

The Wealth-Creating Potential of Homeownership: A Preliminary Assessment of Price Appreciation Among Low-income Home Buyers

Michael A. Stegman, Roberto Quercia & Walter Davis

Home equity is a significant source of household wealth, especially for those in the lower reaches of the income distribution (Belsky and Calder 2004, 14). This is why consumer advocates and policy makers celebrate the achievement of a record number of homeowners during the 1990s (U.S. Census Bureau 2002, Table 15). Despite a declining economy that dipped briefly into recession in 2000–2001, historically low interest rates have propelled the national homeownership rate to a record high 67.4 percent in 2002, with impressive gains by low- and moderate-income families (LMI), minorities, and nontraditional households. Between 1993 and 1997, for example, the number of home loans to families with incomes at or below 80 percent of median increased by 38 percent compared with 27 percent for loans to higher income families (Quercia, McCarthy, and Wachter 2003). For a roughly similar period (1994–2001), minorities accounted for 40 percent of the national net gain in homeowners, even though they account for just 25 percent of all households (Joint Center for Housing Studies 2002, 14). Similarly, between 1997 and 2002—when the homeownership rate for all households increased by 3 percent—householders under age 25 enjoyed a 30

percent increase, including a 58 percent gain for families headed by females under 25 (U.S. Census Bureau 2002, Table 15).

In addition to historically low interest rates, growth among these latter groups was accelerated by an aggressively supportive public policy environment that contributed to the widespread introduction of “affordable” mortgage products during the latter part of the 1990s featuring flexible underwriting—including low down payments, higher debt ratios, and reduced cash reserves—combined with the use of nontraditional means of verifying creditworthiness (Quercia et al. 2002, 352). For example, home purchase loans requiring down payments of 5 percent or less were nearly four times (15 percent) more common in 2001 than in 1990 (4 percent) (Joint Center for Housing Studies 2002, 18). Freddie Mac’s Alt 97 mortgage, which is targeted to buyers with little savings but good credit, features 3 percent down, with only part of the up-front cash having to come from the borrower’s own resources.ⁱ Underscoring the potential impact of these new mortgage products, Quercia, McCarthy, and Wachter (2003) estimate that the Alt 97 mortgage has increased “the relative probability of homeownership for young households by 27.1 percent, for black households by 21 percent, and for center city households by 15 percent.”

While home ownership is not just about building wealth, because of its significant potential to generate large returns on small amounts of invested capital, its role in helping families secure their financial futures is too important to ignore (Belsky and Calder 2004, 8) Using data from the Panel Survey of Income Dynamics, Di, Yang, and Liu (2003, 12), for example, estimated that “the total net wealth on average in 1999 of owners in 1984 is 2.2 times that of renters in 1984, controlling for incomes and demographics.”

Despite these dramatic findings, other researchers are less positively disposed toward housing as an investment good. For the period 1985-1995, Goodman, for example, found that “when all the costs of owning and renting are considered, a majority of families that bought a home in the mid-1980s

would have saved money by renting comparable housing” (cited in Di, Yang, and Liu 2003, 6) Relative to alternative investments, Goetzmann and Spiegel found home appreciation rates from 1990-1999 to be much lower than the returns on stocks, bonds, and mortgage-backed securities (cited in Di, Yang, and Liu 2003, 6). From a portfolio analysis perspective “Hurst, Luoh and Stafford found that the share of wealth a household held in home equity in 1984 had a negative relationship with total wealth in 1994, but that the share held in stocks had a positive relationship (cited in Belsky and Calder 2004, 8). For a similar period, but using different metrics, Marjammaa found that “the average stockholder earned \$23,000 in the stock market during the past decade, while the average homeowner earned \$44,000 in home equity (cited in Di, Yang, and Liu 2003, 4).”

Although nominal home prices have never declined on a year-to-year basis since the National Association of Realtors began tracking sales data in 1968, Di, Yang, and Liu (2003, 3) remind us that “national measures of home price appreciation have little practical meaning to an individual homeowner because he invests in a single asset instead of a national index, and this asset cannot be diversified.”

Dueling researchers and conflicting findings notwithstanding, Americans have historically held an enormous amount of their collective wealth—a staggering \$7.6 trillion in 2002—in their homes. For all households, home equity accounts for an average of 21 percent of net household wealth—but for all homeowners the share is close to 50 percent. Housing’s relative importance in household portfolios has grown considerably since the high-tech meltdown in 2001, when stock portfolios lost \$1.4 trillion in value (Joint Center for Housing Studies 2003, 6). With housing outperforming the rest of the economy, home equity grew by more than \$405 billion in 2001-2002, raising the share of “stock-holding homeowners with more home equity than stock wealth from 60.5 percent in 2001 to an estimated 66 percent in 2002” (Joint Center for Housing Studies 2003, 6).

Home equity has been especially important for those with lower incomes, where the median net wealth of owners in the lowest income quintile was \$68,000 in 2001, while that of similarly situated renters was only \$500 (Joint Center for Housing Studies 2003, 7). Among these owners, home equity accounted for 80 percent of net wealth in 2001, compared to 48 percent for owners in the middle quintile and 26 percent in the highest quintile (Belsky and Calder 2004, 14).

“For all homeowners, home equity represented 42% of their net wealth. But for lower income and minority households, home equity represented four-fifths (80%) of their net wealth. And for moderate-income, African American, and Hispanic households, home equity represented more than one-half of their net wealth” (Consumer Federation of America 2003, 2).

