Homeownership: America's Dream

Raphael W. Bostic, University of Southern California

KwanOk Lee, University of Southern California

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University of Southern California

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1. Introduction

Living in a single-family, owner-occupied dwelling unit is central to the American conception of a secure and successful life – the quintessential "American Dream." Study after study has justified the interest in homeownership among Americans by claiming that it confers benefits both to individuals and to the society as a whole. First and foremost, homeownership fosters asset building and helps to insulate households from generally rising housing costs (Di, et al., 2003). Homeownership is also thought to contribute to life satisfaction, psychological and physical health, positive child outcomes, and greater civic engagement.[1] On a broader scale, because homeownership limits household mobility, homeowners better maintain their properties and neighborhoods, which results in higher property values, greater neighborhood prosperity and sustainability, and reductions in crime.[2] Finally, owner-occupied housing is also thought to have a beneficial effect on the local economy by increasing consumer spending, providing tax revenues and fees, and growing businesses and jobs (Collins, 1998).[3]

Over the last decade, political and social efforts to promote homeownership among lower-income households have intensified with the goal of promulgating these benefits. However, questions remain as to the efficacy and advisability of such efforts. For example, in spite of the potential benefits, are there risks and responsibilities associated with homeownership that lower-income families might be particularly vulnerable to and ill-suited for? Mortgage payment stress and foreclosure could have significant negative impacts on lower-income homeowners and their families. Similarly, are lower-income households more likely to be subjected to geographically concentrated mortgage foreclosures and what role does this play in the quality of the neighborhoods in which they live? More generally, what is the right framework for understanding the tradeoffs between benefits and costs among different groups of low-income homeowners?

This chapter considers these questions. There are several objectives:

- Document the rapid expansion of credit in last two decades and the rise in homeownership rates among low-income and minority households;

[1] Fannie Mae, 1999; Saunders 1990; Galster 1987; Tremblay et al., 1980; Rossi and Weber, 1996; Rohe and Stegman, 1994; Kind et al., 1998; Lewis et al., 1998; Haurin, Parcel and Haurin, 2002; DiPasaquale and Glaser, 1999; Haurin et al., 2003; Harkness and Newman, 2002.

[2] Boehm, 1981; Galster, 1983; Rohe and Stewart, 1996; http://www.fightback.org/vnr.html, Retrieved November 13, 2002; Rosenthal, 2004.

[3] While the literature often demonstrates correlations, there is a lack of consensus regarding homeownership's causal role due to concerns about selection bias. For more, see Dietz and Haurin (2003).

- Quantify the benefits of successful low-income homeownership and assess the likely distribution of those benefits;
- Evaluate the costs of failed low-income homeownership, including consideration of who is most likely to bear these costs; and
- Discuss policy implications to keep the benefits and ameliorate the potential costs of foreclosures and their negative impacts.

2. Lower-Income Homeownership: Where We Are and How We Got There

According the Current Population Survey (CPS), the homeownership rate in 2006 for households in the bottom two income quintiles stood at 34 and 58 percent, respectively (Table 1). This reflects the culmination of a nearly 15 year trend of growing homeownership among poorer households. Retsinas and Belsky (2002) also report that the number of home purchase loans to low-income households grew by 79 percent. As a result, the number of low-income minority homeowners during the same period increased by more than 800,000, which represent 11 per cent of the net increase in all homeowners (Belsky and Duda, 2002a). Indeed, low-income homeownership grew to such an extent during the last decade that it was labeled by some a "boom" (Belsky and Duda, 2002a).

Table 1 statistics demonstrate the extent of this boom. From 1994 to 2000, the fastest growth rates for homeownership were observed for households in the lowest income quintiles, with rates at or exceeding double the growth nationwide. This is consistent with Belsky and Duda (2002a), Retsinas and Belsky (2002), and Bostic and Surette (2000), all of whom found that homeownership among low-income and minority households has grown more rapidly since 1990 than for other groups. However, more recent trends suggest the market has become more nuanced. Homeownership in the lowest income quintile has stabilized at around 38 percent, with no growth seen in the past 6 years. By contrast, homeownership has continued to become more common among households in the second income quintile, though at a slower pace than was observed in the 1990s. On balance, lower-income households have still outperformed other households in terms of homeownership attainment over the whole period, though not as dramatically as if the boom of the 1990s had continued.

When considering the growth in lower-income household homeownership, though, it is important to keep it in context. Despite this tremendous growth, however, it is important to note that homeownership among lower-income households continues to lag. According to the Department of Housing and Urban Development, the overall homeownership rate in was 68.4 percent (HUD, *U.S. Housing Market Conditions*, First Quarter, 2007).

2.1 The New Homeowners: A Low-Income Household Story

The growth in homeownership has meant that the benefits and challenges of owning a home have become reality for a new group of households. Data from the CPS provide information on exactly who these new lower-income households are. Within the lowest income quintiles, not surprisingly, homeowners are a relatively privileged group. Lower-income homeowners have characteristics that suggest they are more stable than the broader lower-income household population. Among lower-income households, homeowners are older, more likely to be married, less likely to be headed by a single female, and less likely to have children. In addition, they tend to have higher incomes and be better educated, though these differences are relatively small. These differences emphasize the importance of demographic, economic, and human capital considerations in determining household tenure status.

Moreover, the spatial distribution of lower-income homeownership differs in significant ways. Lower-income homeowners are far more likely to live in rural areas than lower-income households overall. For example, in 1994, while 24 percent of households in the lowest income quintile lived in rural areas, 41 percent of the homeowners in this group lived in rural areas. Finally, lower-income homeowners are more concentrated in the South than is the general lower-income population.

Interestingly, over time many of these differences have shrunk, such that the lower-income homeowner population and the general lower-income household population are more alike in 2006 than they were in 1994. This suggests that changes in the housing market environment allowed more lower-income households to access homeownership in more recent years. The nature of such changes is discussed below.

Table 2 shows how the population of lower-income homeowners has changed from 1994 to 2006. Lower-income homeownership has become a more urban phenomenon, with significant increases seen in metropolitan areas and in the central portion of cities more specifically. Consistent with the research cited earlier, minority households comprise an increasing fraction of lower-income homeowners. The Hispanic household presence grew by 40 percent in both income quintiles, while the black presence also increased by at least 20 percent. Also, the lower-income homeowner is more likely now to live in the west, which is now quite similar to the Midwest in this regard.

There has been a marked increase in the proportion of lower-income homeowners that is single

and never married. This fraction increased by nearly 60 percent in the lowest income quintile and more than 40 percent in the second income quintile. In addition, we observe a higher incidence of female-headed households in both quintiles and an increase in the fraction of families with children. Moreover, while income has increased by over 40 percent in both quintiles, this lags the nearly 65 percent increase in income found in the population at large. These trends all suggest that the new lower-income homeowners might not be as stable and secure as those of previous times, and may be at risk of elevated exposure to delinquency, default, and foreclosure.

2.2 Causes of the Growth in Low-Income Homeownership

The differences in homeownership trends across income quintiles and time periods and the changing composition of the population of lower-income households both suggest that documenting housing market dynamics will be important for explaining lower-income homeownership and understanding the opportunities and risks lower-income homeowners face. For example, the divergent experiences across the two lower-income quintiles between 2000 and 2006 points to developments that advantaged one set of lower income households yet disadvantaged another.

In part, differences in homeownership across groups with different income levels are to be expected, as wealth and income are important factors that contribute to homeownership. However, there is evidence suggesting that factors beyond these also are important. This section discusses the factors and forces that have shaped the evolution of homeownership for lower-income households. Aside from basic economic factors, these influences have largely involved changes to the credit markets that support the financing of home purchases and refinances.

2.2.1 Demographic and economic forces

The growth in homeownership among lower-income households is in part a reflection of the improving fortunes of such households. For example, the CPS data indicate that among households in the lowest income quintile, the share of households headed by a high school dropout fell by 22 percent and the share with some college education increased by 20 percent. In addition, the financial capacity of lower-income households has grown. Wealth for households at the 25th percentile of the income distribution increased by 64 percent in real terms from 1989 to 2004 (Kennickell, 2006). Both developments suggest that lower-income households were in a significantly better position to purchase a home at the end of the period than they were in 1990.

Despite the clear demographic improvements observed for lower-income households and homeowners in particular, evidence suggests that a wide range of developments contributed to the growth in lower-income homeownership. As one example, while wealth has increased for lower-income households over the past 15 years, it actually declined slightly from 2001 to 2004 (Kennickell, 2006), meaning that increases in lower-income homeownership since 2000 are not due greater financial capacity. In addition, the noted increase in the proportion of lower-income homeowners that are single and that are households headed by a single female indicates elevated exposure to trigger event risk. As will be discussed below, homeownership increases for this group are due in part to the evolution of the financing system that supports homeownership. However, this new development does not come without significant potential consequences in terms of the exposure to risk that these households face. Given that these households already have low incomes and generally have limited savings, these groups are more vulnerable to income shocks that could induce delinquency, default, and foreclosure.

2.2.2 Market innovations

The passage of the Depository Institutions Deregulatory and Monetary Control Act of 1980 marked a turning point in underwriting of mortgage credit (Gramlich, 2007). Prior to this, lenders faced caps in the interest rates they could charge, with the result being that credit was rationed such that higher risk applicants were denied. As a consequence, applicants with impaired credit or households facing income and wealth constraints – more frequently found among lower-income populations – were effectively shut out of the mortgage market and precluded from achieving homeownership.

