rates for White and Hispanic
Households by Age Group, 2005-07**
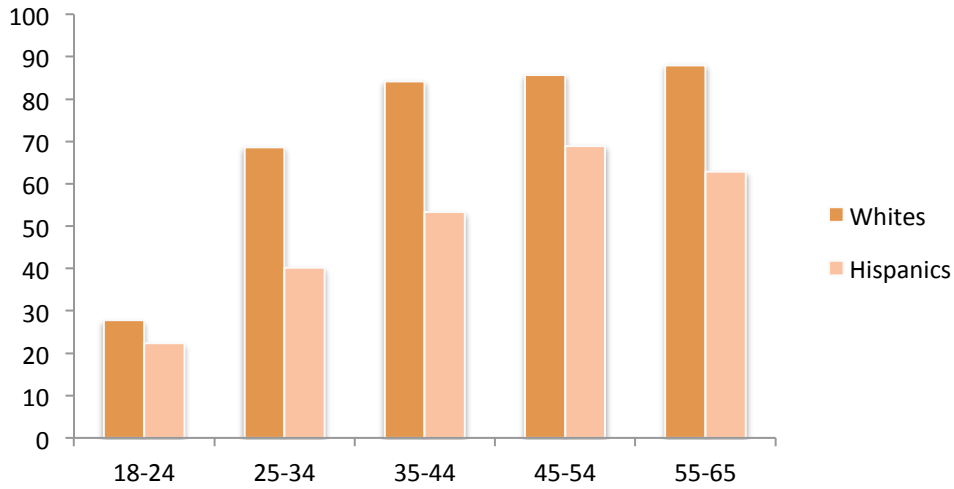
**Figure 10. Homeownership Rates for White and Hispanic
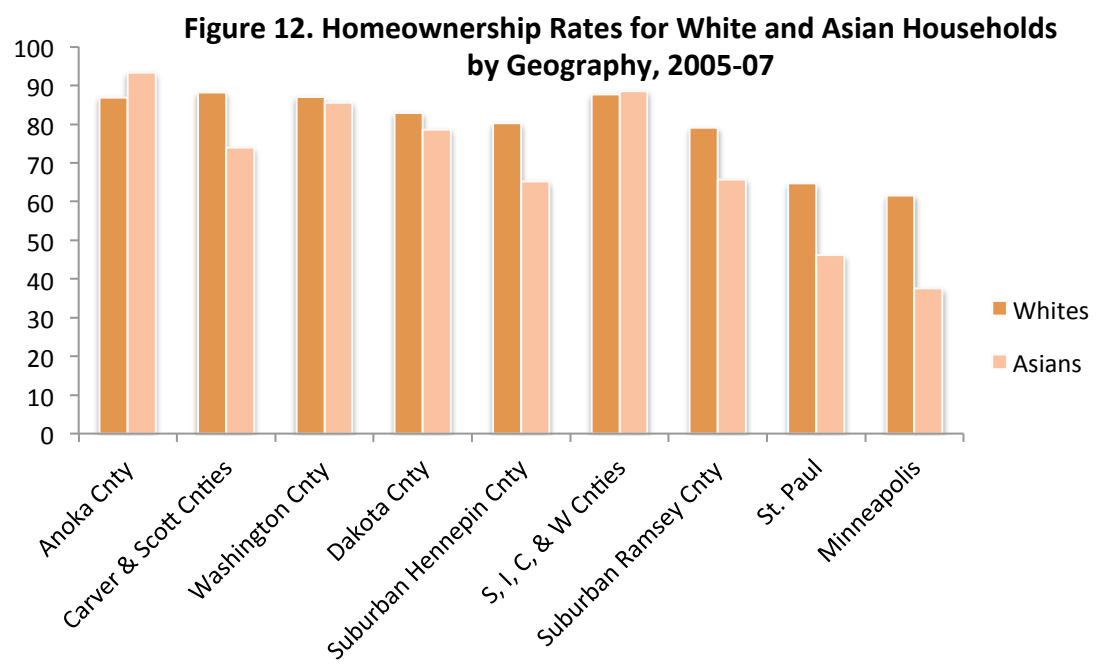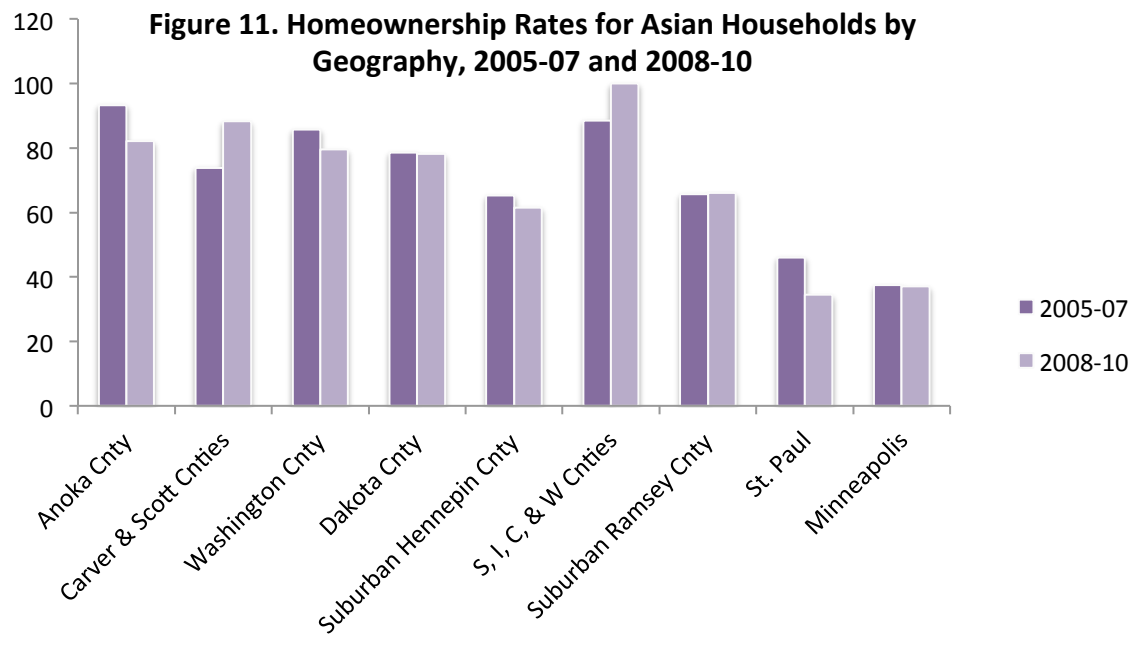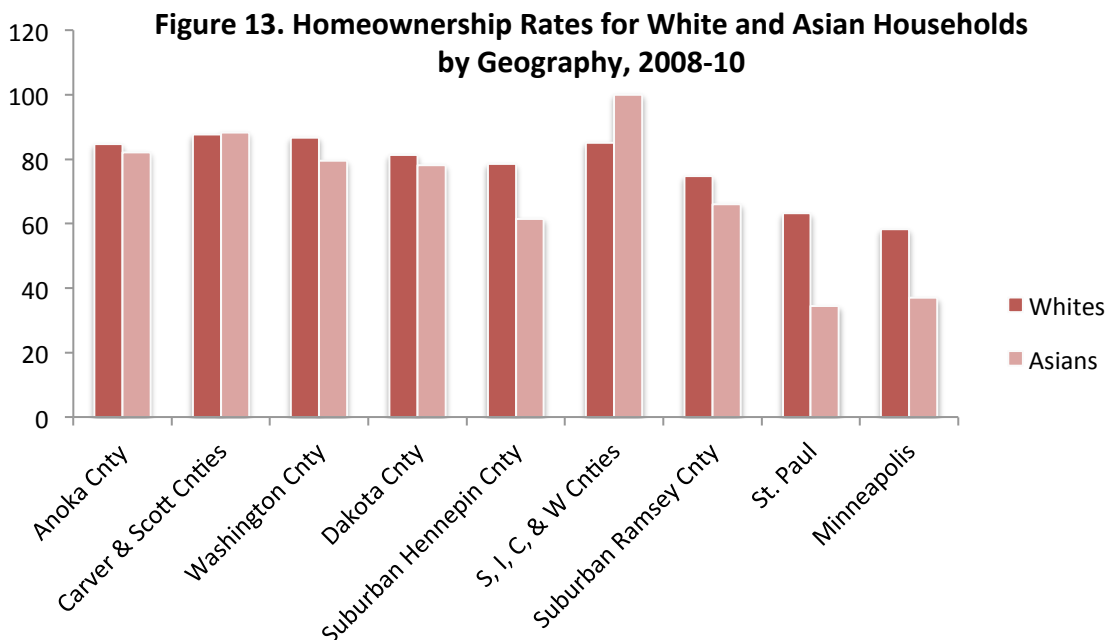Households by Age Group, 2008-10**

Geographic Trends:

For Whites, in both the 2005 – 2007 and 2008 – 2010 periods, the homeownership rates are highest in the Carver and Scott Counties area (88.12 and 87.59 percent), and lowest in the Minneapolis and St. Paul areas (61.60 and 58.28 percent in the Minneapolis area and 64.62 and 63.22 percent in the St. Paul area). White homeowners were hit hardest in the suburban Ramsey County area (with a decline in the homeownership rate of 4.30 percentage points), and fared the best in the Washington County area (with a decline in the homeownership rate of 0.26 percentage points). However, for Whites, only the t-tests for households in the Dakota County area, the Anoka County area, and the Sherburne, Isanti, Chisago, and Wright Counties area indicate the decrease in the homeownership rate from the 2007 – 2007 to the 2008 – 2010 period was statistically significant. The decrease in the homeownership rate for the Carver and Scott Counties area was statistically significant at just over a five percent level of significance (P = 5.58).
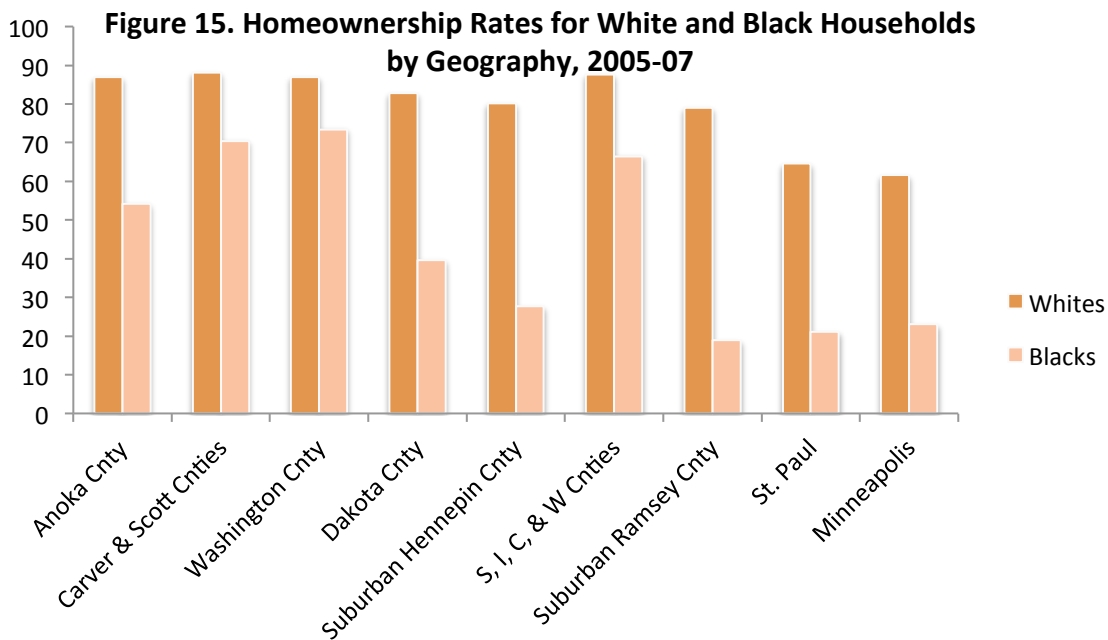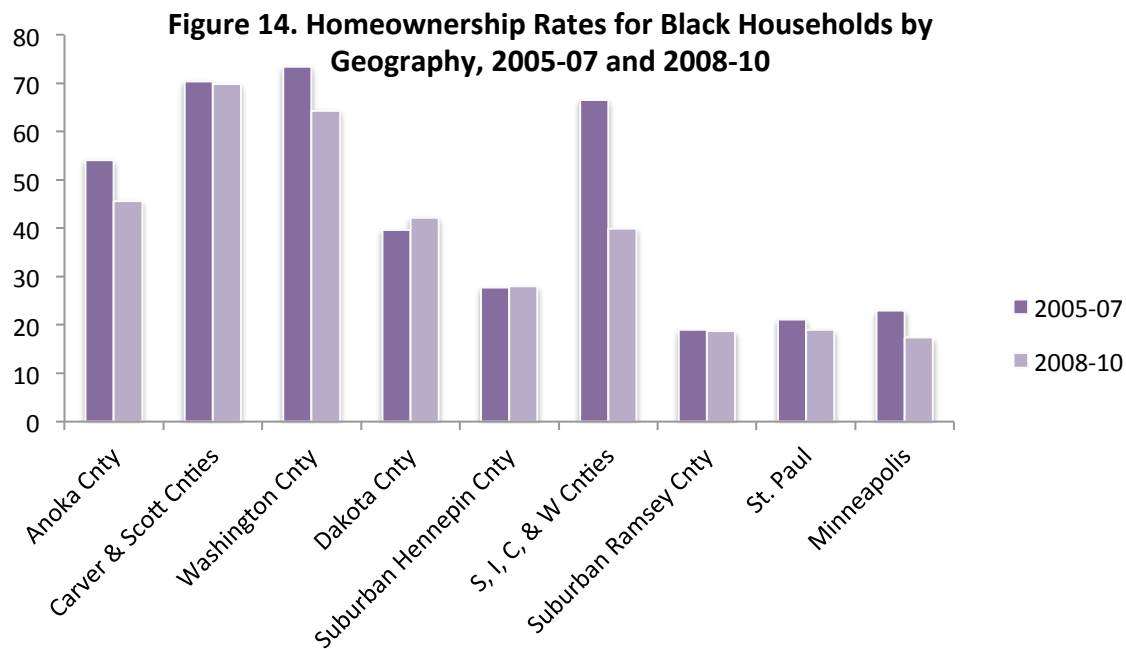
While before the crisis, the Minneapolis area had the largest Asian-White gap (24.12 percentage points) and the Anoka County area the smallest (actually 6.33 percentage points in favor of Asians), Asians in the St. Paul area were hardest hit in the crisis, experiencing the largest decline in homeownership rates (-11.64 percentage points) and the largest increase in the gap (+10.24 percentage points), followed by Anoka County (with a decline in the homeownership rate of 11.09 percentage points and an increase in the gap of 8.81 percentage points). Asians in the Carver and Scott Counties area fared the best, with the largest increase in homeownership rates (+14.40 percentage points) and the largest decline in the gap (-14.93 percentage points). Those in the Sherburne, Isanti, Chisago, and Wright Counties area also saw improvement in the homeownership rate (+11.51 percentage points) and the gap (with an increase of 13.97 percentage points in the gap in favor of Asians). T-tests for the mean homeownership rate for Asians in the Anoka County area and in the St. Paul area indicate the decline in the homeownership rate from the 2005 – 2007 period to the 2008 – 2010 period was

statistically significant.

Figure 11. Homeownership Rates for Asian Households by Geography, 2005-07 and 2008-10

Figure 12. Homeownership Rates for White and Asian Households by Geography, 2005-07

Figure 13. Homeownership Rates for White and Asian Households by Geography, 2008-10
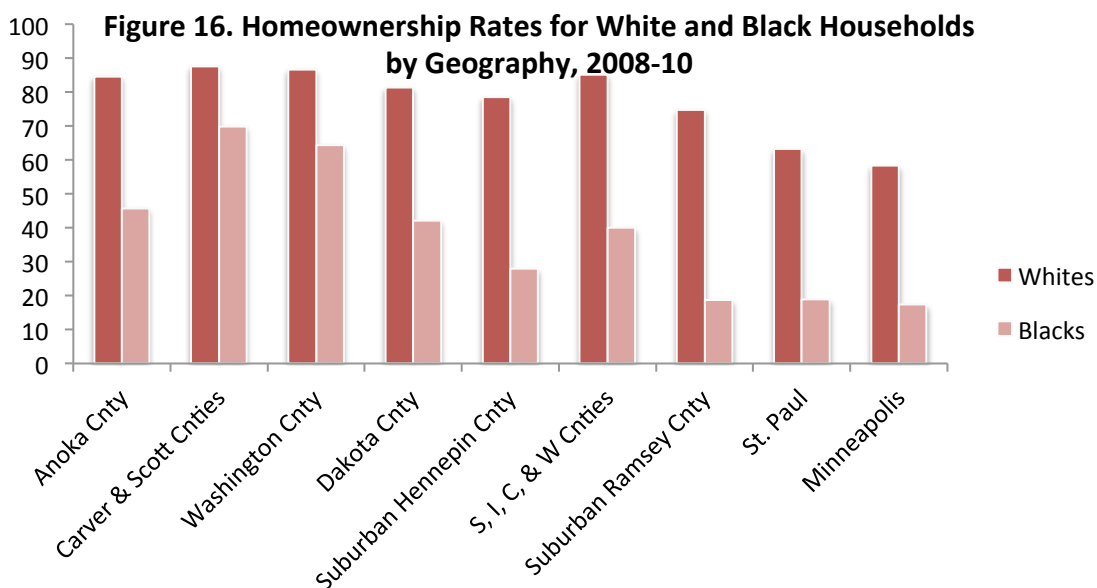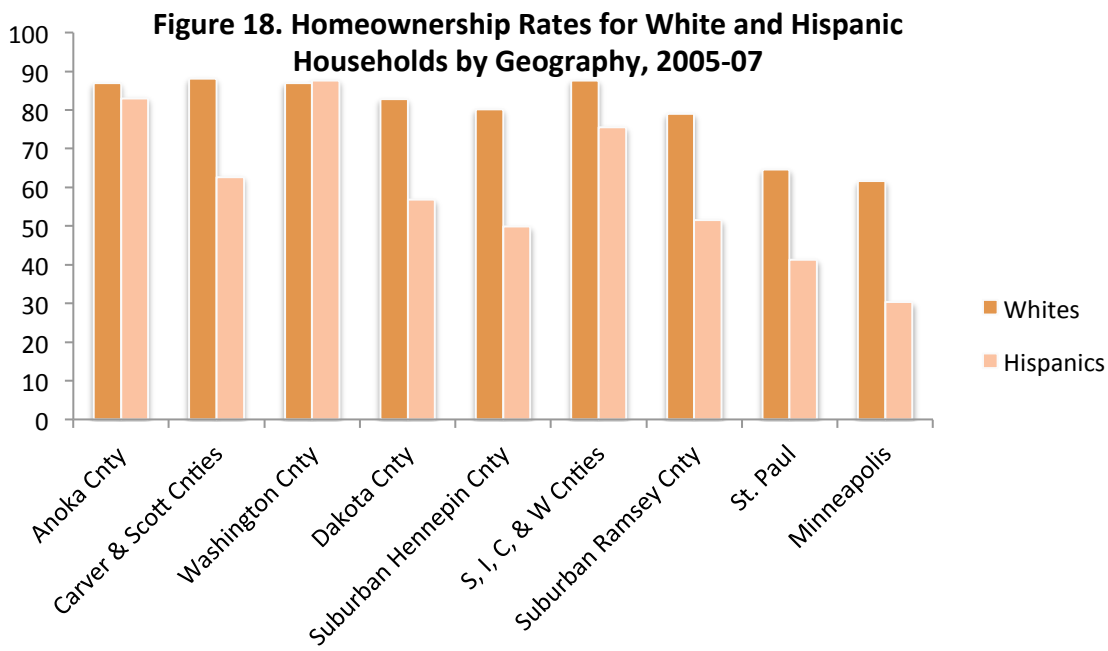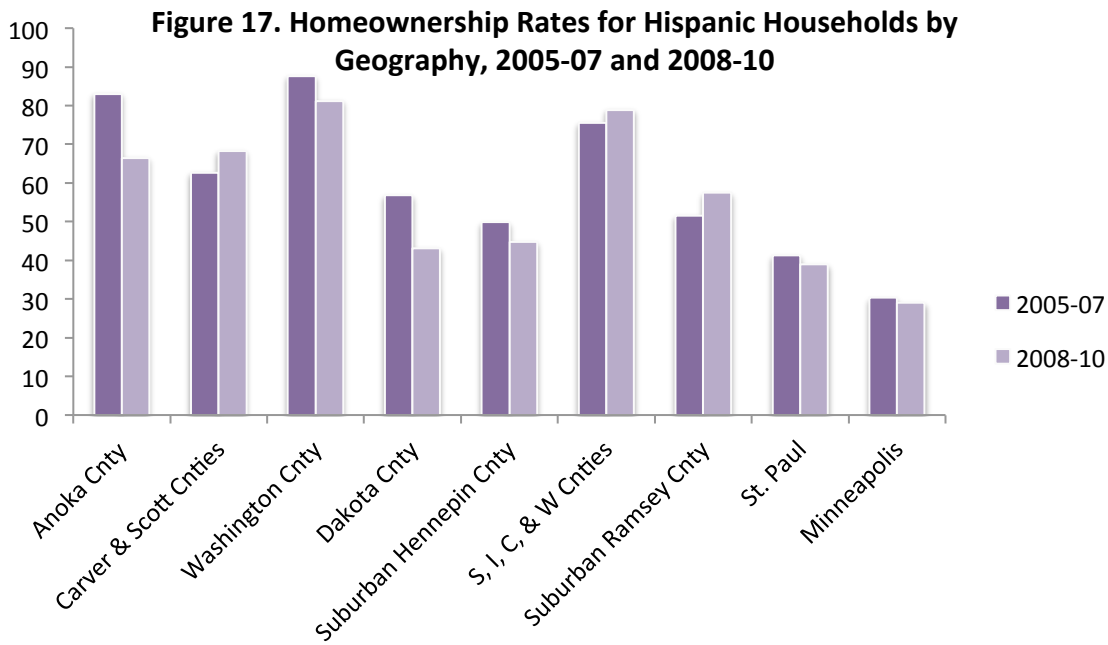
Blacks both before and after the crisis have the largest gap with Whites in the suburban Ramsey County area (60.09 percentage points in the 2005 – 2007 period and 55.99 percentage points in the 2008 – 2010 period). In the 2005 – 2007 period, the gap is smallest (13.56 percentage points) in the Washington County area, and in the 2008 – 2010 period the gap is smallest (17.76 percentage points) in the Carver and Scott Counties area. Blacks in the Sherburne, Isanti, Chisago, and Wright Counties area fared poorly in the crisis, experiencing the largest decline in homeownership rates (-26.53 percentage points) and the largest increase in the gap (+24.07 percentage points). Blacks in the Dakota County area fared the best with the largest increase in homeownership rates (+2.51 percentage points) and the largest decline in the gap (-4.06 percentage points). Only t-tests for the mean homeownership rate for Blacks in the Minneapolis area indicate the decline in the homeownership rate from the 2005 – 2007 period to the 2008 – 2010 period was statistically significant. However, the sample size for Black households in the Sherburne, Isanti, Chisago, and Wright Counties area is quite small, with only 397 households in the 2005 – 2007 period and 229 households in the 2008 – 2010 period.