Despite the importance of home equity to net household wealth, Case and Marynchenko (2001) remind us of the significance of timing and where in the local real estate cycle a family enters the market. In their local studies of low-income homeowners in Chicago, Boston, and Los Angeles, these researchers found homeownership to be “an excellent vehicle for asset accumulation since the early 1980s in Boston, since 1987 in Chicago, and since 1995 in all three cities. They also found, however, that significant periods of decline have led to substantial losses for low-income households in Boston and to periods of substantial negative equity for low-income households in Los Angeles.” This is why, for example, McCarthy, Van Zandt, and Rohe conclude that “homeownership offers much better financial security for wealthy owners than for low- and moderate-income and minority owners” partly because “lower-income and minority households hold more housing than is optimal in portfolio wealth, exposing them to higher risk” (cited in Di, Yang, and Liu 2003, 7).

This paper describes the asset building potential of house price appreciation of an innovative homeownership partnership that has enabled home ownership for more than 25,000 credit-worthy low-income, low-wealth

individuals who may not be effectively served by the conventional market. Through access to the proprietary valuation model that the Federal National Mortgage Association (Fannie Mae) uses to value the homes securing its mortgage portfolio, we are able to estimate the paper equity accrued by thousands of families who have bought homes under a demonstration program launched by Fannie Mae and the Self-Help Credit Union, a North Carolina-based community development financial institution.

First, we describe the Community Advantage Secondary Market Demonstration Program (CAP). Next, we set the stage for an empirical analysis by reviewing the literature on the wealth-building potential of homeownership, with particular emphasis on lower-income families. Our estimates of the paper equity accumulated by CAP homeowners are disaggregated by household type, race and ethnicity, and credit history, and are benchmarked against statewide appreciation rates and metropolitan price changes in individual housing markets in which there has been sufficient CAP activity. We conclude the paper with a discussion of the policy significance of our findings.

THE COMMUNITY ADVANTAGE SECONDARY MARKET DEMONSTRATION PROGRAM (CAP)

The goal of CAP is to provide tangible evidence to lenders, policy makers, and the secondary mortgage market that low-wealth borrowers are “bankable,” and that Fannie Mae (and, by implication, the Federal Home Loan Mortgage Corporation, or Freddie Mac) can significantly expand their purchase of affordable housing loans without compromising either their balance sheet or safety and soundness concerns.ⁱⁱ With a Ford Foundation grant to underwrite a significant portion of the credit risk, the Center for Community Self Help in North Carolina purchases affordable mortgages such as Community Reinvestment Act (CRA) loans from participating lenders and sells them to Fannie Mae while retaining full recourse (essentially

guaranteeing the loans), which satisfies Fannie Mae's charter issues and balance sheet concerns. These loans could not otherwise be readily sold in the secondary market because of their perceived higher risks. CAP mortgage products feature flexible underwriting, typically including one or more of the following features: low or no down payments, higher debt-to-income ratios, approval of borrowers with spotty credit records or no established credit, and waivers of private mortgage insurance and the usual requirement that a borrower have at least two months of loan payments available as a cash reserve at the time of closing.

Participating banks and thrifts originate and service the loans under contract with Self-Help. Though not quite national in scope, CAP's geographic reach is impressive, with the 26 participating lenders testing innovative loan products in 47 states and the District of Columbia. Because the program originated in Self-Help's home state, North Carolina lenders have originated 34 percent of all CAP loans, with lenders in California accounting for 18 percent and those in South Carolina a distant third, at 5 percent (Figure 1). Virginia, Ohio, and Oklahoma each account for about 4 percent of all loans in our 1998–2002 samples. While approximately 20 percent of the borrowers live in non-metropolitan areas, there are 21 Metropolitan Statistical Areas (MSA) where lenders have collectively originated at least 200 loans.

The data used in this paper were collected as part of the authors' multi-year evaluation of CAP. The goals of the evaluation are to assess the replicability of the CAP model, the performance of more than a dozen innovative mortgage products designed to expand mortgage lending, and the social and wealth impacts of homeownership. A core element of our research design is a five-year panel survey of more than 3,700 CAP borrowers, and a comparison group of low-income renters whose housing and other circumstances we are also tracking.

Data on loan characteristics for the analysis presented here come from 21,497 CAP loans to low- and moderate-income borrowers that were originated between January 1, 1998, and December 31, 2002, and that Self-Help purchased from participating lenders as part of the Community Advantage Program. These loans had a median original principal of \$79,500, and constitute about 78 percent of the more than 27,500 loans that make up the CAP historical book of business. There were too few pre-1998 loans in our database to estimate vintage effects, while 2003 purchases had too little time to show any market effects. In addition, data from the Dow Jones Index and monthly 6-month CD rates were obtained from various sources (as cited), and used for comparison purposes due to their widespread use as asset building benchmarks.ⁱⁱⁱ

By most definitions, CAP borrowers are as nontraditional as the loans they secured to buy their homes. Compared with borrowers whose conforming first mortgage loans were purchased by Fannie Mae and Freddie Mac in 2000, CAP homeowners are 5 times more likely to be African American, 2.5 times more likely to be Hispanic, more than 4 times more likely to have incomes below 60 percent of area median, more likely to be single females, and more than twice as likely to be under 30 years of age (Table 1). More importantly, 35 percent of all CAP families had blemished credit, reflected in credit (FICO) scores of less than 660. Moreover, over 4 percent of all borrowers had no credit score but were still approved for a mortgage loan.

The Wealth-Building Potential of the Community Advantage Program

While many empirical studies of house price dynamics use commercially available property sales data to generate price change information, we use a proprietary valuation model to estimate current market values. As part of its participation in the CAP partnership, in

October 2003 Fannie Mae provided then-current market-value estimates from its automated valuation model (AVM) for all properties in the Community Advantage program.^{iv} We use these estimated market values to compute “paper” gains or losses experienced by CAP home buyers. We use AVM to estimate the market value of each CAP property as of a single date—September 30, 2003—to calculate our price changes for homes purchased between January 1, 1998 and December 31, 2002. Thus, the term of ownership can vary from 9 months to 33 months.