Once lenders were free to charge higher interest rates commensurate with elevated repayment risks, however, incentives were in place for them to develop tools to quantify the risks that particular applicants posed so that they could charge an appropriate interest rate to a prospective borrower rather than deny them. This led to renewed efforts in the area of credit scoring, which mortgage lenders rapidly adopted during the mid-1990s such that it became the standard for mortgage underwriting by the end of the decade. The success of this technological evolution is evident in the noticeable drop in mortgage denial rates during the period (Gramlich, 2007).

These developments resulted in an explosion of sorts in high cost (i.e., high interest rate) lending to borrowers with lower credit quality, also known as “subprime lending.” Besides having less favorable credit profiles, subprime loans typically also have higher loan-to-value ratios, reflecting the greater difficulty that subprime borrowers have in making downpayments and the

propensity of these borrowers to extract equity during refinancing. These higher risk factors mean subprime loans have higher prices. Evidence from surveys of mortgage lenders suggests that a weak credit history alone can add about 350 basis points to the loan rate.

During the 1990s, the number of subprime loans made in the United States grew by 900 percent (Hurd and Kest, 2003). Moreover, subprime lending has become a much more important segment of the overall mortgage market. In 1998, subprime mortgages comprised 2.4% of outstanding home mortgage loans; by the second quarter of 2006, they made up 13.4% (Duncan, 2006). Thus, one might argue that the growth in subprime lending, by making mortgages available to groups with many lower-income households, has enabled the expansion of lower-income homeownership and represents a natural evolution of credit markets.[4]

These developments are additionally relevant for lower-income borrowers and homeowners because subprime lending has been spatially concentrated in lower-income and especially lower-income minority communities. Studies of subprime lending in metropolitan areas across the United States have consistently shown the considerably greater propensity for subprime loans to be originated in lower-income and minority neighborhoods than in upper-income and predominantly white areas (HUD, 2000a; HUD, 2000b; HUD, 2000c; Goldstein, 2004). For example, in 2001 over 13 percent of home purchase loans made in low-income, primarily minority neighborhoods in 2001 were subprime, compared to only 4 percent in high-income, primarily white neighborhoods. Among refinance loans the disparity was even sharper, with subprime loans accounting for 25 percent of all loans in low-income, primarily minority neighborhoods but less than 9 percent in high-income, primarily white neighborhoods (Belsky, 2005). While a geographic disparity in the prevalence of subprime lending might be reasonably expected to some degree because of systematic differences in income and credit quality across neighborhoods of different income levels, studies have shown higher propensities of subprime loans in minority communities even after for controlling for such factors (Calem, Hershaff, and Wachter, 2004).

If there are negative possibilities associated with subprime lending, then lower-income communities might face extra risks and challenges. We discuss the existence of such negative potentialities, most notably but not limited to predatory lending, in section 4 on challenges.

[4] Evidence also suggests that to some extent the higher interest rates charged are warranted, as subprime loans have worse performance. Whereas only about 1 percent of prime mortgages are in serious delinquency, the rate for serious delinquency on subprime is more than 7 percent.

2.2.3 Government policy

The federal government has a long record of being active in promoting homeownership, particularly among lower-income households. Every president since World War II has had some type of homeownership initiative, and homeownership has been a legislative priority since the passage of the National Housing Act of 1949. In terms of key recent legislative influences, one must look to key Acts that have strengthened incentives to lend to lower-income households. Research suggests that these have had been effective in increasing homeownership.

The Community Reinvestment Act of 1977 (CRA) established that federally insured depository institutions had an obligation to help meet the credit needs of the communities they are chartered to serve, including lower-income people. Many studies have shown that the incentives created by the CRA have resulted in increased access to mortgage credit for lower-income households. In perhaps the most comprehensive study of the issue of CRA impact, Avery, Bostic and Canner (2005) showed that lenders have expanded mortgage credit and that this expansion has not on balance been associated with losses. Other research has corroborated the general result (Fishbein, 1992; Litan et al., 2000; Apgar, 2002). Similarly, Bostic and Robinson (2005) shows that CRA agreements, which are pledges which banking institutions make to demonstrate commitment to CRA objectives, have been associated with increases in mortgage lending activity to targeted neighborhoods, which are often lower-income and minority.

A second important legislation that has influenced lending to lower-income households is the Federal Housing Enterprise Financial Safety and Soundness Act of 1992 (GSE Affordable Goals Act). The GSE Affordable Goals Act required the Fannie Mae and Freddie Mac, together "the GSEs," to pay particular attention to those populations historically underserved by credit markets with the goal of increasing their access to such markets. An, et al. (2007) finds that the GSEs increased their activities in response to incentives laid out by the Act and that these actions produce improvements in housing market outcomes such as vacancy rates and median house values. Similarly, An and Bostic (forthcoming) finds that the GSE Act has helped lower-income and minority borrowers access cheaper credit, which lowers their likelihood of default and improves their ability to weather financial stresses arising from trigger events such as illness or divorce.

Other pieces of legislation have allowed the public to provide its own scrutiny of how lenders serve prospective lower-income homeowners. Revisions to the Home Mortgage Disclosure Act enacted in 1992 required lenders to publicly disclose information on all individual loan applications, including the race and income of the applicants. The public availability of this

information permits community groups, advocacy organizations and the media to conduct their own analyses of patterns and place pressure on lenders reconsider policies that are thought to disadvantage lower-income borrowers. This facilitated the quick replication of influential reports such as the 1988 Pulitzer Prize winning "Color of Money" series in Atlanta, and helped create a sophisticated advocacy community to counter-balance the interest of lenders.

Support for lower-income homeownership during the 1990s was not limited to activities associated with legislation focused on mortgage finance. The Federal Housing Administration is an important player for lower-income homeowners, as it guarantees mortgage loans for many borrowers who could not qualify for prime market mortgages due to limited savings or prior credit repayment problems. During the 1990s, the FHA liberalized its rules for guaranteeing mortgages, which increased competition in the market and lowered interest rates faced by some subprime mortgage borrowers (Gramlich , 2004).

Similarly, since 1994, the Treasury department has administered the CDFI Fund, which is a fund designed to support the activities of community development financial institutions (CDFIs). CDFIs are private organizations with a dual mission of profitably funding projects and promoting community and economic development, and they accomplish these goals through lending, investment, service provision, and product and practice innovation. Given their mission, one might expect such support to translate into elevated lower-income homeownership. However, to date little research has focused on this question.

A third development in the 1990s was the emergence of the individual development account (IDA) as a vehicle to promote lower-income saving and perhaps make homeownership more accessible. The most recent comprehensive analysis of IDA programs is Schreiner and Sherraden (2007), which studies the American Dream Demonstration. The authors find that IDAs do induce lower-income households to save. However, their results indicate levels of saving that are small relative to what would be needed to purchase a home.

3. Emerging Issues for Lower-Income Homeownership

Because most of the evidence showing positive financial, social, and behavioral homeownership effects has been based on the experiences of middle- and high-income homeowners, it is appropriate to ask whether these benefits are generalizable to lower-income households.[5] There

[5] Questions are also raised out of concerns that the benefits observed with homeownership are due to self-selection of households predisposed to such benefits into homeownership rather than homeownership itself. If true, then one would need to study the selection of lower-income households into homeownership and compare this process with

is evidence suggesting that they do. For example, Harkness and Newman (2002; 2003) find financial and social benefits of homeownership (less idleness and lower rates of welfare receipt and higher income) that are bigger for low-income children compared with high-income children. Similarly, a series of papers by Rohe and Stegman find positive, though limited, effects of homeownership on self-esteem and perceived control, life satisfaction, the extent of neighborhood and organizational involvement, and the intensity of organizational involvement among lower-income households (Rohe and Stegman, 1994a, 1994b, 1996).

In theory, appreciation in house values should allow lower-income households to build wealth and be insulated to some degree from rising housing values and rents. However, some studies (Retsinas and Belsky, 2002; Belsky and Duda, 2002b) question if there is clear evidence that homeownership brings more economic gains to low-income households compared to renting. These authors argue that it is hard to generalize economic returns delivered from homeownership because such returns are heavily dependent on the timing and location of home purchases. Others argue similarly, noting that many low-income and minority homeowners often return to renting (Boehm and Scholottmann, 2004). Indeed, Boehm and Scholottmann (2004) explicitly state that "homeownership may be less beneficial than it otherwise might be" (p. 129).

The remainder of this section examines this question in the context of recent developments in the housing and mortgage markets. Trends in both of these areas suggest that the challenges for lower-income households seeking to use homeownership as an asset- and wealth-building strategy may be increasing. Our main foci will be the serious cost burdens to lower-income homeowners caused by unbalance between demand and supply of affordable housing and the rapid expansion of subprime mortgage lending targeting lower-income and minority households. This latter issue has leant urgency to these concerns, and also highlights how innovation in the marketplace has increased the necessity of consumer sophistication in order to avoid excessive exposure to risks. Overall, research in this area has generally shown that homeownership often involves risks and responsibilities that low-income people may be particularly ill suited for, including costly home repairs and improvements, declining house values, and being overcharged for credit or sold loans that expose them to substantial repayment risks. In a concluding subsection, we highlight potential for these negative impacts to have broader neighborhood level implications.

3.1 Cost Burdens to Lower-Income Homeownership

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that for other households. This has not yet been done systematically (CHECK THIS).