Figure 14. Homeownership Rates for Black Households by Geography, 2005-07 and 2008-10

Legend: 2005-07, 2008-10

Categories: Anoka Cnty, Carver & Scott Cnties, Washington Cnty, Dakota Cnty, Suburban Hennepin Cnty, S, I, C, & W Cnties, Suburban Ramsey Cnty, St. Paul, Minneapolis

Figure 15. Homeownership Rates for White and Black Households by Geography, 2005-07

Legend: Whites, Blacks

Categories: Anoka Cnty, Carver & Scott Cnties, Washington Cnty, Dakota Cnty, Suburban Hennepin Cnty, S, I, C, & W Cnties, Suburban Ramsey Cnty, St. Paul, Minneapolis

Figure 16. Homeownership Rates for White and Black Households by Geography, 2008-10

Legend: Whites, Blacks

Categories (x-axis): Anoka Cnty, Carver & Scott Cnties, Washington Cnty, Dakota Cnty, Suburban Hennepin Cnty, S, I, C, & W Cnties, Suburban Ramsey Cnty, St. Paul, Minneapolis
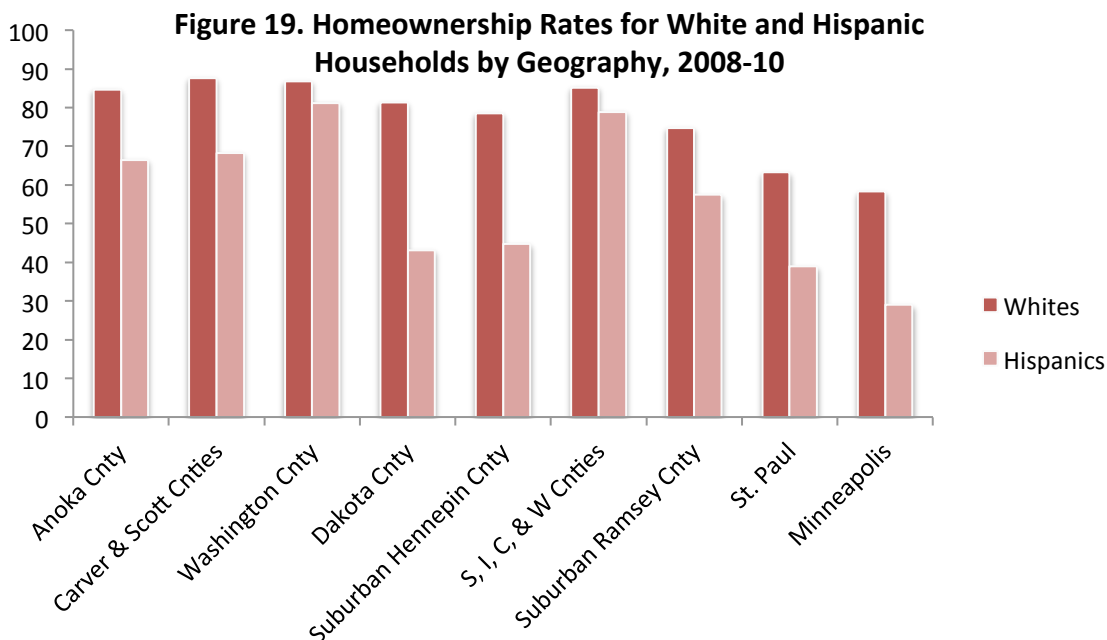
Hispanics in the Washington County area have the most favorable gap both before and after the crisis (0.56 percentage points in favor of Hispanics in the 2005 – 2007 period and 5.49 percentage points in favor of Whites in the 2008 – 2010 period). In the 2005 – 2007 period, the gap is largest (31.26 percentage points) in the Minneapolis area, though also quite large in the suburban Hennepin County area (30.36 percentage points). In the 2008 – 2010 period, the gap was now largest (33.70 percentage points) in the suburban Hennepin County area, followed closely by the Minneapolis area (with a gap of 29.20 percentage points). The Anoka County area saw the largest decline in Hispanic homeownership rates (-16.54 percentage points) and the largest increase in the gap (+14.26 percentage points), followed closely by the Dakota County area (with a decrease in homeownership rates of 13.63 percentage points and an increase in the gap of 12.08 percentage points). Hispanics in the suburban Ramsey County area fared the best over the crisis with the largest increase in homeownership rates (+5.84 percentage points) and the largest decline in the gap (-10.14 percentage points). T-tests for the mean homeownership rate for Hispanics indicate the decline in homeownership rates from the 2005 – 2007 period to the 2008 – 2010 period in the Dakota County and Anoka County areas was statistically significant.

Figure 17. Homeownership Rates for Hispanic Households by Geography, 2005-07 and 2008-10

Legend: 2005-07, 2008-10

Categories: Anoka Cnty, Carver & Scott Cnties, Washington Cnty, Dakota Cnty, Suburban Hennepin Cnty, S, I, C, & W Cnties, Suburban Ramsey Cnty, St. Paul, Minneapolis

Figure 18. Homeownership Rates for White and Hispanic Households by Geography, 2005-07

Legend: Whites, Hispanics

Categories: Anoka Cnty, Carver & Scott Cnties, Washington Cnty, Dakota Cnty, Suburban Hennepin Cnty, S, I, C, & W Cnties, Suburban Ramsey Cnty, St. Paul, Minneapolis

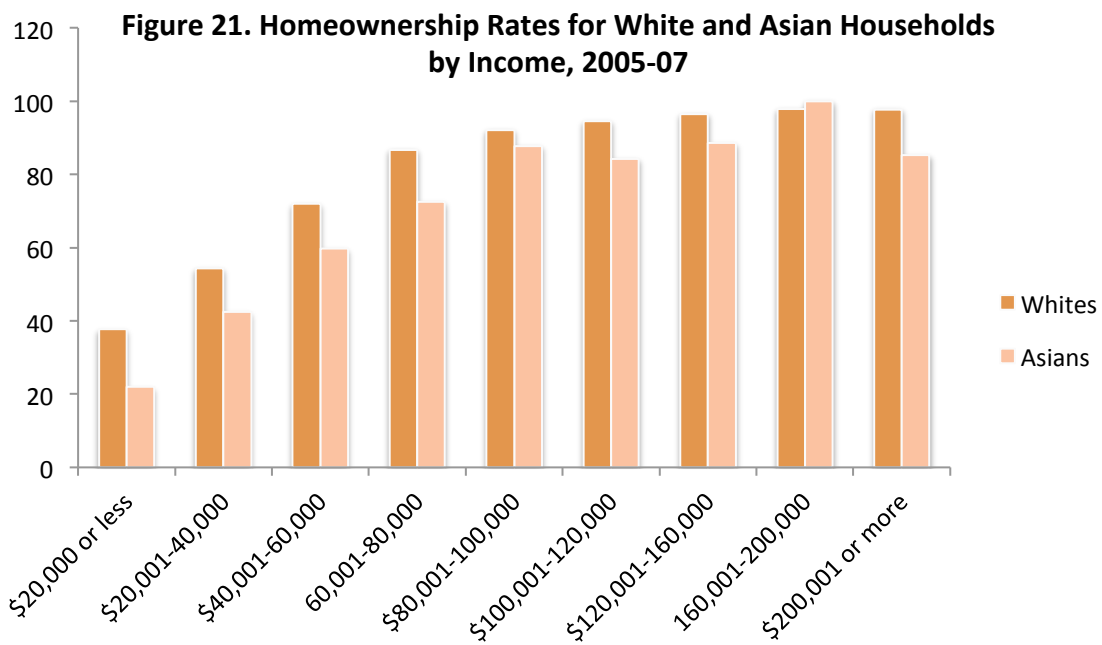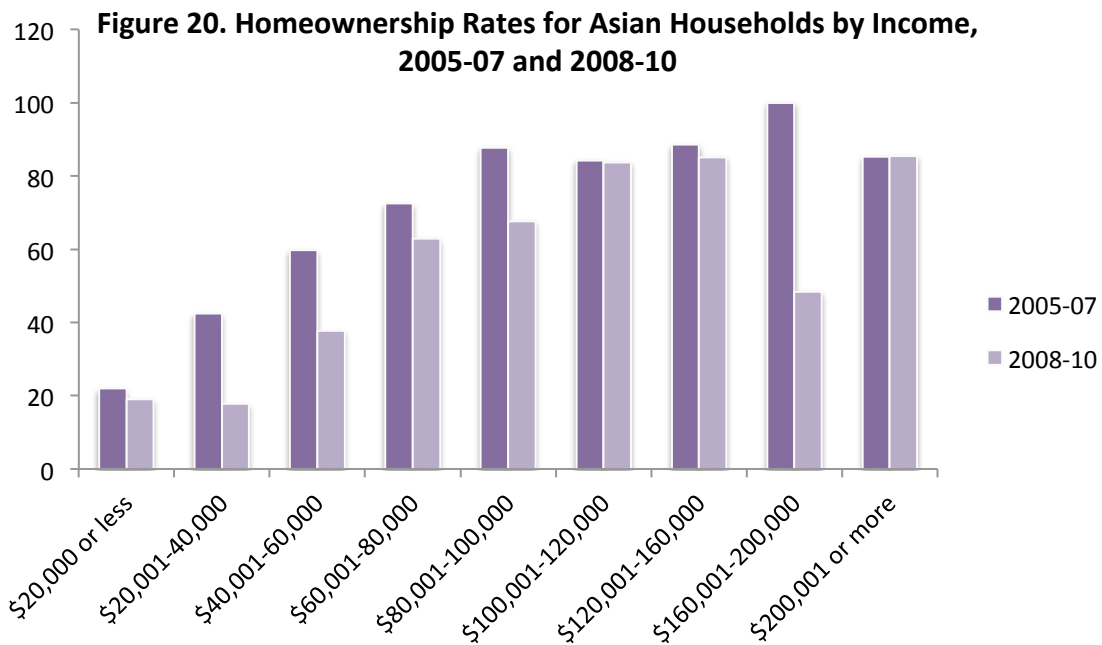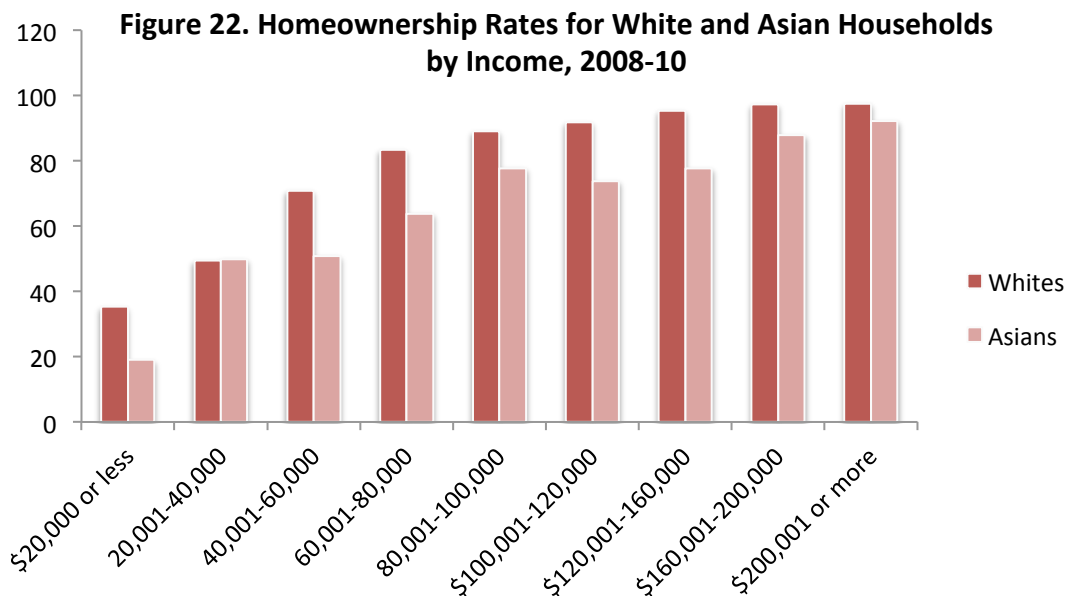**Figure 19. Homeownership Rates for White and Hispanic Households by Geography, 2008-10**