To compare the experiences of CAP buyers to market averages, we use OFHEO’s House Price Index (HPI), which is published on a quarterly basis and tracks average house price changes in repeat sales or refinancings on the same single-family properties. OFHEO’s index is based on analysis of data obtained from Fannie Mae and Freddie Mac from more than 23 million repeat transactions over the past 28 years. The HPI reflects price movements on a quarterly basis of sales or refinancings of single-family homes whose mortgages have been purchased or securitized by Fannie Mae or Freddie Mac (Office of Federal Housing Enterprise Oversight 2003, 2).

The two variables of primary interest in this paper are the price appreciation rate of the property and the equity appreciation rate for the borrower. The price appreciation rate is the annual appreciation rate (compounded monthly) calculated using actual purchase price at origination, the AVM-estimated value in October 2003, and the number of months between purchase and October 2003. The equity appreciation rate is the annual appreciation rate (compounded monthly) using the borrower’s equity at time of origination, the equity as of October 2003 calculated as AVM-estimated value less current unpaid mortgage balance, and the number of months between purchase and October 2003. For loans with a loan-to-value (LTV) ratio greater than 100 (12.1 percent of loans), initial equity was set at \$500, which is the typical minimum buyer contribution required by most lenders for high LTV Community Advantage loan products.

Gains Are Significant and Widespread, But Not Universal

During a period in which the Dow Jones Index rose by just 2.78 percent a year and CD rates averaged 4.33 percent a year, based on AVM estimates as of September 30, 2003, CAP families who bought their homes between 1998 and 2002 enjoyed an average annual appreciation rate of 5.4 percent¹ (Figure 2). This is close to the long-run average annual increase in nominal house prices of 6.3 percent for the country as a whole for the period 1968-2001 (Di, Yang, and Liu 2003, 4). Overall, the median “paper” gain for all CAP owners was \$16,433, while fewer than 2 percent of all homes fell below their original purchase price (Table 2). Just over 5 percent of all CAP buyers fared worse than the Dow, while 26 percent experienced gross returns that were below those they might have earned from investing in CDs (Table 3).

Timing is Important

Generally, the absolute change in price increases with length of ownership, with the median increase in price the highest for families who bought their homes in 1998 (\$20,198), and lowest for those who bought in 2002 (\$14,204). More recent borrowers have bought homes during a time of generally higher appreciation rates—annualized percentage gains for families who closed on their homes in 2001 and 2002 are greater than gains for those who bought between 1998 and 2000—but over time, their experiences may become more similar to those who bought in earlier times. Nevertheless, 98 percent of all CAP families who bought their homes between 1999 and 2001 outperformed the Dow, while only 83 percent who bought in 2002, as the stock market recovered, had annualized returns above the Dow (Table 3).

Conversely, only about half of all families who bought in the early years of the program, between 1998 and 2000, saw the prices of their homes grow at faster rates than the CD rate. As interest rates plummeted in 2001 and 2002, at least 90 percent of CAP homes outperformed the CD index.

So Is Geography

As expected, value gains varied significantly across the country, with the greatest average gains, of at least 13 percent a year, experienced by CAP families in Maryland, California, and Florida. The smallest increases, all under 4 percent a year, were in North Carolina, South Carolina, and Mississippi (Table 4 and Figure 3). In three of the ten states with the greatest number of CAP loans—California, Virginia, and Florida—Community Advantage families experienced gains that exceeded average statewide increases in home prices by significant margins (Figure 4). On a more localized basis, price gains were highest in Los Angeles and Riverside, California, and in metropolitan Washington, DC, where advances of CAP family homes outpaced metropolitan increases (Figure 5). In these hot metro markets, median annual appreciation rates for CAP homes were 16 percent or higher.

But Not Everybody Wins

While prices rose on the vast majority of all CAP homes, just under 2 percent lost value. Disproportionately large numbers of families in three of the fifteen states with the largest number of CAP borrowers experienced paper losses, including almost 6 percent in Texas, 3.6 percent in Tennessee, and 3.2 percent in Ohio. From a vintage standpoint, the worst year so far has been 2002, where 4 percent of all homes bought that year fell in price, but this number will probably decline over time.

Leverage Turns Relative Losers into Winners

Because of exceptional leverage—most CAP loans required very modest amounts of upfront cash—average returns to initial equity exceed overall value increases by wide margins. This means that most families whose homes appreciated more slowly than either the Dow or the CD composites saw their initial equity investments grow at far faster rates than either of these benchmarks. Across all CAP families, the average annual increase in initial equity was nearly 70 percent; the increase exceeded 90 percent in three states and 100 percent in four states (Figure 5).

In absolute terms, CAP homeowners gained a median \$17,500 in housing wealth (current home value minus outstanding mortgage balance minus initial down payment). CAP homeowners in California enjoyed median gains in housing wealth of nearly \$84,000; in Maryland, more than \$56,000; in Illinois, about \$33,000; and in Virginia, \$32,000 (Table 5).

Families with Spotty Credit Fared Well

Significantly, households with blemished credit or no credit history—who might not have been able to qualify for a prime mortgage loan were it not for CAP—as well as those who missed one or more mortgage payments during their relatively brief period of ownership also enjoyed significant gains. The median annual equity appreciation rate for homeowners who had no credit score was 89 percent, while for those with a FICO score of 620 or less enjoyed an annual median increase in initial equity of 64 percent a year, compounded monthly (Table 6 and Figure 6).

Regardless of delinquency history, families experienced annual median equity gains of about 70 percent. These findings suggest that if they can gain a foothold in the homeownership market, even families with spotty credit histories or who are new to the credit system can build substantial assets through homeownership. For families who fall behind in their payments and skirt with default, these results suggest that there is usually significant accumulated equity in homes to allow for preventive servicing and creative

approaches to help families keep their homes, if their defaults are due to temporary setbacks.