As house prices have risen sharply in recent years, the fraction of lower-income first-time homebuyers with serious cost burdens, defined as spending more than 50 percent of household disposable income on housing, has grown to greater than 20 percent, which significantly exceeds the 12 percent rate for all households (Gramlich, 2007). Gramlich (2007) notes a similar imbalance among first-time homebuyers with moderate cost burdens, defined as spending from 30 to 50 percent of household disposable income on housing. These figures highlight a stark reality faced by lower-income households: homeownership frequently comes with added stress of meeting monthly payments (Hoffmann and Heistler, 1988; Doling and Stafford, 1989).

Financial hardships for defaulted homeowners are estimated to cost an average of $58,792 and take 18 months to resolve (Cutts and Green, 2004). Indeed, failures in homeownership (foreclosure) can have more devastating consequences for homeowners and their families than rental eviction because foreclosure may lead homeowners not only to be evicted but also to lose their housing assets and credits (Gramlich, 2007).

There is also a concern that using homeownership as a tool for revitalizing low-income areas or central cities may not be the best mechanism for low-income families to build their assets and upward social mobility. While many low-income homebuyers are buying homes in good locations for investment (Belsky and Duda, 2002b), low-income housing is typically more available in neighborhoods with the least resources (Listokin and Wyly, 2000; Shlay, 1993). Low-income homebuyers may face greater risks in terms of costly home repairs, lower rates of appreciation and lower-quality neighborhood amenities (Retsinas, 1999; Louie et al., 1998). Hence, the promotion of low-income homeownership may move already at-risk households to take on even more risk under conditions of great uncertainty. As Shlay (2004) describes, “it is unclear whether policy directed at helping low-income families should encourage people with the least amount of assets to take on more risk”.

These high and increasing cost burdens mean that homeownership will remain unaffordable for most renters using standard underwriting and conventional mortgage products, such as the 30-year fixed rate mortgage. Listokin (2002) notes that homeownership will remain elusive even using more liberal underwriting standards. “With such a trace level of assets, even a 100 per cent LTV (loan to value) mortgage will not facilitate homeownership because of the resources required to meet substantial closing costs” (Listokin, 2002; p. 493).

An obvious reason for these high cost burdens is a lack of adequate housing at affordable prices. In many locales affordable housing production has not kept pace with the loss of such units from

the affordable housing stock through house value appreciation and the removal of units due to the expiration of affordable housing contracts and obligations (Collins, et al., 2002) Noting that standard market mechanisms are failing to meet market needs, they further argue. "Policymakers need to recognize the failure of filtering as a mechanism to expand the supply of affordable homes" (Collins, et al., 2002; p. 198).

3.2 Instrument Risk and the Need for Increased Sophistication

The rapid evolution of the mortgage finance market through the 1990s resulted in the introduction of many new loan products. These myriad new products have variable payment patterns that differ considerably from each other and, importantly, from the payment pattern associated with the standard fully amortizing 30-year mortgage product. One can no longer be sure that an initial monthly payment will represent the same nominal payment over the life of a mortgage. Instead, homeowners with these newer-style mortgages must be vigilant and proactive in tracking changes in market conditions and interest rates so as to anticipate the likely changes to the mortgage payment. Those households that do this market analysis effectively will be able to determine if troubles lie ahead and take the necessary remedial actions to prevent or delay delinquency, default, and foreclosure. Those that don't could face significant hardships and will need to rely on serendipitous favorable market developments (i.e., luck) to avoid them.

Exposure to this type of instrument risk has increased dramatically over the past decade as the use of newer mortgage instruments has become more widespread. The significance of this risk can be seen in the recent (Q2 and Q3 of 2007) developments in the subprime mortgage market. Delinquency rates spiked for a wide range of newer mortgage instruments, a trend due in large measure to interest rate adjustments at the expiration of the fixed rate term that raised monthly payments sharply (NTIC, 1999; Gruenstein and Herbert, 2000a; 2000b; Apgar et al., 2004). This rise in delinquency, default and foreclosure without an associated economic shock of some sort, is virtually unprecedented and accents the new terrain that mortgage borrowers find themselves having to navigate.

In this environment, there is a premium to having financial sophistication, and unfortunately lower-income households lag in this regard. Lower-income people with a limited access to education tend to be not as adept as educated higher-income people in financial matters (Bernheim and Scholz, 1992; Maki, 1996). This lower degree of financial sophistication could lead lower-income borrowers to decide to buy a house without proper evaluation of their own repayment ability or to pay more than is necessary for their credit (Courchane et al. 2004). The

challenge is even greater in the subprime market, as Lax et al. (2004) finds that subprime borrowers are financially less sophisticated.

An added concern with the rise of the newer mortgage products and subprime lending is the increased presence of illegal, deceptive and abusive lending practices in this market segment (Renuart, 2004). These abuses, known as predatory lending, include excessive points and fees, high and extended prepayment penalties, underwriting based on asset value rather than income, loan flipping (repeated refinancing), and inflated house appraisals (Hurd and Kest, 2003). Predatory lending is quite costly. Its features, coupled with the high interest rates on these loans, leave homeowners vulnerable to losses of the equity they have often spent years accruing (known as "equity stripping") (White, 2004). In addition, the onerous terms often result in homeowners losing their homes through foreclosure. According to Stein (2001) and Renuart (2004), housing equity taken by predatory lending practices is estimated to have reached $2.1 billion annually.

Predatory lending is a concern in the context of lower-income homeownership because it occurs more frequently in the subprime market segment, a market segment that is more prominent among lower-income families, as well as to minorities and the elderly. Borrower sophistication plays a role here as well, as predatory lenders often takes advantage of borrowers that have a lack of financial sophistication (Carr and Kolluri, 2001). Thus, such households are more exposed to the risks of predatory lending and the potential for significant equity loss and perhaps foreclosure.

3.3 Potential Neighborhood-Level Issues

The view that homeownership is an effective device for neighborhood stabilization and economic development has proven a powerful rationale for those encouraging homeownership in low-income and central-city neighborhoods (Rosenthal, 2005). A host of public policy programs, such as the Nehemiah Program, strongly advocate homeownership as a means of revitalizing severely depressed neighborhoods. While Cummings, DiPasquale, and Kahn (2001) find few spillover effects on community development associated with two Nehemiah housing developments in Philadelphia, several recent studies (Lee, Culhane, and Wachter, 1999; Santiago, Galster, and Tatian, 2001; Ellen et al., 2003) have found positive effects of homeownership programs on surrounding communities. Ellen et al. suggest that affordable homeownership programs in New York, including the Nehemiah, have increased property values in their immediate neighborhoods.

There are two additional neighborhood-level issues that should be discussed. First, at the household level, much research has demonstrated that homeownership reduces household mobility. Because lower-income homeowners tend to be geographically concentrated in lower-income neighborhoods, this lack of mobility can translate into their being "trapped" in communities that were once healthy but that have devolved into distressed areas (Lauria, 1976). Residential isolation and segregation is also an issue in these neighborhoods, and these factors can stunt homeowners' capability to improve their neighborhood. In such cases, the decreased employment, higher incidence of families on public assistance, and higher levels of dilapidated houses associated with concentrated poverty can offset benefits that would accrue from homeownership (Massey and Fong,1990).

At the neighborhood level, homeownership can also generate problems if large numbers of homeowners default on their mortgage loans and the properties enter foreclosure. This concentration of mortgage foreclosure can cause the concentration of deteriorated or vacant residential buildings in a neighborhood, so bring negative impacts on neighborhood property values (Shlay and Whitman, 2004). Other researchers insist that vacant and abandoned buildings are often considered a component of physical and social disorder in a neighborhood that leads to serious crime (Kelling and Coles, 1996; Wilson and Kelling, 1982). Several studies (Goldstein et al., 2005; Apgar and Duda, 2004; National Association of Realtors, 2004) have predicted a concentration of housing foreclosures in lower-income urban neighborhoods with particular segregation patterns. Moreover, the current subprime performance crisis is beginning to reveal elevated concentrations in foreclosure in several cities. Thus, this concern might be growing in significance.

4. Benefits of Successful Low-Income Homeownership

A motivating factor that has helped shift low-income housing policy in favor of homeownership is an increasing interest in using homeownership as an asset building strategy for the poor. The key question, of course, is whether the perceived benefits of homeownership outweigh the risks and costs that homeownership poses. This section reports on the results of an exercise in which we explore lower-income homeownership from an asset building perspective, with a particular eye to the question of whether lower-income households would be better off as homeowners or renters.

4.1 The Simulation Framework

The basic approach is to simulate how the wealth of lower-income households would evolve over time if they were homeowners as compared to renters. Assuming households are identical

in terms of income and living expenses and that they face the same inflationary environment, differences in wealth accumulation between homeowners and renters will derive from growth in equity associated with ownership and differential contributions to savings. For renters, this latter quantity is a simple function of income and living expenses. For homeowners, however, determining savings is complicated by the fact that how the home purchase is financed matters. The choice of how much to provide as a downpayment and which mortgage instrument to use will help establish an interest rate and monthly payment, which in turn determines how much money homeowners have left over to save.

Simulation implementation requires definition of household, neighborhood, and mortgage types. Because household expenditure patterns vary over the life cycle and household form, we create 27 prototype households defined by the age of primary person, the size of the household, and the relative income of the household. We created three neighborhood types defined by relative median income levels, as rental and house prices differ across neighborhoods of varying affluence. Finally, to evaluate the importance of mortgage instrument risk for asset building, we create 12 combinations of downpayment amount and type of mortgage instrument that define mortgage payments for homeowners. The specific partitions used in defining the prototypes for the simulation exercise are summarized in Table 3.