Income Group Trends:

The homeownership rate generally increases with income for all three races and for Hispanics. While the dummy variables created for the income analysis provide for distinctions to be made among households with finer differences in household income, the sample size for some of the income levels for minority households, in particular at higher income levels, is quite small. Results for the income analysis are somewhat unexpected, which may be related to the small sample sizes for minority households for these higher income levels. For Whites, lower income households earning $20,001 – 40,000 saw the largest decline in the homeownership rate (-4.85 percentage points), and the highest income households fared the best during the crisis, experiencing just a slight decline in the homeownership rate (-0.27 percentage points). However, t-tests indicate the decline in mean homeownership rates from the 2005 – 2007 period to the 2008 – 2010 period was statistically significant for all income groups other than those with household income of $20,000 or less, those with household income of $40,001 – 60,000, and for those with household income of $200,001 or more.
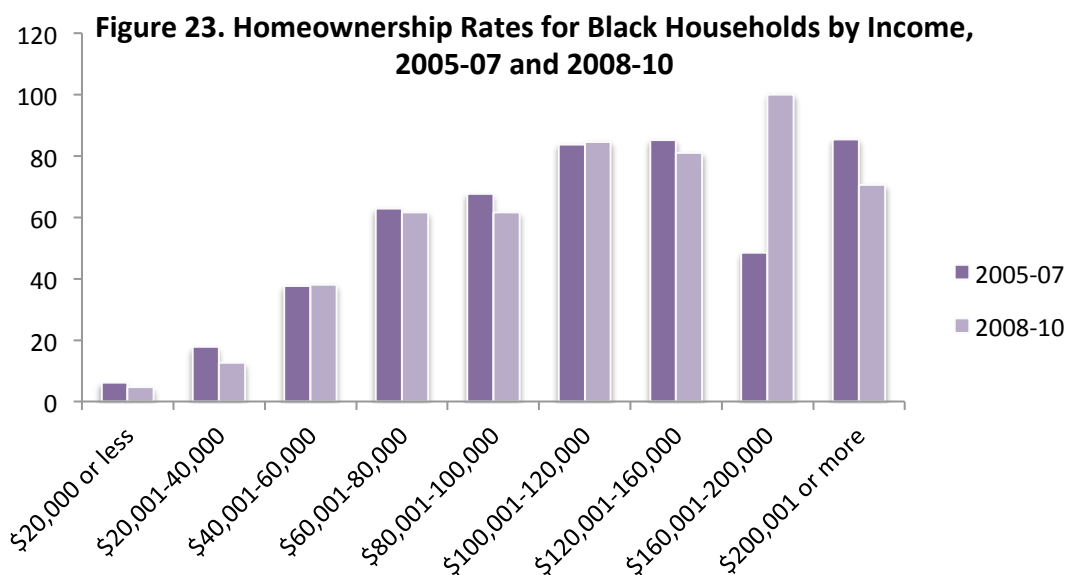
For Asians, the lowest income group, those with household income of $20,000 or less, starts off with the largest gap (15.80 percentage points) in the 2005-07 period. Somewhat unexpectedly, those earning $160,001 – 200,000 were hit hardest in the crisis in terms of homeownership rates, experiencing the largest decrease in homeownership rates (12.17 percentage points) and the largest increase in the gap (+11.65 percentage points). Both the highest income group, those earning $200,001 or more, and those with incomes $20,001 – 40,000, saw increases in the homeownership rate and declines in the gap. Those with household income between $20,001 – 40,000 experienced the largest increase in the homeownership rate (+7.46 percentage points) and the largest decline in the gap (-12.31 percentage points). T-tests for the mean homeownership rate for Asians with household
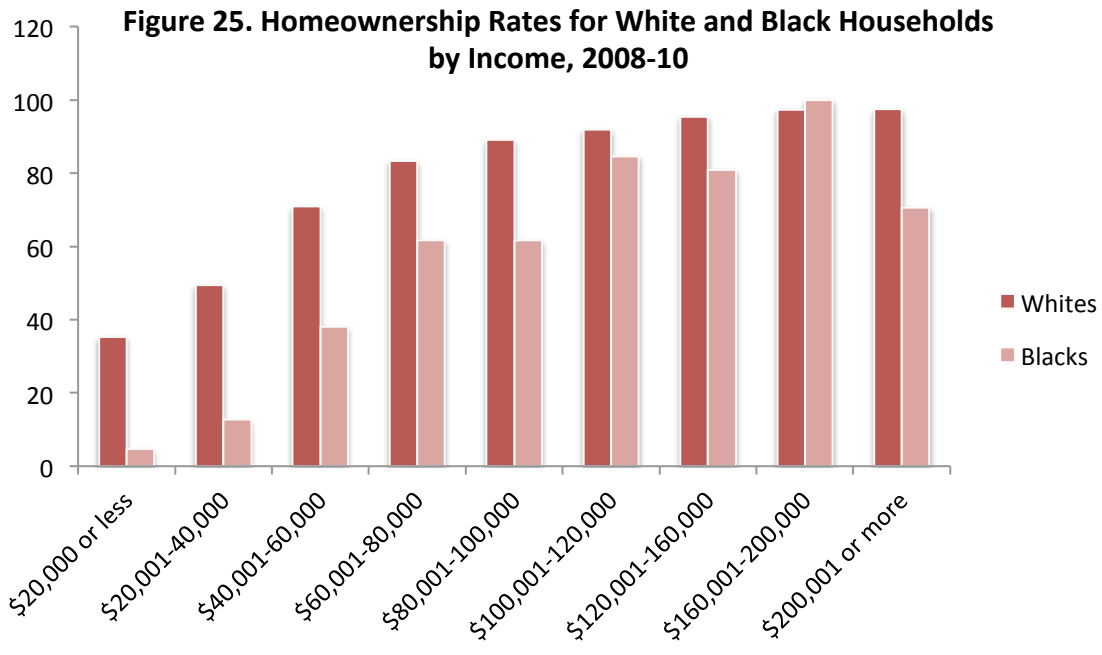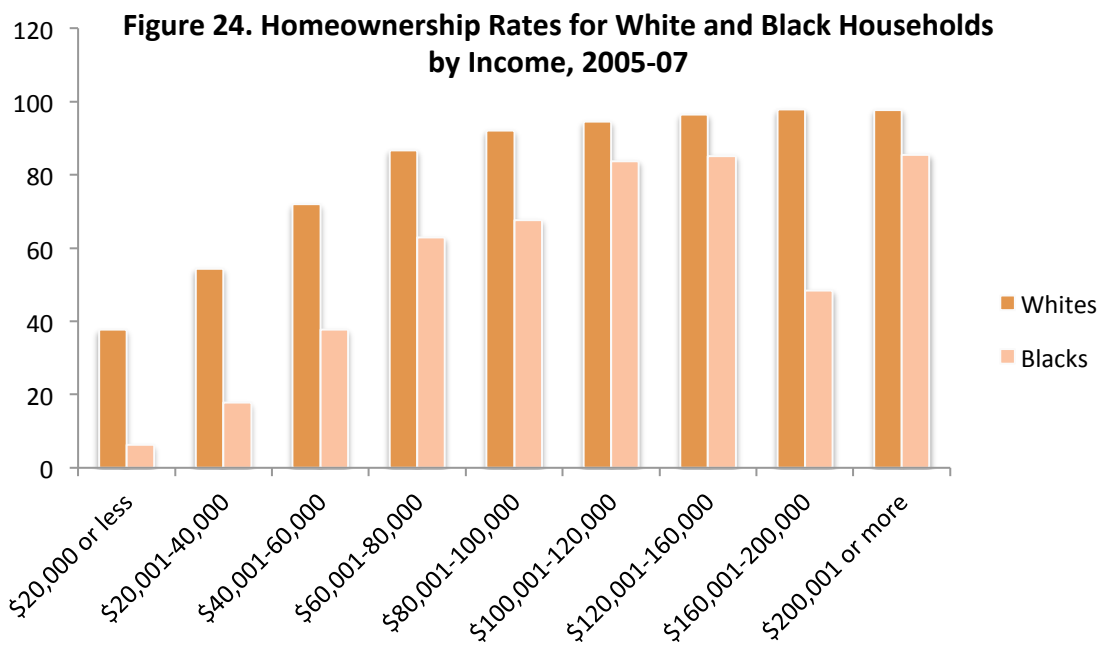
income of $160,001 – 200,000 indicate the decline in the homeownership rate from the 2005 – 2007 period to the 2008 – 2010 period was statistically significant.
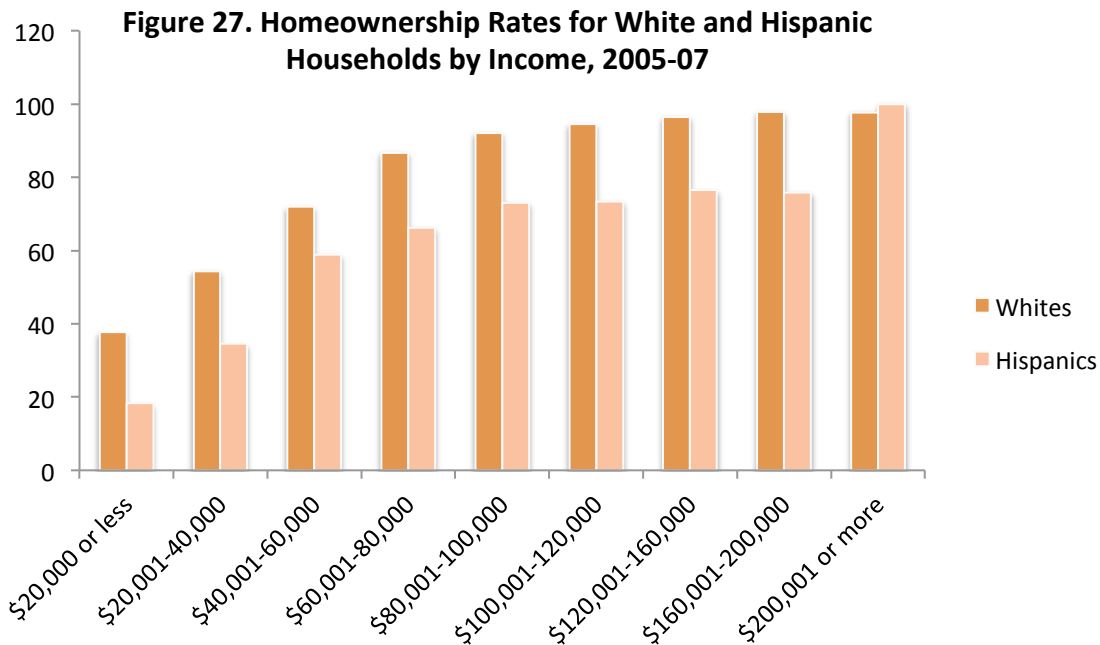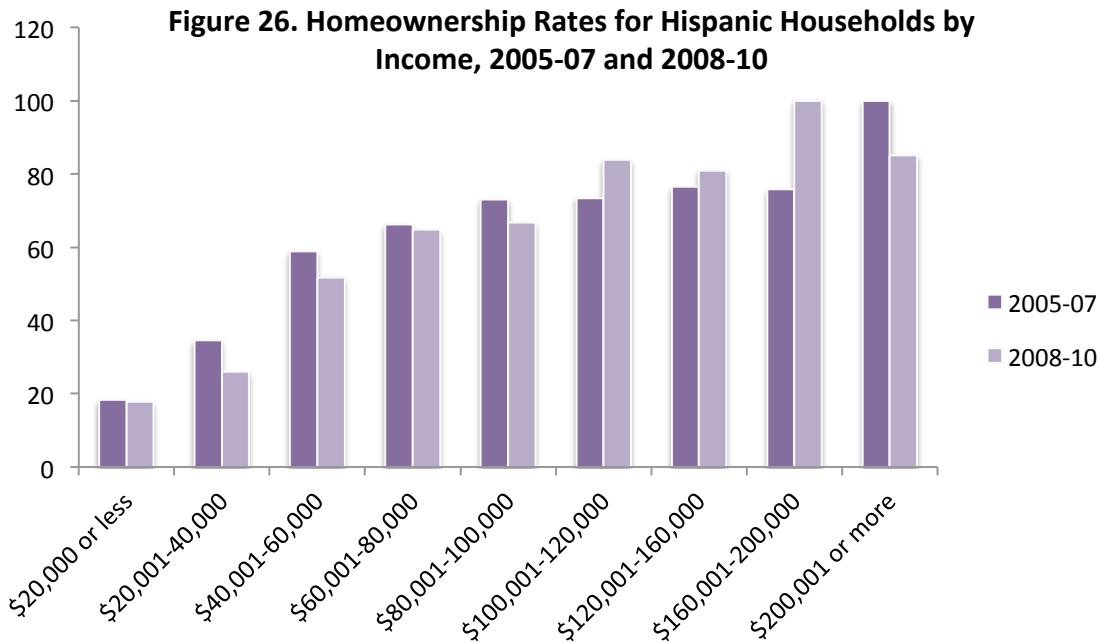
Figure 20. Homeownership Rates for Asian Households by Income, 2005-07 and 2008-10