Minority Gains Lag But Are Still Impressive

Perhaps the most positive findings are those related to the paper gains experienced by minorities who were able to buy a home through the Community Advantage Program. However, consistent with other research (Di, Yang, and Liu 2003, 5; Ambrose and Goetzmann 1996, 4), we also find that black-owned homes appreciated about 10 percent less a year, at the median, than houses owned by whites (Figure 7). These differences translate into lower annual equity appreciation rates: 57 percent for black CAP borrowers compared with 66 percent for whites CAP participants.

Due largely to their concentration in hot markets like California, Hispanic and Asian buyers experienced much greater annual gains in wealth than did whites. The median annual price appreciation rate for Hispanics was 13.7 percent and for Asian/Pacific Islander 11.8 percent, which correspond to median annual equity appreciation rates of 89 percent and 68 percent, respectively.

With minority homeownership rates on the rise—from 42 percent in 1990 to 48 percent in 2003—experiences like those reported in this paper might help to further trim the wealth deficit that has been narrowing in recent years. According to the Consumer Federation of America and BET.com (2003, 1), from 1989 to 2001, “the ratio of median black household wealth to median U.S. household wealth rose from 9.1% to 22.1.

HOME EQUITY IN HOUSEHOLD WEALTH

Our plans include collecting detailed wealth data for a sub-sample of our panel of CAP homebuyers, which will enable us to determine the role of home equity in household wealth. At this time, however, the best we can do is to relate our estimates of household wealth to gross household income at

the time of loan closing. Throughout our study period, homeownership appears to have been a solid investment for all income groups, including those with the most modest incomes. Homebuyers with incomes of less than \$20,000 experienced a median increase in “paper equity” of almost \$25,000; just \$2,000 less than the gain enjoyed by families with incomes between \$40,000 and \$50,000 (Figure 8).

Including California loans, the median increase in home equity for the lowest income families amounted to about 1.4 times household income at the time of origination, while for families with incomes of \$50,000 or more, equity gains amounted to 86 percent of household income. While excluding California reduced gains for both groups, reductions were proportionately greater for the highest income families (Tables 7 and 8).

LIMITATIONS OF THE ANALYSIS

We noted earlier that one of the limitations of this paper is that our methodology only permits us to measure paper gains and losses, since our price data are estimates of market value rather than actual sales prices. Another methodological limitation that we will correct in a later version of this paper is that while all price estimates are as of September 30, 2003, more than 6,000 CAP loans included in our analysis were actually prepaid or terminated prior to that date (Table 9).^v This means that an unknown number of families might not have actually accrued the full gains (or losses) in housing wealth that we estimate. From an analytical perspective, the good news is that we find no difference in the median annual appreciation rate of active and prepaid loans, with just one exception. However, the market values of the small number of homes on which a CAP mortgage was foreclosed did increase more slowly than all other loans: 7 percent of foreclosed homes lost value compared with less than 2 percent of all active and other prepaid or terminated loans.

More broadly, it should be noted that the loans purchases by Self-Help as part of CAP are not a random sample of all affordable loans made by lenders. Loans must meet certain requirements to qualify for purchase (for example, on time payments for nine months before purchase). Although in some localities CAP loans may represent a large proportion of all affordable loans originated, the lack of randomness in the sample selection limits the generalizability of the findings.

CONCLUSIONS

Based on our preliminary analysis, we can report that the vast majority of CAP families realized substantial gains in paper wealth as a result of their transition from renting to owning. While gains were lower for blacks than whites, the concentration of Hispanic and Asian buyers in rising California housing markets helped these minority families to realize near triple-digit annual increases in equity appreciation. Our analysis also found that families with spotty credit records, or no established credit history at all, accrued significant gains in gross wealth, which underscores the importance of preparing more of these families to gain a foothold in the homeownership market.

While there are many caveats and qualifications that surround these early analyses—including that our end prices are estimates and not the result of actual sales, and that the interest rate environment throughout the study period was especially favorable—we find no evidence in our work to suggest that national housing policy should reduce its emphasis on homeownership as a vehicle for potential wealth accumulation by low- and moderate-income families. Indeed, we would argue the contrary position. Our ongoing evaluation of the Community Advantage Program suggests that prudent efforts to expand the array of affordable mortgage products to underserved populations and housing markets should move forward.

Finally, we believe that the results of our work may be usefully considered by a growing number of social welfare academics and consumer advocates who argue that finding ways to narrow the large and growing wealth disparity in our country is at least as important, and perhaps even more important, than further narrowing the income gap. Where economists once argued that such inequality was the price of national economic progress, there is now evidence that social policies to lessen inequality are not necessarily inconsistent with economic policies to maximize growth (Joseph Stiglitz and Jason Furman, 1998, p. 7). Housing policies that increase homeownership also have the potential to both create and democratize wealth.

We believe a productive way to deal with the wealth constraint is to help households save for a modest down payment by infusing savings incentives into homeownership policies. This would enable buyers to move into their home with an equity-stake from day one. Down payment savings initiatives could take many forms. Combined with financial literacy and homeownership counseling, this proposal is one half of a prudent homeownership strategy. We also propose building upon recent technological advances to help lenders sell more affordable housing loans into the secondary market.

Given strong and enduring market fundamentals and secondary market innovations that have the potential to channel significantly more capital to affordable lending, the mortgage industry will respond to the upsurge in effective demand from households who come to the table with savings in hand, financially ready and able to become successful homeowners.