Given these partitions, we implement the simulation by first estimating the annual expenditures for housing and other goods for these households. Annual income figures were obtained from 2006 data compiled by the U.S. Department of Housing and Urban Development (HUD). Average expenditures out of annual income were for each household type using the 2005 Consumer Expenditure Survey. The Survey's sample of households was partitioned according to our household type categories and then for each petition we calculated average total expenditures and total housing expenditures as fractions of total income.[6] From this, we establish living expenses for households apart from housing expenses.[7]

Housing expenses were calculated as the prevailing Fair Market Rent (FMR) as established by HUD for high-, middle-, or lower-income neighborhoods for renters. For homeowners, we use the monthly mortgage payment that would arise for purchase of a median house in the relevant

[6] The estimated average expenditure and housing expense rates out of income for the various household types are reported in Appendix A.

[7] Formally, for each sample partition we calculate non-housing living expenses as [(annual income)*(annual expenditures rate)*(1-housing expenditures rate)].

neighborhood given a particular mortgage and downpayment combination.[8] The house value was set using 2006 data as reported by Dataquick. For both rent and home purchase price, the levels were determined based on family size. For single-person households, we used the FMR for a 1-bedroom unit and assumed a purchase price at 60 percent of the area median. For two-person households, the rent was set as the average of the 1-bedroom and 2-bedroom FMRs and the purchase price was assumed to be 70 percent of the area median. Finally, three-person households were given the 2-bedrom FMR and the purchase price of 80 percent.

Given income, rent or mortgage payments, and non-housing living expenses, it is straightforward to calculate the income surplus or shortfall for a household. To obtain savings, we assume a 4 percent savings rate out of this income value. We also can calculate the amount of home equity that the household would have accrued given the down payment and a year's worth of mortgage payments. We can thus determine the gain to wealth associated with homeownership and renting for a single year.

To carry this exercise beyond a single year, we assume a 4 percent growth in income and prices and a 3 percent growth in annual rents, and inflate income, rents and non-living housing expenses accordingly. For mortgage payments in the out years, there are no changes required for the fixed rate mortgage. For the adjustable rate mortgages, we assume that the mortgages adjust when possible by the maximum amount (i.e., up to the margin cap). The final piece to the simulation involves quantifying the rate of house price appreciation across the neighborhood types. As the literature suggests considerable variation in appreciation rates by neighborhood types, we select two scenarios as outlined in Table 4.[9] These scenarios vary in scale and in which neighborhoods appreciate most, so that we can observe the implications of each for lower-income homeowner asset building and risk exposure.

4.2 Simulation Results – Does Homeownership Pay for Lower-Income Households?

Given these, we can calculate the gain to housing equity and, coupling this with the accrued savings, determine the change in housing wealth for renters and homeowners for each household prototype and compare them. Table 5 reports the cumulative change in wealth that would result from a 2-person household purchasing a home at 70 percent of the median house value in a high-, middle-, and low-income neighborhood. The table presents the cumulative totals over 1-, 3-, 5-,

[8] For the purposes of this exercise, we abstract away from requiring private mortgage insurance.

[9] The first scenario, drawn from Case (2000), reports average appreciation rates as determined for Boston and Los Angeles. The second scenario is determined using national data from Dataquick on house price appreciation from 2006 to 2007.

7-, and 10-year horizons, and we use the high rate of house price appreciation of scenario 1.

The table indicates that homeownership is often but not always beneficial to lower-income households, and identifies affordability as a key factor in determining whether homeownership offers benefits. Looking solely at the results after one year of ownership, we find that home purchases in low-income neighborhoods offer wealth benefits across all types of financing save the 2/28 mortgage, and ownership in middle-income neighborhoods generally produces wealth gains. By contrast, purchases in high-income neighborhoods, which require the largest mortgage payments because of the high home prices, are beneficial only half of the time, and only in cases where the homeowner provided at least a 10 percent downpayment. Given the low likelihood that lower-income households will have savings sufficient to provide such a downpayment, it will generally be the case that ownership is a losing proposition in high-income neighborhoods.

The other panels in the table show how wealth changes as the house appreciates and the adjustable-rate mortgages adjust their pricing. In some cases appreciation cures all ills. For example, by the third year of ownership in low-income neighborhoods appreciation has turned an initial wealth loss for the zero percent down 2/28 product into a break even proposition. By the fifth year of ownership, lower-income homeowners in middle-income neighborhoods show wealth gains in all but three cases. Even in high-income neighborhoods, households show wealth gains after 10 years using half of the financing schemes, with some of the gains being quite significant.

In terms of magnitudes, because average wealth gains in high-income neighborhoods are skewed due to the negative wealth changes in many cases, it is useful to focus on low- and middle-income areas. We find that wealth gains associated with ownership are significant under many financing arrangements. The average wealth gain associated with ownership in low- and middle-income neighborhoods after one year was about $2,250 and $2,000, respectively, and these gains increase over the next 10 years to about $23,300 and $30,100. There is variation, however, as wealth changes after 10 years range from a gain of nearly $77,000 (20 percent down, 30-year FRM, middle-income neighborhood) to a loss of about $11,000 (0 percent down, 2/28 ARM, middle-income neighborhood). On balance, though, homeownership is a winning strategy as only 6 of the 24 financing arrangements for low- and middle-income areas yield a wealth gain less than $5,000.

Simulation results make clear that the extent of the wealth gain is a direct function of the initial

downpayment amount. For example, for a one-person household, the wealth gain after three years is between 8 and 13 times greater if one contributes a 20 percent downpayment rather than no downpayment at all depending on the financing instrument (not shown). This is not surprising, as the contribution of homeownership to household wealth in the early years of ownership will be due to home value appreciation, given that mortgage payments contribute little to equity during this time. This dynamic is exacerbated under the rapid price appreciation of pricing scenario 1.

These results emphasize the point that homeownership is clearly more valuable as an asset building tool if a household is able to acquire home equity early during the tenure of homeownership. The benefit of owning over renting grows increasingly higher as more downpayment is provided up front. Unfortunately, data from many sources has made clear that few lower-income households have the savings and wealth to achieve significant accumulation and receive a maximum financial benefit from owning a home. Thus, while advantageous, homeownership here seems to have less than optimal efficacy.

The simulation results also highlight the fact that innovation in the market place can work to the advantage of lower-income homeowners such that significant additional benefits can be realized if a household chooses the proper mortgage instrument and exercises proper financial management. Compare, for example, the relative benefits of owning in a low-income neighborhood if a 5/1 hybrid mortgage is used rather than a 30-year fixed rate mortgage, holding the downpayment size constant. Consider a two-person family that puts 5 percent down. After one year, the wealth advantage to using the 5/1 is about $40 ($1,468 versus $1,425, table 5) and this grows to a $215 cumulative advantage by year 5. This advantage flips once one moves past 7 years of ownership, such that by the tenth year of ownership the homeowner with a fixed rate mortgage has a $750 wealth advantage. This dynamic is observed because the lower interest rate over the first 5 years for the 5/1 hybrid provides lower-income households with an extra income buffer and permits a slightly higher amount of savings. After 5 years, however, increases in the 5/1 interest rates coupled with the more rapid equity appreciation associated with the fixed rate mortgage couple to make the fixed rate more attractive.

The simulation also shows that innovation and the introduction of new mortgage products can be potentially dangerous. While the 5/1 hybrid was shown to offer some advantages to lower-income homeowners, the 2/28 mortgage as priced during the mid 2000s is observed to pose considerable risk. Households using the zero downpayment 2/28 mortgage generally have wealth losses, and in those cases where wealth increases the gains are quite small (less than

$1,700). Thus households using this type of mortgage are at significant risk if a trigger event such as sickness or unemployment were to occur. Consequently we can definitively conclude that instrument risk is a legitimate concern and that consumers will need to pay particular heed to the details of the mortgage contract into which they enter.

These two observations regarding innovation point to the importance of consumer sophistication for navigating today's mortgage market. The negative possibilities with the 2/28 are clear. Lower-income households must be aware of the risks with this product if they are to avoid pitfalls and fall into the delinquency, default, and foreclosure cycle. But there are also issues on the positive side. A sophisticated borrower might use the 5/1 hybrid for the first 5 years and then refinance to another product to avoid the marginal loss of wealth associated with the interest rate reset. If lower-income homeowners are to maximally benefit from ownership as a wealth building strategy, they must be cognizant of and willing to execute this type of strategy.

A second question is whether homeownership is preferred to renting for lower-income households. The data (not shown) show that homeownership is almost always preferred to renting in this scenario, independent of which financing approach is used. After one year, two-person households would be ahead in terms of wealth by an average of about $2,000 if they owned a home as opposed to renting. This increases to an average advantage of about $26,000 after 10 years, suggesting that homeownership is quite beneficial in terms wealth building on a comparative basis. The results for high-income neighborhoods, showing owning always preferred to renting in these areas, are particularly interesting. Recall from table LL that ownership in these neighborhoods result in wealth losses under many financing schemes. The positive figures here suggest that renting in high-income neighborhoods is even worse from a wealth accumulation perspective than owning. The simulation thus offers a strong implication that living in high-income neighborhoods is particularly detrimental and should be avoided by lower-income households in almost all cases.

The importance of affordability is also reflected in the fact that owning is uniformly preferred to renting for single-person lower-income households. You recall that the simulation established a purchase price for these households of 60 percent of the area median house price, under the rationale that these households likely will purchase a house quite a bit smaller than the market median given their sizes and income levels. The data clearly show that ownership makes financial sense if the housing prices are low enough, which argues again for the importance of the availability of affordable units if one is to successfully promote homeownership among lower-income households. These results also suggest that savings barriers are important;

without children these households are able to consume less out of their income and save more for housing and wealth building (see Appendix A).