Figure 21. Homeownership Rates for White and Asian Households by Income, 2005-07

Figure 22. Homeownership Rates for White and Asian Households by Income, 2008-10

For Blacks, high income households earning $160,001 – 200,000 start off in the 2005 – 2007 period with the worst gap (49.33 percentage points). However, through the crisis, this income group fared the best, experiencing the largest increase in the homeownership rate (+51.55 percentage points) and the largest decrease in the gap (-52.07 percentage points). Somewhat unexpectedly, those earning $200,001 or more saw the largest decline in the homeownership rate (-14.82 percentage points) and the largest increase in the gap with Whites (+14.55 percentage points). However, only the t-tests for those with household income of $20,000 or less, and those with income of $20,001 – 40,000 indicate the decline in the homeownership rate from the 2005 – 2007 to the 2008 – 2010 period was statistically significant. However, sample sizes for higher income Black households are quite small.

Figure 23. Homeownership Rates for Black Households by Income, 2005-07 and 2008-10

Figure 24. Homeownership Rates for White and Black Households by Income, 2005-07

Figure 25. Homeownership Rates for White and Black Households by Income, 2008-10

In the 2005 – 2007 period Hispanics have a similar size homeownership gap for most income groups, hovering around 20 percentage points, but is most favorable (2.25 percentage points in favor of Hispanics) for those earning $200,001 or more. However, unexpectedly, this income group was hit hardest in the crisis, seeing the largest decline in homeownership rate (-14.84 percentage points) and the largest increase in their gap (+14.57 percentage points). Those households with incomes between $160,001 – 200,000 fared the best, seeing the largest increase in homeownership rates (+24.15 percentage points) and the largest decline in the gap (-24.67 percentage points). However, t-tests indicate no significant changes in the

homeownership rate by income group for Hispanics between the 2005 – 2007 and 2008 – 2010 periods. Again, sample sizes for higher income Hispanic households are relatively small.

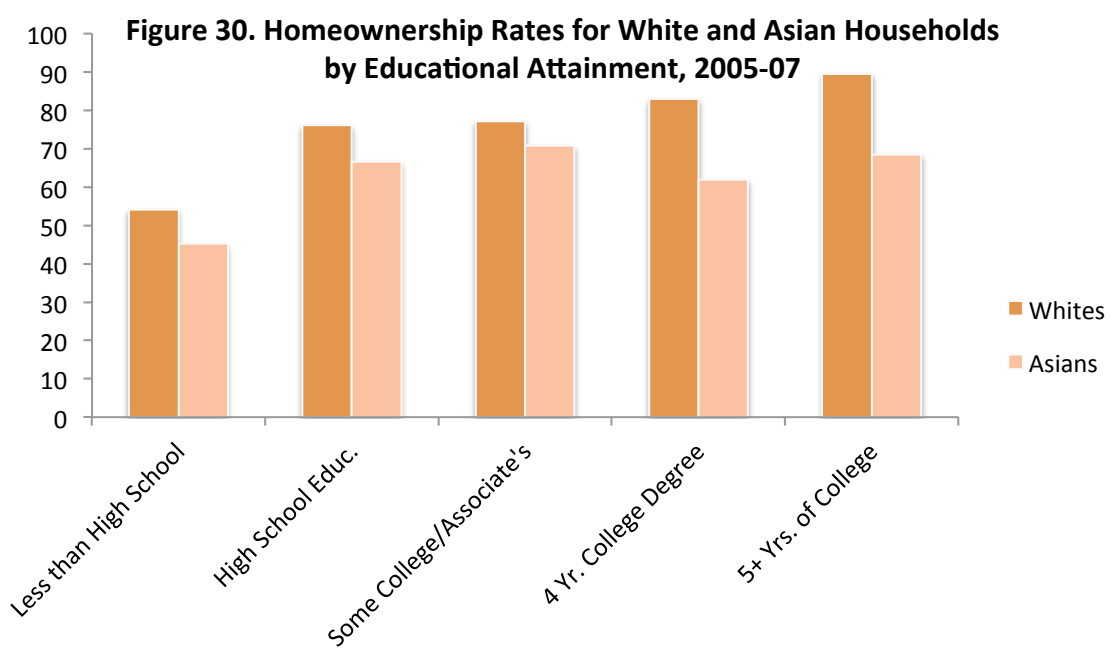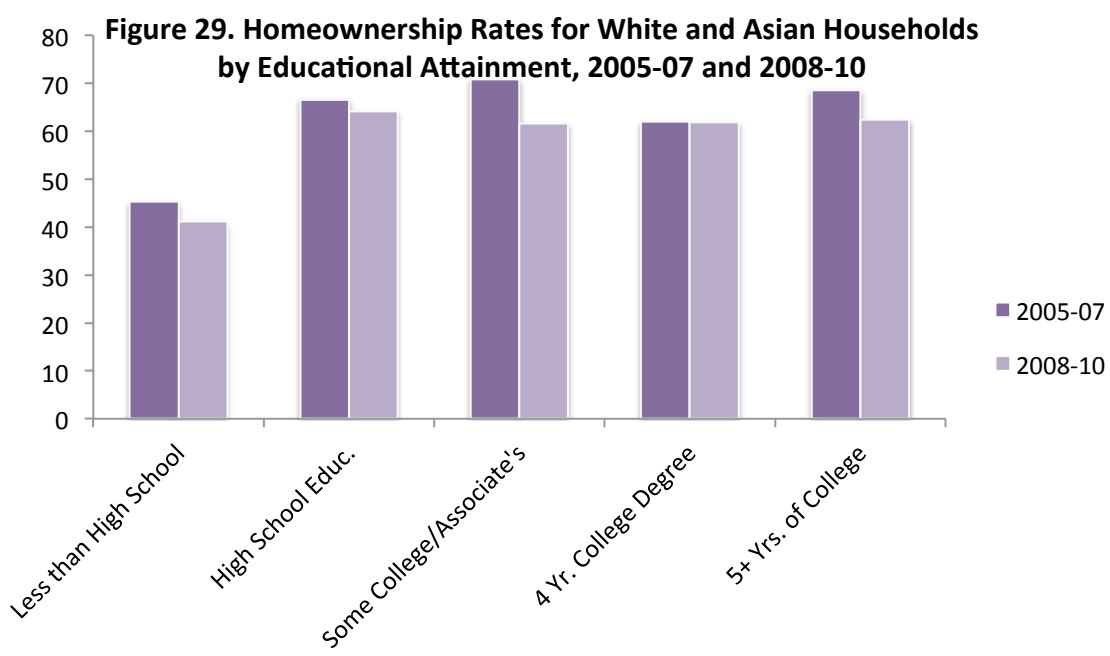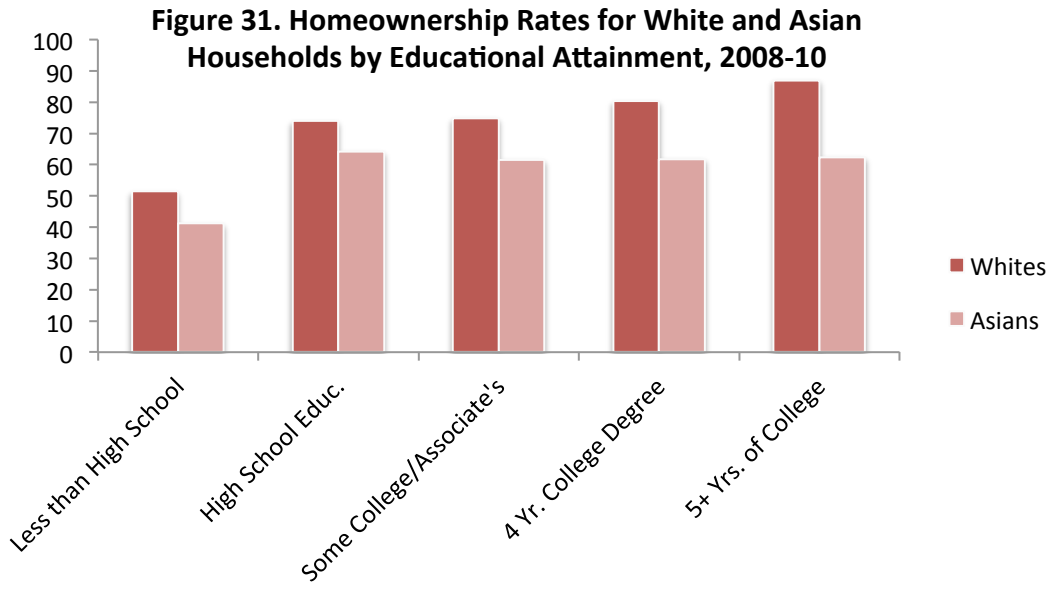**Figure 26. Homeownership Rates for Hispanic Households by Income, 2005-07 and 2008-10**