Figure 1: Number of CAP Loans by State

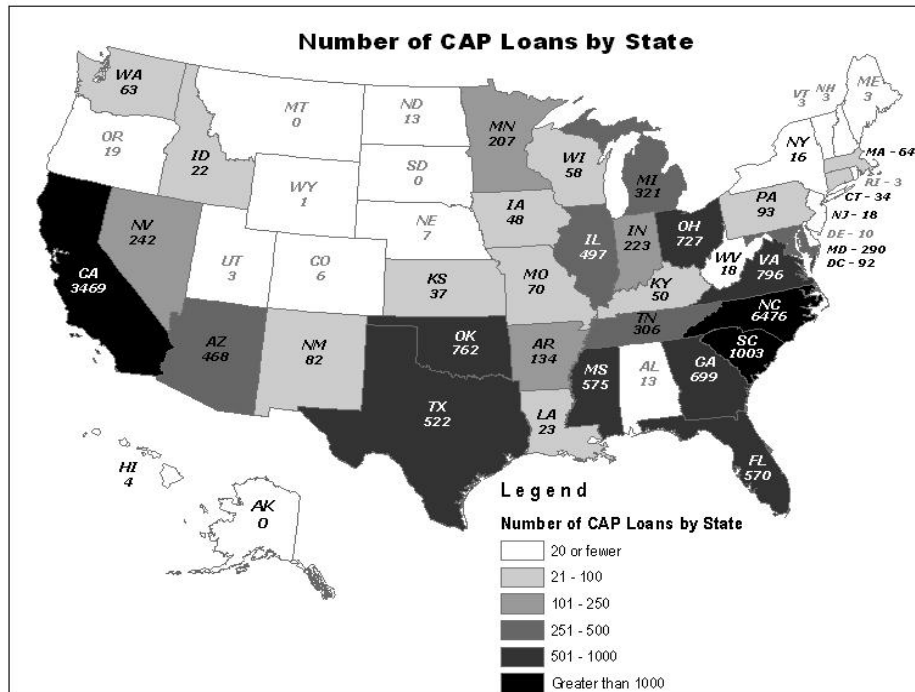
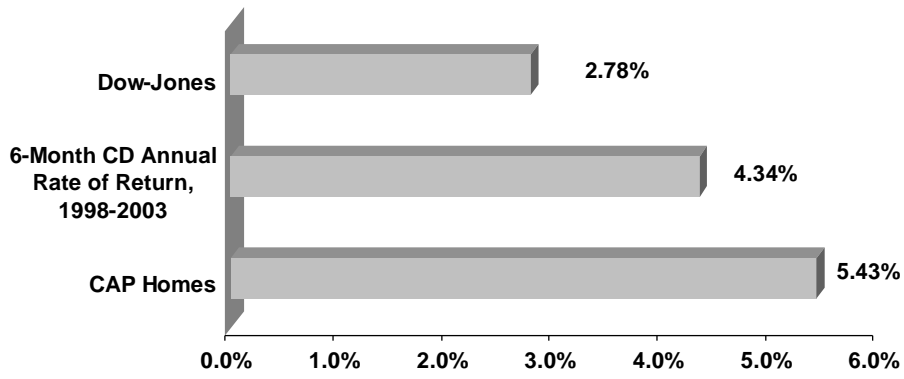


Figure 2: Median Annual Change in Home Price vs. Rates of Return for Other Investments, 1998-2003



**Figure 3: Median Annual Appreciation Rate in Price of Homes
Purchased Between 1998 and 2002**

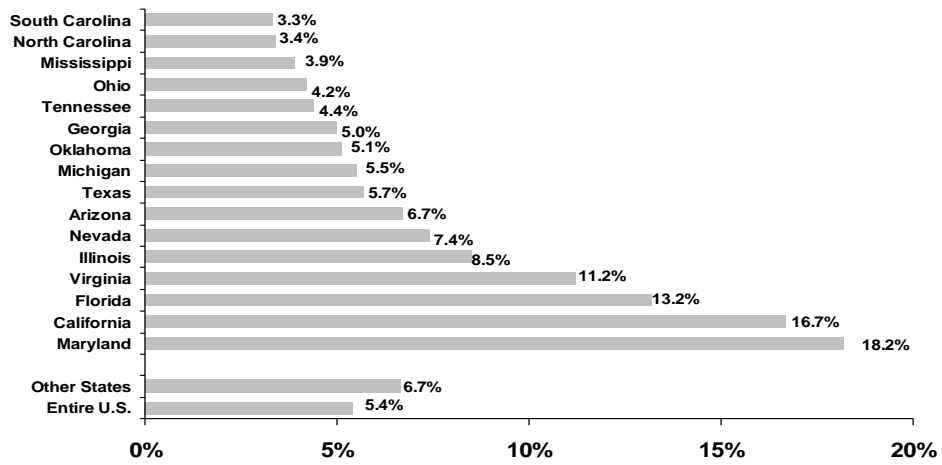


Figure 4: Median Appreciation Rates for CAP Homes and State Index, Top 10 CAP States, 1998-2003.