Conclusions relating to innovation's possibilities and risks are also observed in this context. For example, the zero downpayment 2/28 mortgage is the only mortgage product in the simulation for which renting is consistently preferred to owning, even in the rapid home price appreciation environment of scenario 1. In addition, the gaps were sizable for the 2- and 3-person cases, ranging from about $400 in year 1 (2-person) to over $26,000 in year 10 (3-person). Sophistication, understanding, and awareness on the part of the consumer will be paramount.

5. Costs of Failed Low-Income Homeownership - Foreclosure

The previous section provided information on the potential for homeownership to be a wealth building vehicle for lower-income households. The analysis shows that this potential varied significantly with neighborhood characteristics, financial capacity, and the financing instrument that was used. In particular, this strategy is most effective in low- and middle-income neighborhoods, for purchases in which equity was acquired early in the ownership tenure, and in cases where features of the financing instrument could be exploited. An additional key dimension was seen to be the house value appreciation rate. We showed that high appreciation rates can swamp short run losses in wealth over longer time horizons, even in high-income neighborhoods.

5.1 *Simulation Results –Homeownership Benefits in the Case of Low Appreciation*

Along this latter dimension, one might wonder if the same pattern of benefits is observed if appreciation rates are not uniformly above 15 or 20 percent. To examine this question, we repeated the simulation exercise using a different house value appreciation scenario that involved significantly lower rates of appreciation. This scenario reflects the appreciation rates that prevailed from June 2006 to June 2007 according to nationwide data compiled by Dataquick. The simulation results using the Dataquick pricing scenario are reported in Table 6.

The simulation results for the slower-appreciation paint a very different picture regarding the efficacy of homeownership as a wealth building strategy for lower-income households. Over shorter time horizons (5 years or less), homeownership produces wealth losses or small gains for nearly all ownership scenarios in high- and middle-income neighborhoods. More generally, homeownership in high income neighborhoods when appreciation rates are low is never a winning proposition for growing wealth. In middle-income neighborhoods, we see a wealth gain of greater than $1,000 in only four cases. Given the significant chance that a household

will experience a loss in early years, it is hard to make a strong case that homeownership in middle-income neighborhoods makes sense for the average lower-income household. Indeed, simulation results (not shown) indicate that renting produces greater wealth increases than owning in all cases except when the lower-income household provides a sizable downpayment.

The situation is different for homeownership in low-income neighborhoods, but only slightly so. Lower-income homeowners are not likely to lose wealth as a result of owning a home in such neighborhoods – average wealth changes are positive in over every time horizon the simulation examines. However, lower-income homeowners are also not likely to gain much wealth either. Average wealth gains do not exceed $7,000 even after 10 years of ownership. Importantly, unlike the case for higher appreciation regimes, these qualitative results do not vary appreciably with the choice of mortgage instrument, though the severity is considerably greater when an alternative mortgage product is used. For example, a household would only gain $311 in wealth after 10 years of homeownership under the 2/28 zero downpayment mortgage. All that noted, homeownership is found to produce greater increases in wealth than renting in nearly all cases.

Thus, in low appreciation rate environments, and particularly using alternative mortgage instruments, homeownership is clearly not a very effective wealth-building strategy. This means that, through their ownership tenure, lower-income homeowners do not significantly reduce their exposure to repayment difficulties that may arise due to trigger events like unemployment, sudden illness, or divorce. Consequently, homeownership for lower-income households in this context is coupled with elevated risk of delinquency, default, foreclosure and the loss of a home – the failure of homeownership.

5.2 Analysis of Exposure to Foreclosure Risk

The simulation results suggest that low house value appreciation will be a signal of difficulties for lower-income homeowners in terms of meeting payment obligations. In such environments, lower-income homeowners will be less likely to have amassed sufficient wealth resources to be able to weather any unexpected maintenance or family-related expenses or sudden shocks to income from unemployment. Since 2006, the national housing market has slowed considerably, resulting in only slight house value appreciation in most markets and outright declines in others. If the simulation's implications in section 5.1 are true, then should see concentrated failures of homeownership, as represented by foreclosures, among lower-income households.

To explore this further, we obtained monthly data on foreclosures at the ZIP code level for 10

states.[10] Figure 1 shows the monthly progression of foreclosures and demonstrates that this period was marked by a significant rise in foreclosure rates, whether measured on a per capita or per housing unit basis. Annual mean foreclosure rates per capita and per owner-occupied housing for the states was 0.005 and 0.024, respectively.[11]

If lower-income homeowners face greater exposure to the risk of foreclosure than other homeowners, one would expect foreclosures to be concentrated in particular areas. Figure 2 shows such concentrations, both across and within states. For example, while more than 4 out of every 100 owner-occupied housing units had a foreclosure status in Colorado, only 1 of 1,000 units were in foreclosure in Mississippi. As a second example, this time demonstrating within state concentrations, a single MSA contained all 10 of the ZIP codes with the highest foreclosure rates in both Colorado and Michigan.[12]

If one compares characteristics of the 5 states in our sample with the highest foreclosure rates and the 5 with the lowest rates, we find evidence suggesting that income is an important factor (Table 7). While the median income in the top 5 states is on average higher, the poverty rate is higher as well. This is consistent with the view that low-income status, as opposed to income more generally, is a key correlate with elevated foreclosure incidence. The data also show that high foreclosure states have greater black, Latino, and Asian presence, which suggests that minorities might similarly face elevated foreclosure exposures.

Because variables such as income and minority status are correlated, it is necessary to conduct regression analysis in order to establish the independent relationship between foreclosure rate and lower-income status. We regress the foreclosure rate at the ZIP code level on aggregate economic, demographic, and housing market measures characterizing the ZIP code. These data items were all obtained from the 2000 Census. State indicator variables are also included in some specifications. For this analysis, the key indicators of interest are poverty rate and two measures of a neighborhood's income level: the median income in the ZIP code and whether the ZIP code has a relatively low median income (measured as less than 80 percent of the area

[10] The foreclosure data were obtained from RealtyTrac, a private vendor that compiles such data. Foreclosure is measured as the end-of-period foreclosure inventory. The 10 states are California, Colorado, Florida, Maryland, Michigan, Mississippi, North Carolina, Oklahoma, Pennsylvania, and Washington. These states provide significant geographic variation and include locations with significant foreclosure rates.

[11] All of the analyses in this section were run using both the per capita and per housing unit measures. As the results are qualitatively similar, we discuss only the per housing unit results.

[12] The data show that in some ZIP codes the number of foreclosures recorded during the study period exceeded the number of housing units as reported in the 2000 census. This might be due to rapid development between 2000 and 2006, which has been the case in parts of California.

median income). We consider these neighborhood variables to be reasonable proxies for lower-income homeowner exposure because of the prior analysis showing that homeownership for lower-income households makes sense less often in higher-income neighborhoods.

The results of this analysis, shown in Table 8, show that foreclosure rates are higher in ZIP codes with higher poverty rates and in lower-income ZIP codes. Thus, if one accepts the assumption that lower-income homeowners are more likely to live in such neighborhoods, the data support the view that lower-income homeowners are more vulnerable to foreclosure than other households. Surprisingly, we observe divergent relationships for blacks and Latinos. While foreclosure rates increase as a neighborhood's black presence rises, no such relationship is observed for Latino populations. Additional research might explore this relationship further.

We also observe significant relationships between housing market characteristics and foreclosure rates that conform to expectations. Foreclosure rates are higher in locations with higher housing costs, and much higher in ZIP codes with larger fractions of homeowners facing high housing cost burdens, measured as paying more than 40 percent of their income on housing. This result again emphasizes the importance of affordability discussed earlier, as well as the issue of having a buffer to weather the occurrence of trigger events that deplete savings and income. We also find that lower foreclosure rates in ZIP codes with a higher median house value and higher appreciation rates (in some specifications).

6. Conclusion

Lower-income homeownership has grown dramatically over the past 20 years, allowing households that previously had been shut out of the ownership market an opportunity to enjoy its benefits, particularly in the wealth-building arena. However, our analysis has shown that these benefits are not a foregone conclusion, and that considerable risks remain in some housing market environments. Indeed, the current housing environment featuring low rates of appreciation and heavy use of alternative and subprime mortgage instruments is one in which lower-income households can find themselves quite vulnerable to homeownership failure. Our finding elevated foreclosure rates in lower-income communities holding other factors equal supports the notion that these elevated risks have come to fruition.

Moving forward, then, it is important to take steps to shield lower-income homeowners from these potential costs. There are a number of possibilities. A vital component to any solution in this context is consumer sophistication. The current mortgage market is exceedingly complex and offers borrowers with many different possible financing approaches. Without an

independent ability to assess the benefits and risks associated with using any one of these approaches, borrowers are left to rely exclusively on the mortgage broker or loan officer in making these decisions. Given that brokers and loan officers often have incentives to place borrowers in higher cost mortgages, this reliance would seem to leave borrowers in considerable peril.