Figure 27. Homeownership Rates for White and Hispanic Households by Income, 2005-07

Figure 28. Homeownership Rates for White and Hispanic Households by Income, 2008-10
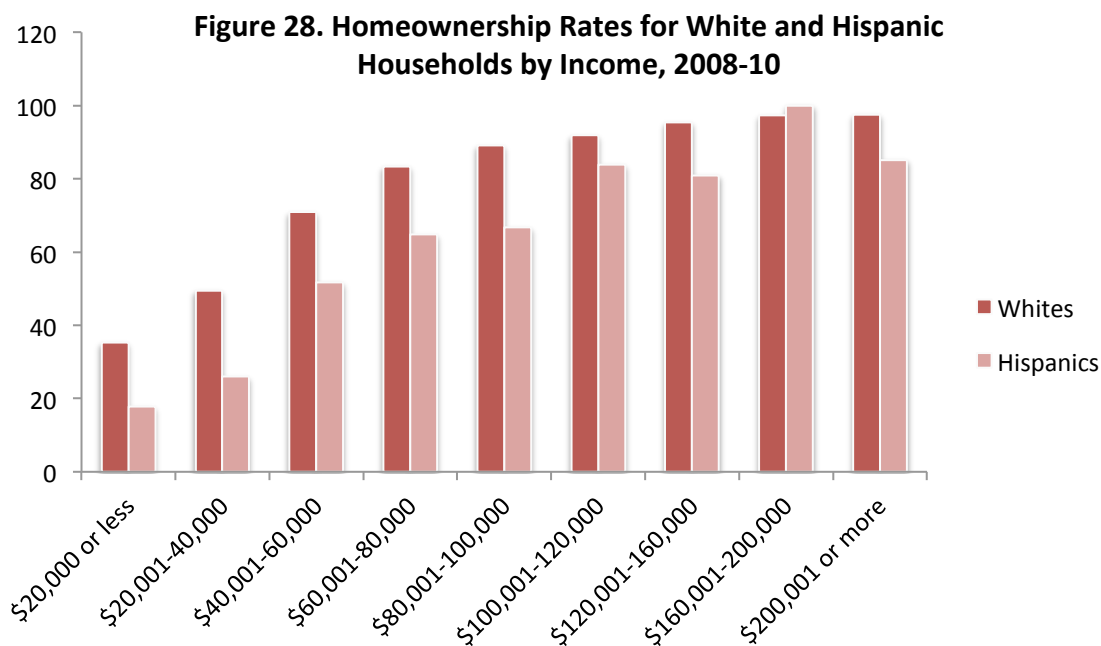
Education Group Trends:

The homeownership rate generally increases with education for all three races, and for Hispanics. However, for Asians the pattern is less clear, with household heads having beyond a high school education experiencing a less consistent pattern of increasing homeownership rates. For Whites, the homeownership rate decreased from the 2005 – 2007 period to the 2008 – 2010 period relatively consistently across education levels, with those having a high school education faring the worst in the crisis, with a decline in the homeownership rate of 2.68 percentage points, and those with less than a high school education faring the best in terms of homeownership rates, with a decline of 2.13 percentage points. T-tests indicate the decline in mean homeownership rate for Whites with a high school education from the 2005 – 2007 period to the 2008 – 2010 period is statistically significant. However, t-tests also indicate that the decline in the mean homeownership rate for Whites with a four-year college degree and for those with five or more years of college is also statistically significant.
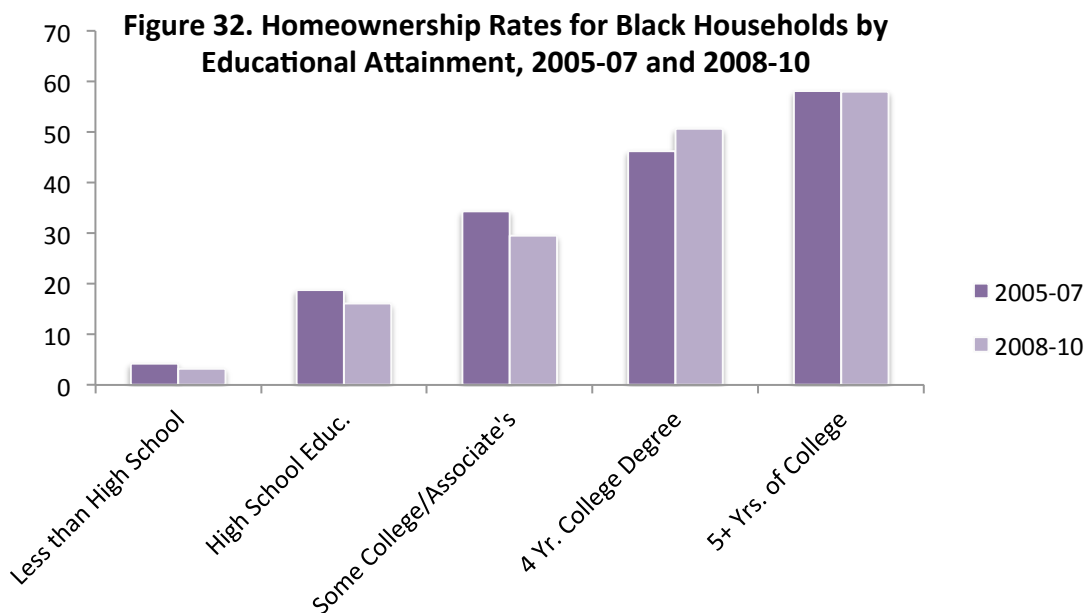
Before the crisis, the Asian-White gap is equally large (20.99 percentage points) for those with a four-year college degree and those with 5 or more years of college, and is lowest (6.45 percentage points) for those with some college or an Associate's degree. However, during the crisis, those with a four year college degree fared best, seeing the smallest decrease in the homeownership rate (-0.13 percentage points) and being the only education group to experience a decrease in the gap (-2.47 percentage points), while those with some college or an Associate's degree fared the worst, experiencing the largest decline in homeownership rates (-9.23 percentage points) and the largest increase in the gap (+6.90 percentage points). However, t-tests indicate no changes in the homeownership rate by education level for Asians that were statistically significant at the five percent level between the 2005 – 2007 and 2008 – 2010 periods. The decline in the homeownership rate for those households with some college or an Associate's degree was significant at the ten percent level (p = 0.0871).

Figure 29. Homeownership Rates for White and Asian Households by Educational Attainment, 2005-07 and 2008-10

Legend: 2005-07, 2008-10

Categories: Less than High School, High School Educ., Some College/Associate's, 4 Yr. College Degree, 5+ Yrs. of College

Figure 30. Homeownership Rates for White and Asian Households by Educational Attainment, 2005-07

Legend: Whites, Asians

Categories: Less than High School, High School Educ., Some College/Associate's, 4 Yr. College Degree, 5+ Yrs. of College