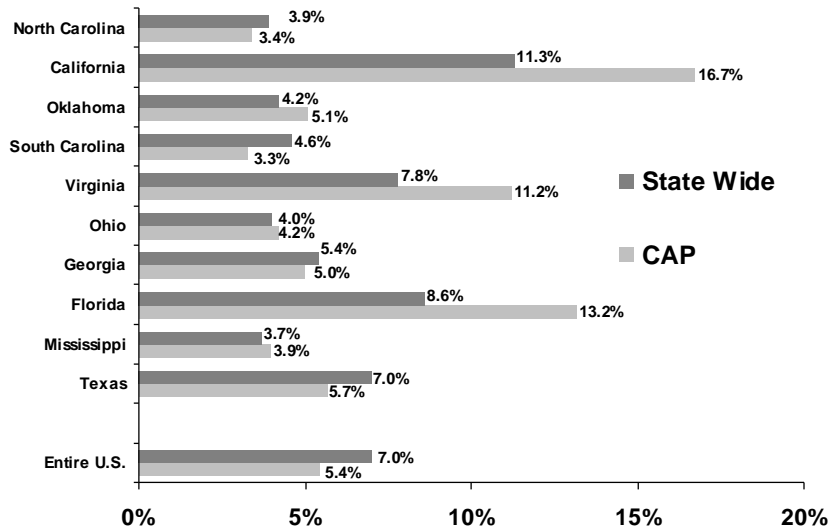


Figure 5: Median Annual Appreciation Rate of Initial Equity, by State, 1998-2003

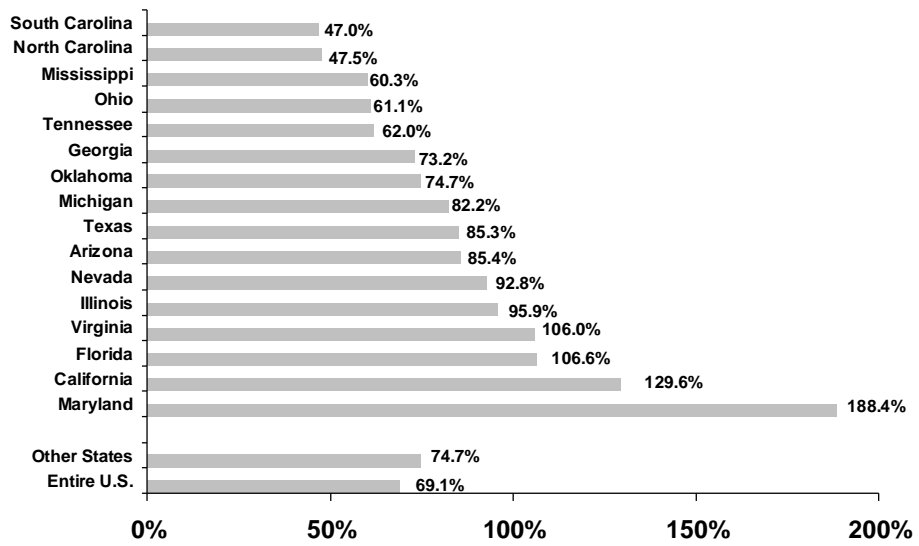


Figure 6: Median Annual Price & Equity Appreciation Rates, by Credit Score at Origination, 1998-2003

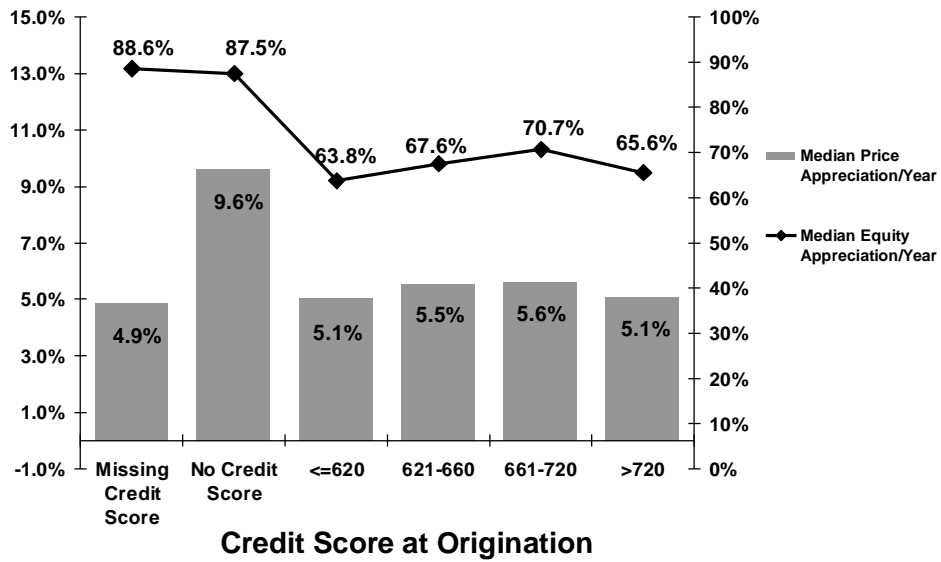
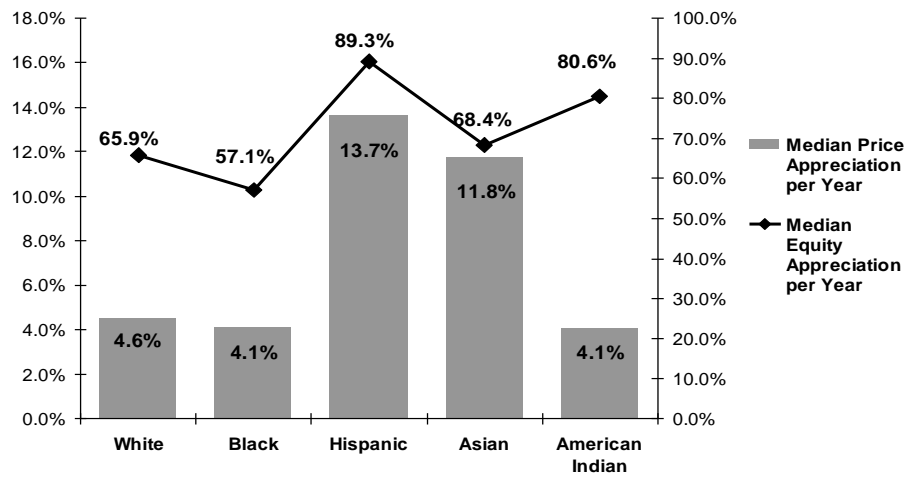
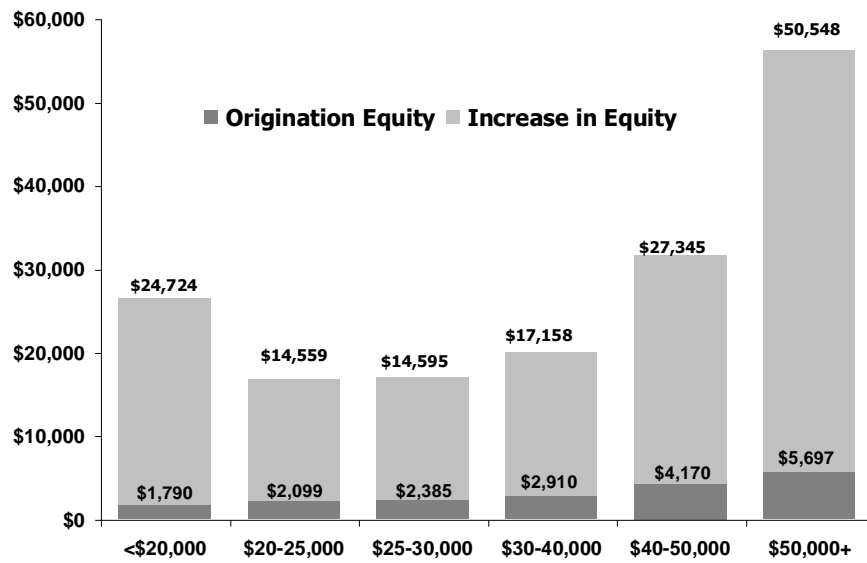