Given this, perhaps the most important initiatives will involve increasing the financial sophistication of lower-income households. These households must have a strong working knowledge of how mortgages work, and be particularly well-versed in the implications of using the newer alternative mortgage products. Such knowledge will help a prospective borrower make better judgments as to whether use of a given mortgage instrument makes sense given his particular circumstances. A second dimension of financial sophistication involves understanding the mortgage process, including the importance of tools such as credit scores, the roles and responsibilities of mortgage brokers, and one's rights at closing. Third, one might emphasize the costs a homeowner faces *after* buying a home in order to prepare a prospective homeowner so that they can anticipate and plan for them. A fourth and more general area of focus might involve general financial literacy, to ensure that households manage their personal finances in such as way that they are well-positioned to attain homeownership when they are ready to pursue it.

Development of these abilities can occur at various stages. One could promote and expand homeownership counseling programs. While these are mandated in some cases, a key issue is how such services are funded. Requiring prospective lower-income homeowners to bear such costs exclusively would be counter-productive and actually increase the cost burden they would face. Creative solutions are needed here. An alternative approach might be to introduce financial literacy as a formal part of all public school curricula. Broad introduction of such material would reduce the likelihood that a likely homeowner would fall through the cracks and come to the process unprepared.

There are also measures that can help ease the affordability burdens faced by many lower-income households. A clear dimension to be explored is increasing the lower-income household savings rates. Higher savings would permit larger downpayments, and we have shown that risks of difficulties and foreclosure are significantly reduced if homeowners can acquire equity early in their ownership tenure. Other chapters in this volume discuss this issue in considerable depth.

Initiatives and programs to promote the production of ownership housing at prices that are affordable to lower-income households would also help reduce the number of such households that face significant housing cost burdens. Currently most housing subsidies for construction emphasize rental housing over ownership product. A healthy debate as to the desirability of this pattern of subsidy would be welcome. In addition, such discussions should touch on the type of housing produced for ownership. For example, Boehm and Schlottmann (2004b) suggest that manufactured housing would be a beneficial investment for homeowners under the right conditions. An exploration of manufactured housing or modular home options among others might lead creative alternatives that make sense in promoting affordable homeownership.

A third area of exploration for reducing mortgage costs might be in restructuring the mortgage finance market. In particular, one might explore the possibility of allowing Fannie Mae and Freddie Mac to become more active in the subprime and alternative mortgage markets. These two secondary mortgage market players have helped standardize the prime mortgage market and reduce costs, and there is evidence suggesting that their presence in markets reduces the prevalence of more expensive mortgage products (An and Bostic, 2006). Prospective lower-income homebuyers would benefit from lower costs and more standardized products if the same dynamic were to play out in the alternative and subprime mortgage markets.

Finally, policy-makers should consider modifying the regulatory environment to limit abuses that reduce the wealth of lower-income homeowners or leave them at risk of a loss of wealth. As one example, Bostic, et al. (forthcoming) show that anti-predatory lending laws can have beneficial properties in changing market behaviors, but that the details of the regulatory structure matter. Efforts should be made to examine of prevailing regulatory incentives at the local, state, and federal levels to determine how these incentives might be altered to the benefit of lower-income homeowners.

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Table 1. Evolution of Homeownership Rates by Income Quintile, 1994-2006

Year	Overall	Quintile				
		1	2	3	4	5
1994	62.4	34.2	50.2	64.9	76.8	86.8
2000	65.6	38.4	54.7	69.3	79.8	87.9
2006	68.8	38.0	56.7	71.9	83.9	91.1
Percent change						
1994-2000	5.1	12.2	9.0	6.8	3.9	1.3
2000-2006	4.9	-1.1	3.7	3.8	5.1	3.6
1994-2006	10.3	11.1	12.9	10.8	9.2	5.0

Source: Current Population Survey, March Supplements for 1994, 2000, and 2006

Table 2. Homeowner demographics for bottom two income quintiles, 1994 and 2006 CPS

	Quintile 1		Quintile 2	
	1994	2006	1994	2006
Household characteristics				
Household income (mean)	9,539	13,679	23,333	34,115
Age (mean)	48.2	48.1	45.3	45.4
Female head	18.0	20.1	13.1	16.0
Percent with children (18)	36.8	37.1	44.2	47.8
Urban location				
Central city	16.1	20.6	17.3	19.7
Suburb	23.6	29.8	26.7	33.0
Rural	41.3	32.6	36.4	29.1
Other place	19.0	17.1	19.6	18.3
In MSA	58.7	67.4	63.6	70.9
Census region				
Northeast	14.8	14.6	18.2	15.8
Midwest	24.9	22.4	26.6	24.7
South	40.8	41.4	36.2	35.8
West	19.4	21.6	19.0	23.8
Marital status				
Married	44.1	38.7	59.6	54.7
Widowed	14.4	9.9	6.9	4.6
Divorced	23.9	25.8	18.8	21.2
Separated	5.1	6.1	3.0	2.8
Single	12.5	19.6	11.7	16.8
Education				
Less than high school	32.4	21.4	19.9	14.4
High school degree	37.4	38.3	40.9	36.2
Some college	21.0	27.2	27.4	32.0
College degree or more	9.2	13.2	11.8	17.4
Race/ethnicity				
White head	83.3	77.1	88.2	82.0
Black head	12.6	15.3	8.4	11.5
Hispanic head	11.0	15.3	10.7	14.9
Number of observations	2,990	4,420	4,421	6,778

Table 3. Simulation Elements – Dimensional partitions

Family characteristics Age of household head • 25-34, 35-44, 45-54 Size of family • 1 person, 2 people, 3 people (one child) Relative income • High (120% of area median), Middle (median), Low (80% of area median)
Neighborhood characteristics Relative income • High (120% of area median), Middle (median), Low (80% of area median)
Financing characteristics Downpayment • 0%, 5%, 10%, 20% Mortgage instrument • 30-year fixed rate, 5/1 hybrid ARM, 2/28 hybrid ARM

NOTE: Hybrid ARMs are adjustable rate mortgages with an initial fixed rate period, which is indicated in years by the first number. We assume the 5/1 ARM has a 1 percent annual rate change cap and a 6 percent lifetime interest rate change cap. We assume the 2/28 ARM has a 2 percent annual rate change cap and a 6 percent lifetime interest rate change cap. These mimic prevailing loan terms in 2005.

Table 4. House price appreciation scenarios

	Scenario 1 (Case)	Scenario 2 (Dataquick)
Lower-income neighborhood	18.33%	4.74%
Middle-income neighborhood	22.48%	2.53%
High-income neighborhood	30.86%	0.67%

Table 5. Simulation results for cumulative wealth gains for 2-person household, using the Case price appreciation rates

	Neighborhood income level		
	High	Middle	Low
Panel A. Difference after year 1			
0% Down,30 Yr FRM	($8,480)	($2,130)	$220
5% Down,30 Yr FRM	($3,741)	$238	$1,425
10% Down,30 Yr FRM	$998	$2,606	$2,585
20% Down,30 Yr FRM	$10,477	$7,343	$4,907
0% Down,5/1 ARMs	($7,424)	($1,471)	$309
5% Down,5/1 ARMs	($2,738)	$864	$1,468
10% Down,5/1 ARMs	$1,949	$3,200	$2,626
20% Down,5/1 ARMs	$11,322	$7,520	$4,943
0% Down,2/28 ARMs	($9,551)	($2,801)	($307)
5% Down,2/28 ARMs	($4,759)	($399)	$1,339
10% Down,2/28 ARMs	$34	$2,003	$2,546
20% Down,2/28 ARMs	$9,620	$6,807	$4,872
Average	*($191)*	*$1,982*	*$2,244*
Panel B. Difference after year 3			
0% Down,30 Yr FRM	($24,103)	($5,150)	$848
5% Down,30 Yr FRM	($9,894)	$1,950	$4,372
10% Down,30 Yr FRM	$4,315	$9,051	$7,851
20% Down,30 Yr FRM	$32,733	$22,395	$14,810
0% Down,5/1 ARMs	($20,933)	($3,171)	$1,029
5% Down,5/1 ARMs	($6,882)	$3,831	$4,501
10% Down,5/1 ARMs	$7,168	$10,833	$7,974
20% Down,5/1 ARMs	$35,269	$22,676	$14,919
0% Down,2/28 ARMs	($27,596)	($7,292)	($11)
5% Down,2/28 ARMs	($13,279)	($115)	$4,103
10% Down,2/28 ARMs	$1,038	$7,062	$7,617
20% Down,2/28 ARMs	$29,673	$21,284	$14,557
Average	*$626*	*$6,946*	*$6,881*
Panel C. Difference after year 5			
0% Down,30 Yr FRM	($37,808)	($6,398)	$1,624