Figure 31. Homeownership Rates for White and Asian Households by Educational Attainment, 2008-10
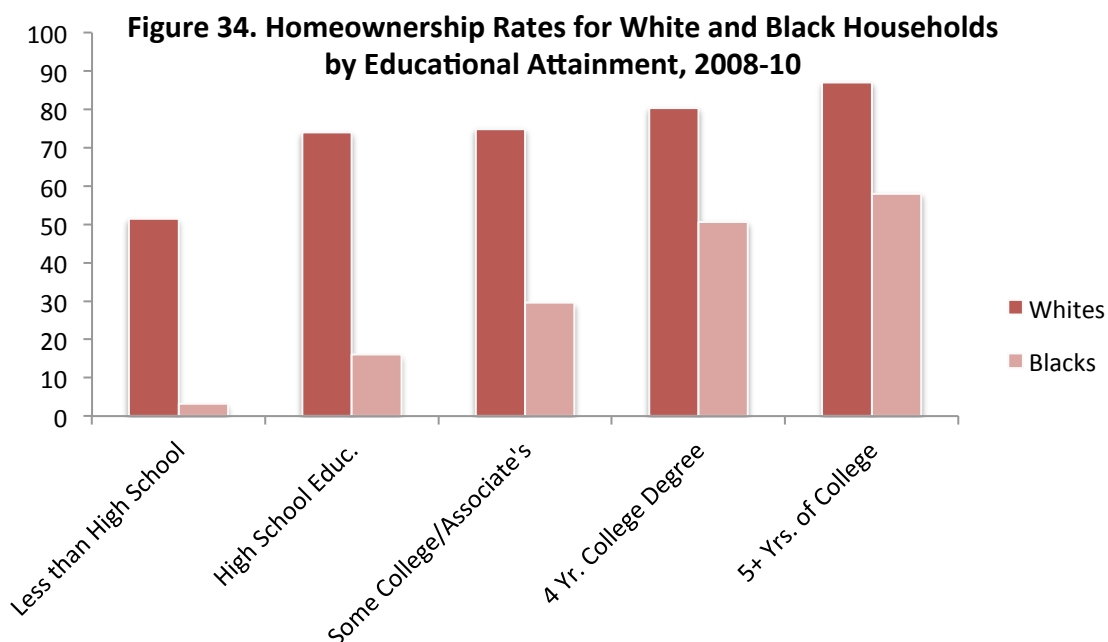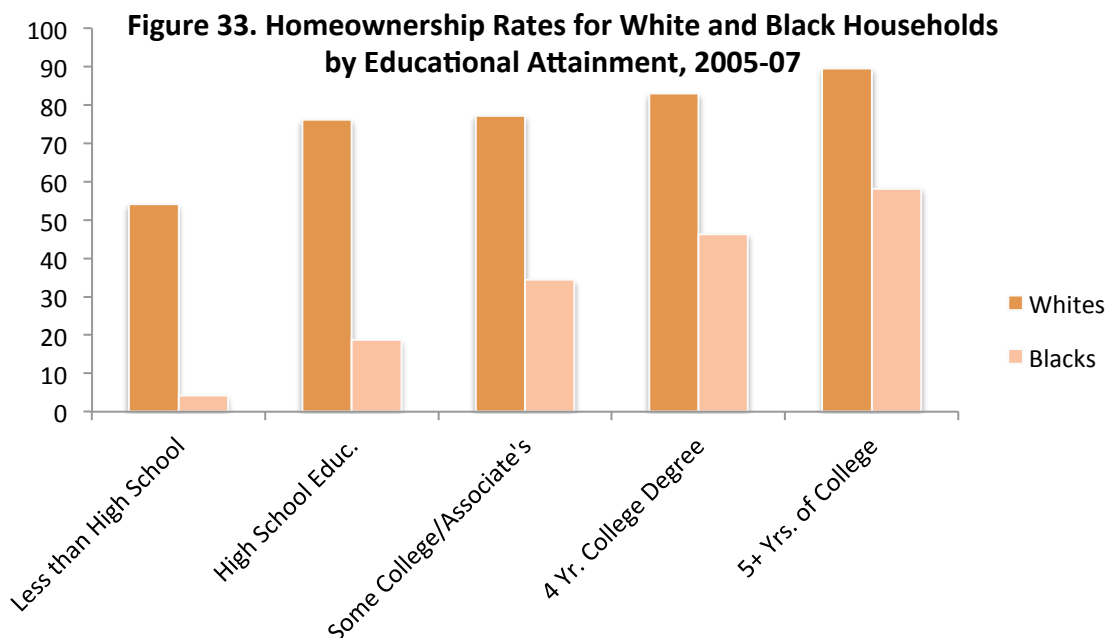

For Blacks, both before and after the crisis, the gap is largest (57.36 percentage points) for those with a high school education and smallest (31.44 percentage points) for those with five or more years of college. Similar to Asian households, those with some college or an Associate's degree fared the worst, seeing the largest decline in homeownership rates (-4.86 percentage points) and the largest increase in the gap (+2.53 percentage points). The homeownership rate increased most (+4.33 percentage points) and the gap decreased most (-6.93 percentage points) for those with a four-year college degree. T-tests for the mean homeownership rate for Blacks with some college or an Associate's Degree indicate the decline in the homeownership rate from the 2005 – 2007 period to the 2008 – 2010 period was statistically significant.

Figure 32. Homeownership Rates for Black Households by Educational Attainment, 2005-07 and 2008-10

Figure 33. Homeownership Rates for White and Black Households by Educational Attainment, 2005-07

Figure 34. Homeownership Rates for White and Black Households by Educational Attainment, 2008-10

For Hispanics, both before and after the crisis, those with a high school education had the largest gap (28.85 percentage points in the 2005 – 2007 period and 39.64 percentage points in the 2008 – 2010 period), while those with five or more years of college had the smallest gap (14.49 percentage points in the 2005 – 2007 period and 7.65 percentage points in the 2008 – 2010 period). The homeownership rate decreased most (-12.92 percentage points) for those with a high school education and increased most (+4.28 percentage points) for those with 5 or more years of college. Likewise, the gaps improved most (-6.84 percentage points) for those with five or more years of college and increased most (+10.79 percentage points) for those with

a high school education. T-tests for the mean homeownership rate for Hispanics with a high school education indicate the decline in the homeownership rate was statistically significant.

Figure 35. Homeownership Rates for Hispanic Households by Educational Attainment, 2005-07 and 2008-10

Legend:
- 2005-07
- 2008-10

Figure 36. Homeownership Rates for White and Hispanic Households by Educational Attainment, 2005-07

Legend:
- Whites
- Hispanics

Figure 37. Homeownership Rates for White and Hispanic Households by Educational Attainment, 2008-10
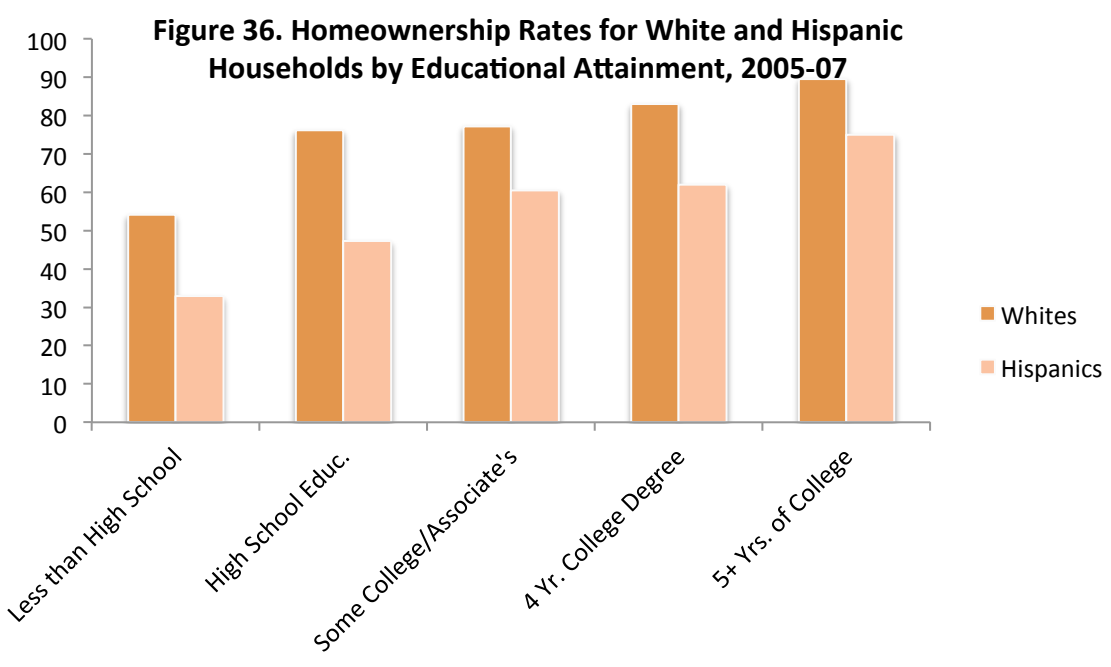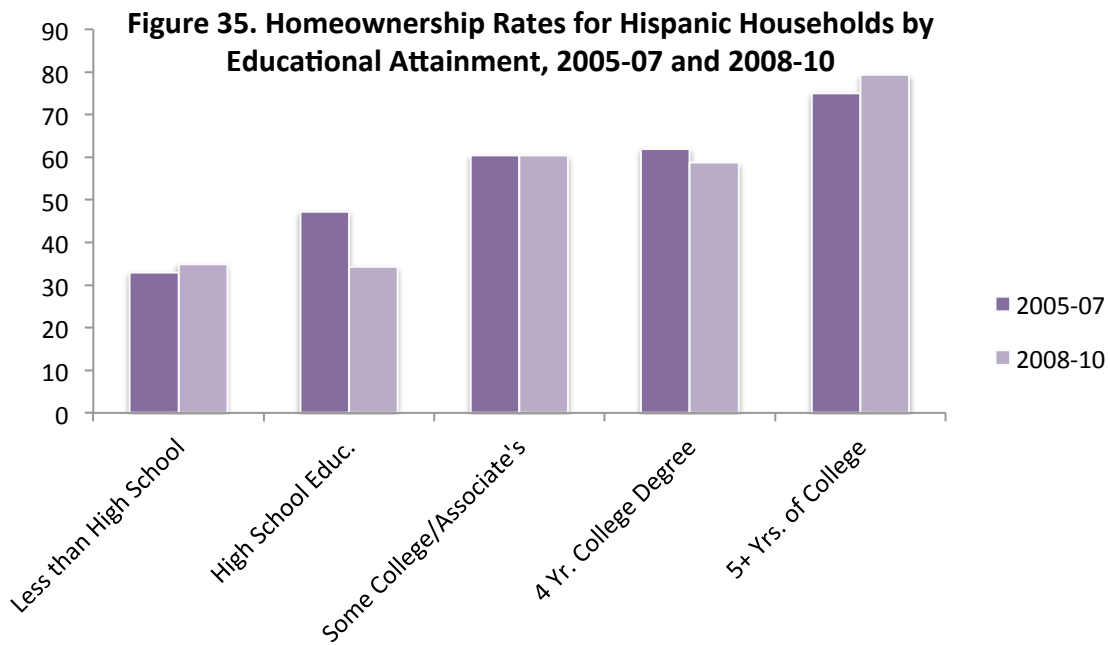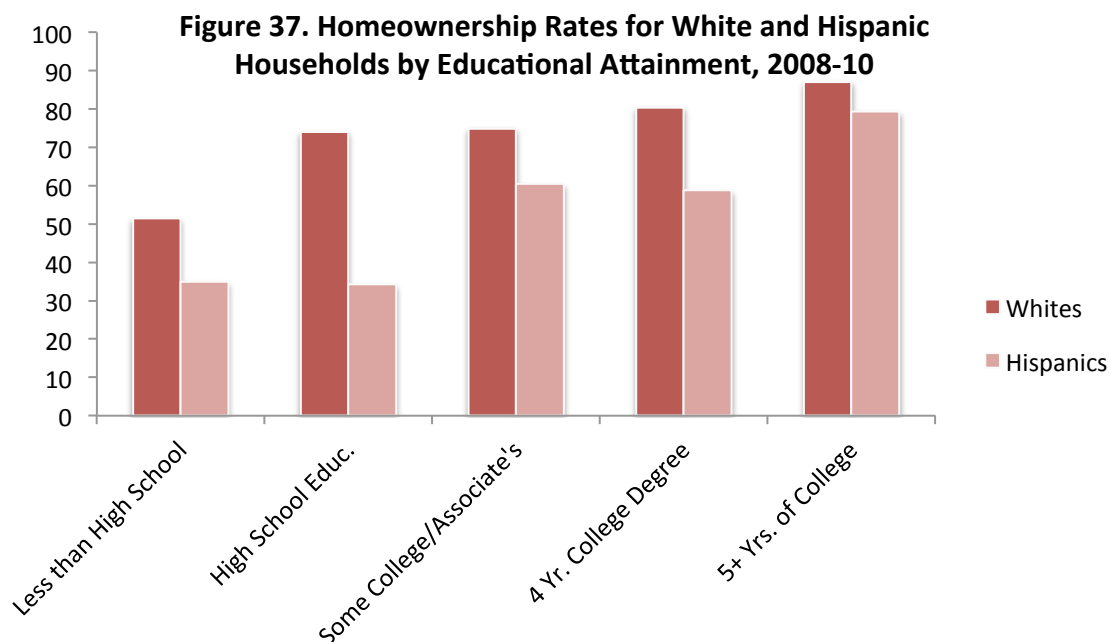
Conclusions and Recommendations

While Black households in the Twin Cities Metro have the largest homeownership gap with White households, and Asians the smallest gap, Asian households were hardest hit in the housing crisis, while Black households fared the best.