Figure 7: Median Annual Price & Equity Appreciation Rates, by Race & Ethnicity, 1998-2003



**Figure 8: Origination Equity and Current Equity by Income, CAP
Loans Originated 1998-2002**



**Table 1: Community Advantage Loans Originated 1998 Through 2002
Compared with Conforming Loans Bought by Fannie Mae and
Freddie Mac in 2000**

	Self-Help	Fannie Mae	Freddie Mac
Race/Ethnicity			
White	51.9%	81.5%	84.3%
Black	19.9%	4.0%	3.9%
Hispanic	20.7%	7.2%	5.9%
Other	7.5%	7.3%	5.9%
Income			
60% AMI [†] or lower	50.9%	11.6%	12.2%
61-100% AMI	45.7%	28.2%	28.8%
Over 100% AMI	3.4%	60.2%	59.0%
Single Women	26.9%	17.8%	17.8%
Age			
Less than 30 years old	38.9%	15.4%	14.0%
30-39 years old	32.1%	29.7%	25.9%
40 years or older	29.0%	41.2%	34.7%
Credit Scores			
No score	4.6%	NA	NA
<=620	16.1%	NA	NA
621-660	19.4%	NA	NA
661-720	28.1%	NA	NA
720+	25.4%	NA	NA
Missing	6.3%	NA	NA

Fannie Mae and Freddie Mac data are for purchases in 2000.

Source: Self-Help Community Advantage, HUD Housing Finance Working Paper, HF-015, May 2002, and authors' calculations

[†] AMI is Area Median Income, i.e. median income of the MSA or State for non-MSA areas

Table 2: House Price Appreciation, 1998-2002 by Year of Origination, CAP Loans as of September 2003

	N	Change in Value (\$)	Change in Value (%)	Annual Appreciation Rate	% with Negative Value Change
All	19,163	16,433	19.7	5.43	1.65%
1998	3,218	20,198	25.3	4.29	0.71%
1999	3,112	18,660	22.4	4.81	1.00%
2000	4,610	12,666	15.7	4.50	1.30%
2001	5,388	17,079	19.4	7.62	1.50%
2002	2,835	14,204	13.7	9.27	4.27%

Source: Self-Help, Fannie Mae, authors' calculations

Reported values are medians, except in the last column. The Annual Appreciation Rate is compounded monthly.

Table 3: House Price Appreciation Rates Compared to Dow-Jones and CD Rates by Origination Year, CAP Loans as of September 2003

	Below Dow-Jones		Below CD Rates	
	N	%	N	%
All	994	5.2	5,051	26.4
1998	397	12.3	1,570	48.8
1999	11	0.4	1,252	40.2
2000	10	0.2	1,474	32.0
2001	91	1.7	472	8.8
2002	485	17.1	283	10.0

Source: Self-Help, authors' calculations

For each CA property, the appreciation rate is compared to (1) the appreciation in the Dow-Jones Index between the month of origination and Sept 30, 2003 and

(2) the value of a 6-month CD purchased in the month of origination and rolled over every 6 months through Sept 2003.

**Table 4: House Price Appreciation, 1998-2002 for Selected States--
CAP Loans as of September 2003**

	N	Change in Value (\$)	Change in Value (%)	Annual Appreciation Rate	% with Negative Value Change
All	19,163	16,433	19.7	5.43	1.6%
MD	290	58,438	40.7	18.16	0.3%
CA	3,469	83,981	59.6	16.70	0.1%
FL	570	26,079	30.4	13.16	1.4%
VA	796	34,928	36.9	11.23	0.5%
IL	497	29,943	28.4	8.50	0.2%
AZ	468	13,557	15.4	6.65	2.6%
NV	242	21,902	21.0	7.42	2.1%
TX	522	12,895	16.5	5.70	5.2%
MI	321	13,693	17.0	5.52	0.3%
OK	762	9,958	13.8	5.10	0.9%
GA	699	15,556	15.8	4.99	1.9%
TN	306	9,086	12.8	4.38	3.6%
OH	727	7,688	11.0	4.19	3.2%
MS	575	8,920	13.2	3.94	0.2%
NC	6,476	11,554	14.2	3.38	2.5%
SC	1,003	10,269	13.7	3.29	1.7%
Other States	1,440	16,268	18.9	6.65	1.3%

Source: Self-Help, Fannie Mae, authors' calculations

Reported values are medians, except in the last column. The Annual

Appreciation Rate is compounded monthly.

States are in descending order of price appreciation rate.