5% Down,30 Yr FRM	($14,144)	$5,429	$7,463
10% Down,30 Yr FRM	$9,521	$16,988	$13,256
20% Down,30 Yr FRM	$56,851	$37,613	$24,843
0% Down,5/1 ARMs	($32,525)	($3,099)	$1,896
5% Down,5/1 ARMs	($9,125)	$8,308	$7,678
10% Down,5/1 ARMs	$14,276	$19,029	$13,461
20% Down,5/1 ARMs	$61,078	$37,997	$25,025
0% Down,2/28 ARMs	($44,621)	($10,428)	$323
5% Down,2/28 ARMs	($20,838)	$1,497	$6,727
10% Down,2/28 ARMs	$2,945	$13,422	$12,531
20% Down,2/28 ARMs	$50,510	$35,674	$24,050
Average	*$3,010*	*$13,003*	*$11,573*
Panel D. Difference after year 7			
0% Down,30 Yr FRM	($49,426)	($5,723)	$2,564
5% Down,30 Yr FRM	($16,321)	$10,146	$10,712
10% Down,30 Yr FRM	$16,785	$25,267	$18,816
20% Down,30 Yr FRM	$82,996	$53,016	$35,023
0% Down,5/1 ARMs	($42,556)	($2,059)	$2,768
5% Down,5/1 ARMs	($10,436)	$12,617	$10,671
10% Down,5/1 ARMs	$21,684	$26,607	$18,573
20% Down,5/1 ARMs	$85,925	$52,114	$34,378
0% Down,2/28 ARMs	($59,804)	($11,755)	$747
5% Down,2/28 ARMs	($26,597)	$4,899	$9,429
10% Down,2/28 ARMs	$6,610	$20,813	$17,509
20% Down,2/28 ARMs	$73,024	$50,087	$33,582
Average	*$6,824*	*$19,669*	*$16,231*
Panel E. Difference after year 10			
0% Down,30 Yr FRM	($62,522)	($3,531)	$4,322
5% Down,30 Yr FRM	($15,289)	$17,665	$15,924
10% Down,30 Yr FRM	$31,944	$38,114	$27,482
20% Down,30 Yr FRM	$126,410	$76,518	$50,599
0% Down,5/1 ARMs	($53,942)	($352)	$4,223
5% Down,5/1 ARMs	($9,220)	$19,005	$15,162
10% Down,5/1 ARMs	$35,501	$37,677	$26,101

20% Down,5/1 ARMs	$124,944	$72,546	$47,979
0% Down,2/28 ARMs	($78,371)	($10,963)	$1,695
5% Down,2/28 ARMs	($31,167)	$11,056	$13,749
10% Down,2/28 ARMs	$16,036	$32,171	$25,204
20% Down,2/28 ARMs	$110,443	$71,846	$48,024
Average	*$16,231*	*$30,146*	*$23,372*

Table 6. Simulation results for cumulative wealth gains for 2-person household, using the Dataquick price appreciation rates

	Neighborhood income level		
	High	Middle	Low
Panel A. Difference after year 1			
0% Down,30 Yr FRM	($9,345)	($2,495)	$22
5% Down,30 Yr FRM	($8,319)	($1,694)	$381
10% Down,30 Yr FRM	($7,293)	($893)	$695
20% Down,30 Yr FRM	($5,241)	$710	$1,324
0% Down,5/1 ARMs	($8,372)	($1,871)	$93
5% Down,5/1 ARMs	($7,395)	($1,101)	$406
10% Down,5/1 ARMs	($6,417)	($331)	$719
20% Down,5/1 ARMs	($4,462)	$859	$1,345
0% Down,2/28 ARMs	($10,339)	($3,133)	($486)
5% Down,2/28 ARMs	($9,263)	($2,300)	$312
10% Down,2/28 ARMs	($8,188)	($1,467)	$672
20% Down,2/28 ARMs	($6,036)	$199	$1,303
Average	*($7,556)*	*($1,126)*	*$566*
Panel B. Difference after year 3			
0% Down,30 Yr FRM	($26,875)	($6,320)	$217
5% Down,30 Yr FRM	($23,797)	($3,917)	$1,203
10% Down,30 Yr FRM	($20,718)	($1,514)	$2,145
20% Down,30 Yr FRM	($14,562)	$2,435	$4,030
0% Down,5/1 ARMs	($23,956)	($4,447)	$340
5% Down,5/1 ARMs	($21,024)	($2,137)	$1,278
10% Down,5/1 ARMs	($18,092)	$173	$2,217
20% Down,5/1 ARMs	($12,227)	$2,632	$4,093
0% Down,2/28 ARMs	($29,863)	($8,249)	($528)
5% Down,2/28 ARMs	($26,637)	($5,752)	$1,059
10% Down,2/28 ARMs	($23,411)	($3,256)	$2,045
20% Down,2/28 ARMs	($16,959)	$1,605	$3,929
Average	*($21,510)*	*($2,396)*	*$1,836*
Panel C. Difference after year 5			
0% Down,30 Yr FRM	($42,752)	($8,485)	$498

5% Down,30 Yr FRM	($37,622)	($4,480)	$2,111
10% Down,30 Yr FRM	($32,492)	($743)	$3,680
20% Down,30 Yr FRM	($22,232)	$4,238	$6,818
0% Down,5/1 ARMs	($37,888)	($5,362)	$674
5% Down,5/1 ARMs	($33,001)	($1,768)	$2,236
10% Down,5/1 ARMs	($28,114)	$1,139	$3,799
20% Down,5/1 ARMs	($18,341)	$4,481	$6,923
0% Down,2/28 ARMs	($47,755)	($11,750)	($391)
5% Down,2/28 ARMs	($42,379)	($7,594)	$1,818
10% Down,2/28 ARMs	($37,004)	($3,437)	$3,426
20% Down,2/28 ARMs	($26,253)	$3,278	$6,553
Average	*($33,820)*	*($2,540)*	*$3,179*

Panel D. Difference after year 7

0% Down,30 Yr FRM	($56,842)	($8,852)	$874
5% Down,30 Yr FRM	($49,661)	($3,924)	$3,113
10% Down,30 Yr FRM	($42,479)	$257	$5,308
20% Down,30 Yr FRM	($28,116)	$6,125	$9,697
0% Down,5/1 ARMs	($50,043)	($5,219)	$1,062
5% Down,5/1 ARMs	($43,216)	($1,216)	$3,199
10% Down,5/1 ARMs	($36,388)	$2,099	$5,337
20% Down,5/1 ARMs	($22,733)	$6,258	$9,612
0% Down,2/28 ARMs	($63,864)	($13,468)	($178)
5% Down,2/28 ARMs	($56,340)	($7,653)	$2,649
10% Down,2/28 ARMs	($48,817)	($2,578)	$4,876
20% Down,2/28 ARMs	($33,770)	$5,017	$9,241
Average	*($44,356)*	*($1,930)*	*$4,566*

Panel E. Difference after year 10

0% Down,30 Yr FRM	($74,302)	($8,502)	$1,637
5% Down,30 Yr FRM	($64,044)	($2,910)	$4,812
10% Down,30 Yr FRM	($53,786)	$1,934	$7,942
20% Down,30 Yr FRM	($33,270)	$9,129	$14,203
0% Down,5/1 ARMs	($64,617)	($4,857)	$1,790
5% Down,5/1 ARMs	($54,888)	($267)	$4,753
10% Down,5/1 ARMs	($45,160)	$3,636	$7,716

20% Down,5/1 ARMs	($25,703)	$8,970	$13,642
0% Down,2/28 ARMs	($84,356)	($13,488)	$331
5% Down,2/28 ARMs	($73,613)	($6,857)	$4,075
10% Down,2/28 ARMs	($62,870)	($1,129)	$7,219
20% Down,2/28 ARMs	($41,384)	$7,772	$13,418
Average	*($56,499)*	*($548)*	*$6,795*

Table 7. Comparison of Characteristics between Top 5 and Bottom 5 States

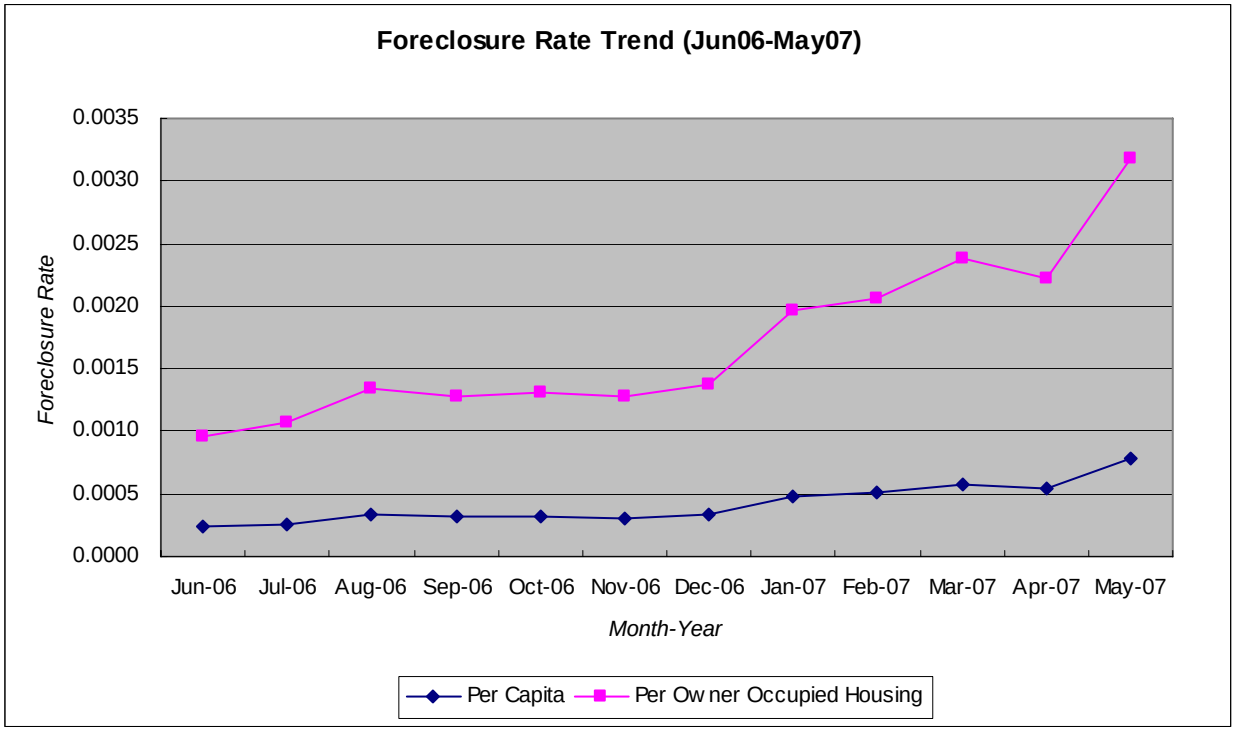
	Top 5 States	Bottom 5 States
	CO, FL, MI, CA, OK	NC, WA, PA, MD, MS
Average median household income	*$ 42,316*	*$ 41,456*
Percent below poverty level	*12.98*	*11.57*
Percent minority	*41.01*	*25.40*
Percent Latino	22.04	4.31
Percent black	9.27	16.31
Percent Asian	6.26	2.56
Minority fraction of Owner Population	*31.19*	*18.33*
Percent Latino Owner	16.10	2.36
Percent Black Owner	6.95	12.46
Percent Asian Owner	5.83	2.14
Percent Owner within Minority Population	*48.43*	*50.46*
Latino population	46.52	38.33
Black Population	47.74	53.45
Asian Population	59.38	58.47