Given that first-time homebuyers are typically younger households, in the 25 to 34 and 35 to 44 age groups (Grover & Patterson 2010), one would expect declines in the homeownership rate for younger households to be due to decreased entry into homeownership, whereas decline in homeownership rates among older households may be expected to be due to increased exit, either through sale or foreclosure. Given this, the age group analysis suggests that among Blacks and Asians, declining homeownership rates may have been a result of both decreased entry to homeownership among first-time homebuyers, and increased exit, either through sale or foreclosure, among older pre-retirement households. For Hispanics, the age group analysis suggests the decline in homeownership rates may be due to reduced entry into homeownership by young first-time homebuyers, and that older Hispanic households were not as impacted by the crisis.

The characteristics of geography also appeared to have an impact on minority homeownership rates in the housing crisis, with the experience of different minority groups being different within a given geography. Declines in homeownership were greatest for Black and Asian households in the central cities and more inner suburban areas. While Blacks in the Sherburne, Isanti, Chisago, and Wright Counties area experienced a large decline, the sample size was quite small and the decline was not significant at the five or ten percent level (p = 0.3250). Only the decline in homeownership rate for Blacks in Minneapolis was statistically significant, while Asians in both the St. Paul and Anoka County areas experienced statistically significant declines. Hispanics in suburban areas were more affected than those in central city

or exurban locations, with statistically significant declines in homeownership rates experienced in both the Anoka and Dakota Counties areas. Declines largely were not as significant for minority households in exurban areas. Another interesting result in the data is that while some minority groups in a given area fared poorly, other minority groups in that area may have fared well – for example, Hispanics fared poorly in the Dakota County area, while Black households in this area fared relatively well.

Declines in homeownership rate for all minority groups also appeared across a broad income spectrum, including declines for higher income households. Though sample sizes at the higher income levels are smaller than desirable for the minority groups, for Asians, those with household income of $160,001 – 200,000 were hit hardest in the crisis in terms of homeownership rate and gap with Whites, while for Blacks, this group fared the best in the crisis. Black households with incomes of $200,001 or more fared the worst in terms of change in the homeownership rate and gap with Whites, however the sample size for Blacks at this income level is quite small, and only the declines in homeownership rate for Blacks with household income of $20,000 or less, and those with income of $20,001 – 40,000 were statistically significant. In contrast, among Asian households, those with household income of $20,001 – 40,000 experienced the largest increase in homeownership rate. Similar to Black households, Hispanic households with income of $200,001 or more fared the worst in terms of absolute change in homeownership rate and gap with Whites. Again, however, the sample size for this income group was quite small. For Hispanics, none of the declines for the income group dummy variables were statistically significant.

For all racial/ethnic minority groups, it seems that those with high levels of education fared the best in the crisis in terms of homeownership rates and the gap with Whites, while those with lower levels of education experienced more significant declines in homeownership rates. For Asian and Black households, those with a four-year college degree fared the best through the crisis, while those with some college or an Associate's degree fared the worst. Hispanic households with five or more years of college start off with the smallest gap, and this group also fared the best during the crisis. Conversely, Hispanics with a high school education started off with the largest gap, and fared the worst during the crisis.

Based on these conclusions, recommendations for approaching the Emerging Markets Homeownership Initiative in light of the housing crisis are as follows:

1. Given that significant declines in homeownership rates occurred among younger households for all minority groups, continue targeting young Asian, Black, and Hispanic potential first-time homebuyer households.
   a. Examine which barriers have intensified, and whether any barriers have changed for these households through the housing crisis and economic recession that followed.
   b. Based on current experience of these households, refine current programs to improve effectiveness, or consider new programming efforts.

2. As older households experienced significant declines in homeownership rates for both Blacks and Asians, which is expected to be due to increased sale or foreclosure, increase programming aimed at assisting existing homeowners. While the EMHI Business Plan

does to some degree include efforts to assist existing homeowners, the trend in housing policy, and in the Business Plan, is to focus on front-end assistance to encourage entry to homeownership.

    a. Examine barriers to existing homeowners to maintaining homeownership, and ensure programmatic coverage addresses these barriers.

    b. In addition to counseling services, consider financing tools for homeowners facing homeownership exit. Consider financing for emergency assistance for loan payments, code violations or health/safety improvements, loan modifications, and refinancing tools.

    c. Target efforts toward existing homeowners to older Black and Asian households, as these groups experienced large exit from homeownership during the crisis.

3. The characteristics of different geographies appeared to have an effect on how minority homeownership rates were impacted during the crisis, with different minority groups having different experiences within a given geography. Complete further research on the effects of the housing crisis by geography.

    a. Conduct an analysis similar to this one utilizing American Community Survey data to determine who was most impacted by the crisis in Greater Minnesota.

    b. Consider what barriers geography may present to homeownership that aren't addressed in the EMHI Business Plan.

        i. Investigate what elements were present in communities that experienced more significant minority homeownership rate declines.

        ii. Examine the experience of concentrated areas to determine whether correlation between concentration and large minority homeownership rate declines are present. Consider what unique barriers to homeownership households in concentrated areas face. For example, an examination of the experience of Asian households in St. Paul, which saw large declines in homeownership, and whether this decline was focused in heavily concentrated areas is warranted.

        iii. Investigate what may have caused some minority groups to experience large declines in a community, while other minority groups in that community fared relatively well. For example, why did Hispanics fare poorly in Dakota County, while Blacks here fared relatively well?

    c. Based on the above analysis, tailor programming needs toward addressing the barriers faced in specific geographies, and ensure geographic coverage of hard hit areas in terms of lender and counselor networks, as well as marketing efforts.

4. While higher income households experienced the largest raw declines among all racial/ethnic groups examined, no clear pattern of how income levels affected which households were impacted through the crisis was discernable. Given this, ensure programmatic targeting includes households across a wide range of the income spectrum.

    d. Consider whether the barriers faced by lower income households changed through the housing crisis.

e. Consider what the unique barriers of serving higher income households may be, such as perceptions or preferences, and ensure programming is sensitive to the needs of these households as well.

5. Ensure programming addresses the barriers faced by households with lower education levels, as those with lower education levels fared worse in the crisis among all minority groups.
   f. Consider whether barriers to these households changed due to the housing crisis and economic recession that followed. Determine whether barriers to specific classes of workers likely to have a high school or Associate's degree level of education have changed. Target programming and marketing toward these groups.

6. Complete a decomposition study, utilizing the method pioneered by Wachter and Megbolugbe's 1992 study, as well as best practices from the current body of literature examining the homeownership gap, to determine what portion of the homeownership gap is due to observable factors, and what portion is due to unobservable factors.
   a. Examine what observable factors contribute most to explaining the homeownership gap; use this to inform EMHI strategy
   b. Consider results of the decomposition analysis in setting goals for closing the homeownership gap, recognizing that some factors that lead to lower minority homeownership rates may not be problematic, or may be beyond the influence of housing policy. For example, housing policy perhaps should not attempt to affect lower homeownership rates among Asian households that are explainable due to the relatively young age of Asian households.

7. Given the setbacks toward the progress envisioned by the EMHI Business Plan incurred during the crisis, any new barriers to minority homeownership that may have emerged, as well as results of the decomposition analysis, determine what new goals may be reasonably achieved.

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Appendix I: Summary of Data

	2005 – 2007	2008 – 2010
Sample Size (n)	20,945	20,902
Homeowners	16,764 (80.0%)	16,172 (77.4%)
Renters	4,181 (20.0%)	4,730 (22.6%)
Race		
White	18,540 (88.5%)	18,159 (86.9%)
Asian	700 (3.3%)	769 (3.7%)
Black	868 (4.1%)	1,005 (4.8%)
Hispanic	544 (2.6%)	599 (2.9%)
Other	293 (1.4%)	370 (1.8%)
Education		
Less than High School	674 (3.2%)	694 (3.3%)
High School	6,051 (28.9%)	5,825 (27.9%)
Some College/Associate's	5,559 (26.5%)	5,444 (26.0%)
Four-year College Degree	5,910 (28.2%)	5,953 (28.5%)
Five or More Years College	2,751 (13.1%)	2,986 (14.3%)
Income		
Less than $20,000	1,781 (8.5%)	1,947 (9.3%)
$20,001 – 40,000	2,866 (13.7%)	2,830 (13.5%)
$40,001 – 60,000	3,690 (17.6%)	3,336 (16.0%)
$60,001 – 80,000	3,433 (16.4%)	3,158 (15.1%)
$80,001 – 100,000	2,797 (13.4%)	2,827 (13.5%)
$100,001 – 120,000	2,052 (9.8%)	2,070 (9.9%)
$120,001 – 160,000	2,194 (10.5%)	2,304 (11.0%)
$160,001 – 200,000	915 (4.4%)	1,033 (4.9%)
$200,001 or More	1,217 (5.8%)	1,397 (6.7%)
Geography		

Minneapolis	2,458 (11.7%)	2,556 (12.2%)
Anoka County	2,089 (10.0%)	2,060 (9.9%)
Carver & Scott Counties	1,589 (7.6%)	1,602 (7.7%)
Washington County	1,698 (8.1%)	1,652 (7.9%)
Dakota County	2,712 (12.9%)	2,697 (12.9%)
Suburban Hennepin County	4,797 (22.9%)	4,797 (22.9%)
Sherburne, Isanti, Chisago, & Wright Counties	2,616 (12.5%)	2,527 (12.1%)
Suburban Ramsey County	1,321 (6.3%)	1,306 (6.2%)
St. Paul	1,665 (7.9%)	1,705 (8.2%)

Appendix II: PUMA Geographies

Dummy Variable Area	PUMAs Included
Anoka County Area	01001; 01002
Carver and Scott Counties Area	01100
Washington County Area	01700
Dakota County Area	01201; 01202; 01203
Suburban Hennepin County Area	01401; 01402; 01403; 01404; 01405; 01406
Minneapolis Area	01301; 01302; 01303
Sherburne, Isanti, Chisago, and Wright Counties Area	00900
Suburban Ramsey County Area	01601; 01602
St. Paul Area	01501; 01502