Table 5: Equity Appreciation, 1998-2002 by Year of Origination and Selected States, CAP Loans as of September 2003

	N	Current Housing Wealth (\$)	Change in Housing Wealth (\$)	Annual Appreciation Rate* (%)	% with Negative Equity Change
All	11,971	22,890	17,492	69.1	1.2%
MD	130	62,763	56,733	188.4	0.0%
CA	2030	96,530	83,889	85.4	0.0%
FL	316	34,689	27,640	95.9	1.6%
VA	449	35,764	31,579	92.8	0.7%
IL	268	37,277	33,241	85.3	0.4%
AZ	310	18,592	15,283	92.6	2.9%
NV	153	30,577	22,209	61.1	2.0%
TX	255	19,833	13,827	73.2	2.0%
MI	154	13,854	11,066	106.0	0.0%
OK	664	9,874	11,498	129.6	0.6%
GA	323	19,922	16,588	74.7	0.6%
TN	258	13,136	10,638	62.0	3.1%
OH	493	9,159	7,234	106.6	2.8%
MS	513	12,861	10,477	60.3	0.2%
NC	4,190	18,365	14,172	47.5	1.6%
SC	607	15,715	12,901	47.0	0.7%
Other States	858	17,883	14,839	82.2	1.2%

Source: Self-Help, Fannie Mae, authors' calculations

Reported values are medians, except in the last column. The Annual

Appreciation Rate is compounded monthly.

* For loans with an LTV of 100 or greater, a \$500 down payment was assumed.

States are in descending order of equity appreciation rate.

Table 6: House Price & Equity Appreciation, 1998-2002 by Urban and Rural Location, Credit Score and Delinquency History, CAP Loans as of September 2003

	Price Appreciation			Equity Appreciation		
	N	Annual Price Appreciation Rate	% with Negative Value Change	N	Annual Equity Appreciation Rate*	% with Negative Equity Change
Urban	11,430	6.34	1.8%	6,604	67.2	1.3%
Rural	6,106	4.16	1.5%	4,075	66.3	0.9%
Credit Score						
Missing Credit Score	1,212	4.87	3.7%	802	88.6	3.3%
No Credit Score	885	9.61	1.7%	647	87.5	1.4%
<=620	3,082	5.05	1.5%	2,331	63.8	1.0%
621-660	3,725	5.54	1.5%	2,456	67.6	1.0%
661-720	5,383	5.61	1.3%	3,153	70.7	0.8%
>720	4,876	5.10	1.6%	2,503	65.6	0.1%
Worst Delinquency						
Never Delinquent	15,810	5.32	1.4%	10,410	69.6	1.0%
30 Days Delinquent	820	4.96	1.5%	601	73.8	1.2%
60 Days Delinquent	234	4.77	0.0%	187	67.2	0.0%
90 Days Delinquent	773	4.03	3.8%	694	69.6	3.4%

Source: Self-Help, Fannie Mae, authors' calculations

Reported rates are medians. The appreciation rates are compounded monthly.

* For loans with an LTV of 100 or greater, a \$500 down payment was assumed.

Table 7: Median Equity Change to Income Ratio by Raw Income, CAP Loans as of September 2003

Income	N	Equity Change to Income Ratio
Less than \$20,000	1,704	1.38
\$20,000-24,999	2,157	0.65
\$25,000-29,999	2,425	0.53
\$30,000-39,999	3,677	0.50
\$40,000-49,999	1,298	0.61
\$50,000 or more	675	0.87

Table 8: Equity Change to Income Ratio by Raw Income, CAP Loans as of September 2003 Excluding California Loans

Income	N	Equity Change to Income Ratio
Less than \$20,000	1,504	1.09
\$20,000-24,999	1,952	0.59
\$25,000-29,999	2,178	0.49
\$30,000-39,999	2,990	0.41
\$40,000-49,999	918	0.36
\$50,000 or more	370	0.37

Table 9: House Price Appreciation, 1998-2002 by Prepayment and Foreclosure Status, CAP Loans as of September 2003

	N	Annual Appreciation Rate	% with Negative Value Change
Active Loans	12,210	5.38	1.9%
Prepaid Loans	6,604	5.72	0.9%
Foreclosed Loans	144	3.98	7.6%
Returned	295	3.88	2.7%

Source: Self-Help, Fannie Mae, authors' calculations. Reported values are medians, except in the last column. The Annual Appreciation Rate is compounded monthly.

ⁱ Fannie Mae's Flexible 100 mortgage allows for no down payment but does require a contribution of 3 percent to the closing costs.

ⁱⁱ In 2002, nationwide, foreclosure rates were 1.15 percent for all loan types. They ranged from a low of 0.51 percent for conventional loans to a high of 2.46 percent for FHA insured loans (National Association of Realtors 2003).

ⁱⁱⁱ To estimate changes in the Dow Jones Index, we took the Dow value on January 1, 1998, and September 30, 2003, and calculated the appreciation rate (on an annual basis, compounded monthly). The CD annualized rate of return from January 1998 through September 2003 assumes a 6-month CD purchase in January 1998 and rolled over every six months at the national average CD rate in that month (CD rates downloaded from <http://mortgage-x.com/general/indexes/default.asp>).

^{iv} Data used in the AVM includes repeat sales information, public tax records, and property characteristics. Currently, AVM employs four different underlying models,

a reconciliation model to come up with the best value estimate in case of multiple model predictions where valuations vary, and a confidence score model to rank-order prediction accuracy at the property level. Because of substantially higher mean and median rate and variance of price appreciation for the least reliable confidence category, we chose to omit those loans from our analysis. AVM is examined annually by Fannie Mae's regulator, the Office of Federal Housing Enterprise Oversight (OFHEO), which has consistently awarded high grades in regulatory audits.

^v Because of time and resource constraints, we were unable to run the AVM separately for each prepaid loan marking to market all house values on their respective loan termination dates.