Table 8. Estimated Regression Estimates for Foreclosure Rates per Owner-Occupied Housing Unit

Independent Variable		1	2	3	4
Income Characteristics	Poverty rate	0.100 (4.25 **)	0.100 (4.57 **)	0.079 (3.78 **)	0.067 (3.13 **)
	ln(Median household income)	-0.009 (-1.42)		0.000 (-0.48)	
	Income dummies	No	Yes	No	Yes
	D1 (120% or more of MSA Median HHY)		-0.003 (-1.76 *)		-0.004 (-2.22 **)
	D2 (80-100% of MSA Median HH Income)		-0.001 (-0.29)		-0.001 (-0.40)
	D3 (less than 80% of MSA Median HHY)		0.007 (2.50 **)		0.006 (2.10 **)
Demographic Characteristics	Housing rate occupied by black	0.023 (3.78 **)	0.020 (3.33 **)	0.028 (4.47 **)	0.027 (4.24 **)
	Housing rate occupied by Latino	0.009 (1.41)	0.009 (1.41)	-0.006 (-0.97)	-0.007 (-1.03)
Housing Characteristics	Vacancy rate	-0.011 (-1.12)	-0.009 (-0.91)	-0.008 (-0.88)	-0.010 (-1.00)
	Homeownership rate	0.014 (1.33)	0.013 (1.33)	0.008 (0.79)	-0.010 (1.04)
	Multi-family housing rate	-0.005 (-0.97)	-0.005 (-1.11)	-0.007 (-1.42)	-0.009 (-1.70 *)
	Housing rate built before 1970	-0.023 (-6.77 **)	-0.024 (-7.07 **)	-0.011 (-3.06 **)	-0.013 (-3.42 **)
Homeownership Characteristics	ln(Median house value)	-0.024 (-4.66 **)	-0.024 (-4.61 **)	-0.054 (-9.58 **)	-0.053 (-9.46 **)
	ln(Median owner cost with mortgage)	0.052 (5.11 **)	0.047 (5.04 **)	0.088 (8.49 **)	0.087 (8.82 **)
	ln(Median owner cost without mortgage)	-0.008 (-2.18 **)	-0.008 (-2.14 **)	-0.004 (-1.02)	-0.004 (-0.96)
	Ownership rate with high cost burdens	0.444 (10.10 **)	0.427 (9.61 **)	0.406 (9.25 **)	0.388 (8.84 **)
	House price appreciation rate	-0.005 (-2.67 **)	-0.005 (-2.61 **)	-0.003 (-1.49)	-0.003 (-1.43)
Economic Characteristics	Unemployment rate	-0.075 (-2.33 **)	-0.071 (-2.20 **)	-0.048 (-1.46)	-0.042 (-1.28)
Geographic Characteristics	State dummies	No	No	Yes	Yes
Number of Observations		3,097	3,097	3,097	3,097
R^2		13.94 %	14.25 %	20.38 %	20.71 %

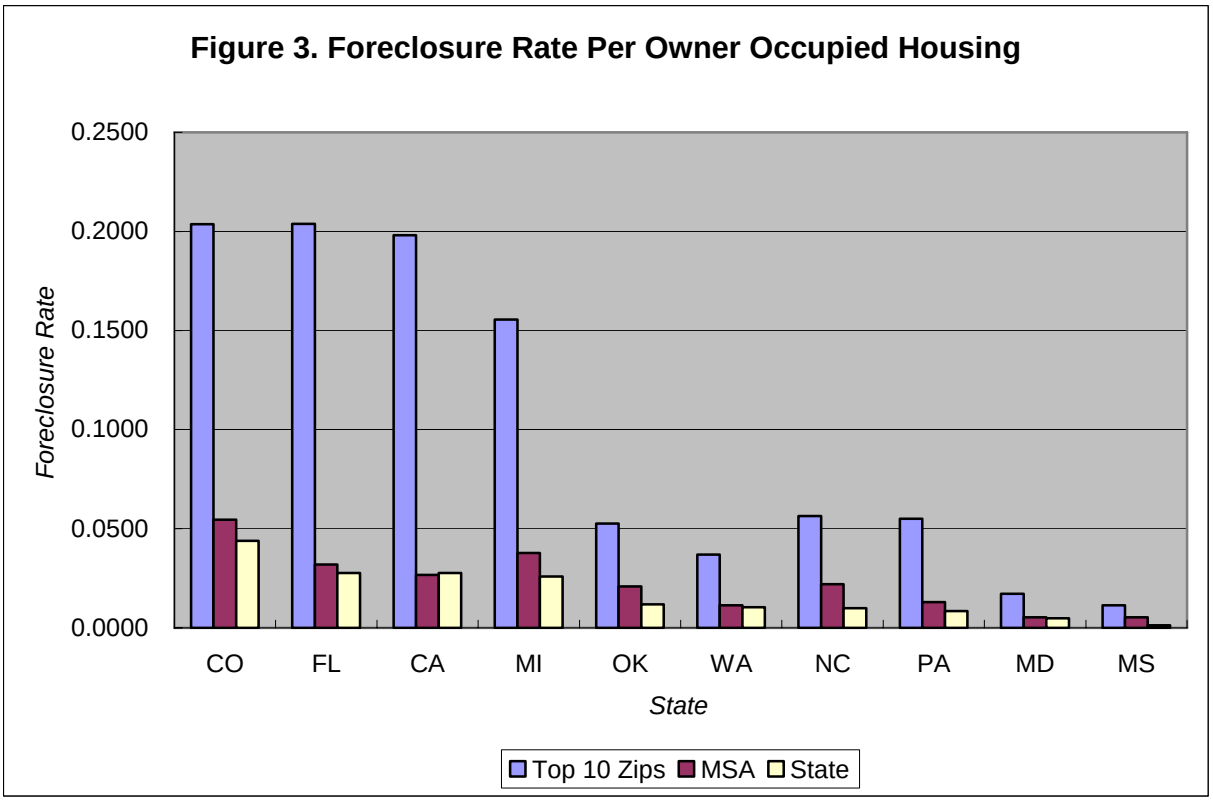
Data Source: Foreclosure data (2006-2007) by zip-code from Realty Trac, Other data from Census 2000
*significant at 10% level, **significant at 10 % level

Figure 1. Trend in Foreclosure Rates, June 2006 to May 2007



Data Source: Foreclosure data (2006-2007) by zip-code from Realty Trac, Other data from Census 2000

Figure 2. Per housing unit foreclosure rates for state, metropolitan areas, 10 ZIP codes with highest rates



Data Source: Foreclosure data (2006-2007) by zip-code from Realty Trac, Other data from Census 2000

Appendix A. Estimated Total Expenditure and Housing Expenditure Rates using the 2005 Consumer Expenditure Survey

Type	Income Level	Family Size	Age	Average Annual Expenditures Rate	Housing Expenditure
1	High	1	25-34	86.12%	21.64%
2	High	1	35-44	76.47%	18.91%
3	High	1	45-54	77.21%	17.79%
4	Middle	1	25-34	94.85%	24.30%
5	Middle	1	35-44	84.22%	21.23%
6	Middle	1	45-54	85.03%	19.97%
7	Low	1	25-34	94.85%	24.30%
8	Low	1	35-44	84.22%	21.23%
9	Low	1	45-54	85.03%	19.97%
10	High	2	25-34	82.71%	15.68%
11	High	2	35-44	82.12%	15.34%
12	High	2	45-54	80.44%	13.83%
13	Middle	2	25-34	92.59%	17.41%
14	Middle	2	35-44	91.94%	17.03%
15	Middle	2	45-54	90.06%	15.35%
16	Low	2	25-34	100.46%	19.50%
17	Low	2	35-44	99.75%	19.07%
18	Low	2	45-54	97.71%	17.19%
19	High	3	25-34	97.98%	17.46%
20	High	3	35-44	82.87%	14.28%
21	High	3	45-54	76.17%	12.60%
22	Middle	3	25-34	108.47%	23.25%
23	Middle	3	35-44	91.74%	16.25%
24	Middle	3	45-54	84.32%	14.34%
25	Low	3	25-34	127.68%	24.46%
26	Low	3	35-44	107.99%	20.00%
27	Low	3	45-54	99.25%	17.65%

NOTE: High-income households have incomes greater than 120 percent of the area median, Middle income households have incomes at the median income level, and Lower-income households have incomes less than 80 percent of the area median.