

SHARED EQUITY HOMEOWNERSHIP EVALUATION: CASE STUDY OF THE SAN FRANCISCO CITYWIDE INCLUSIONARY AFFORDABLE HOUSING PROGRAM

Final Report

October 2010

Prepared by:



The Urban Institute

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I. Introduction

This case study analyzes outcomes for the San Francisco Citywide Inclusionary Affordable Housing Program. Under this inclusionary zoning program, developers must sell or rent 15 to 20 percent of units in new residential developments at a “below-market-rate” price that is affordable to low- or middle-income households. The program, begun in 1992, currently generates approximately 100 resale-restricted, owner-occupied homes a year and currently administers a total homeownership portfolio of over 800 units. Using client-level data provided by the City of San Francisco, we present in this case study analyses that address three research topics:

1. **Affordability:** Is the program effective in creating and preserving affordability for low- and/or moderate-income homebuyers?
2. **Personal Wealth:** Is the program effective in building wealth for individual households, providing opportunities for financial gains that are unavailable to renters?
3. **Security of Tenure:** Is the program effective in maintaining high levels of owner-occupancy for its participants?

We first describe, in the following section, the Citywide Inclusionary Affordable Housing Program, including the methods it uses to calculate the price for which the program’s homes resell and the amount of appreciation that can be realized by homeowners when reselling these homes.

II. Program Description

The Mayor’s Office of Housing (MOH) for the City of San Francisco administers the Citywide Inclusionary Affordable Housing Program. As codified into law in 2006, the Inclusionary Affordable Housing Program Ordinance requires private developers of residential projects of five units or more to sell fifteen percent of the project’s units to income-eligible households for a below-market “affordable” price. Should the developer opt to construct these affordable units off-site, the requirement jumps to twenty percent. Alternatively, developers can opt to pay MOH an in-lieu-of fee equivalent to 20 percent of the total units instead of constructing any inclusionary units; the MOH uses these funds to create additional resale-restricted housing.

The Mayor’s Office of Housing is charged with the following duties in administering the city’s inclusionary housing program:

- MOH works with developers to find income-eligible buyers for the resale-restricted units that are produced under the ordinance. MOH markets the units, monitors lotteries for the selection of buyers, prepares closing documents, and executes the deed covenant that imposes long-term restrictions on the use and resale of all below market rate (BMR) units—i.e. those with resale restrictions.
- MOH works with developers to determine in-lieu-of-construction fee obligations, when developers choose this option.

- MOH monitors and enforces the restrictions contained in the deed covenant, including overseeing the resale BMR units.
- MOH, in conjunction with other City departments, monitors compliance of BMR units in the Citywide Inclusionary Affordable Housing Program.

The City's program is staffed by 2.5 employees: one full-time program manager who works with developers and sales teams to sell and monitor resale restricted units; one full-time staff member who manages all application approvals, lender documents, down payment assistance grants for buyers, and all closings; and one half-time staff person who manages all refinances. This team also has the temporary use of another member of the MOH staff to assist with the annual process of monitoring the program's performance.

At the onset of a project, each proposed residential development goes through the planning approval process to determine the project's affordable housing requirement. The Program oversees the sale of approximately 100 resale-restricted, owner-occupied homes each year. It had built a total portfolio of approximately 800 ownership units by January 2010. Only first-time homebuyers are eligible for the program. Buyers typically have incomes at or below 100 percent of HUD's area median income for the San Francisco MSA.¹ In all cases the Program restricts appreciation through a note in the deed of trust. In addition, the Program records a notice of special restrictions on the building indicating that a share of the units is affordable.

Units in developments that were first sold before June 28, 2007 are priced on resale using one of two formulas. One formula uses the change in the consumer price index (CPI) between the time of the initial purchase and resale to establish a unit's resale price. Under this method, for example, assuming the CPI increased by 10 percent between a unit's initial purchase and later resale, then the resale price for the unit would be 10 percent higher than the initial price (not including additional increases due to capital improvements or realtor fees). Whether a buyer's resale formula follows this CPI or the subsequent mortgage-based method depends on what method was initially specified by the City's planning commission in the approvals for each building, and is not in the control of the inclusionary zoning program. Relatively fewer of the Program's current homes (roughly one in eight) will be priced using this resale formula.

The second method for pricing resale restricted homes sold before June 28, 2007 is a mortgage-based formula—roughly 40 percent of current BMR homes will be priced using this formula. It establishes a resale price by first assuming that a buyer would place 10 percent down and finance the balance of the purchase with a 30-year, fixed-rate mortgage with an interest rate that is 2.5 percentage points greater than the current 11th District Cost of Funds Index (COFI) published by the Federal Home Loan Bank of San Francisco.² This annual

¹ The inclusionary zoning program allows purchases by buyers with incomes up to 120 percent of the area median, but buyers in all units introduced since 2002 must have incomes that average no more than 100 percent of the area median income.

² The COFI is not a direct measure of market interest rates. Compiled from reporting banks, it is the ratio of interest expenses to total funds, where interest expenses include all the interest for all deposit accounts, advances, and other borrowings. Movement in the COFI is determined by several factors: changes in market interest rates, the sources of funds used by the COFI reporting banks, mergers and acquisitions, and accounting or reporting changes. According to the San Francisco, Federal Home Loan Bank, the COFI has not risen or fallen as rapidly as market interest rates

mortgage payment is then added to the annual cost of taxes, insurance, and any condominium or association fees that a homeowner would be required to pay. The resale price is equal to what a four-person household with an annual income of 100 percent of the area median could afford to pay, when covering all of the costs calculated above, without paying more than 33 percent of the household's annual income.

As an example, assume that a unit will be sold to a family of four, and the area median income for a family of four is \$97,750 (resulting in a gross monthly income of \$8,146), the COFI is 2.5 percent, and that total monthly taxes and homeownership fees for a unit will be \$750. This household is expected to pay one-third of their monthly income towards housing, totaling \$2,688. This monthly payment would service a 30-year, fixed rate mortgage at 5.0 percent, (assuming \$750 paid for fees and taxes), of \$361,038. Assuming that the purchaser places 10 percent down, the unit would be priced at \$401,153.

The downside of this latter formula is that it exposes the reseller to interest rate risk. Any increase in mortgage interest rates between the time of initial purchase and the time of eventual resale will result in a lower resale price for the homeowner. This mortgage-based formula also exhibits more year-to-year volatility in the calculation of resale prices, compared to the indexed formula based on the CPI because of greater fluctuations in the COFI. As shown in the following table, year-to-year changes in the CPI ranged from 1.2 percent in 2002 to 4.2 percent in 2006. Conversely, year-to-year changes in the COFI ranged from a 19 percent increase in 2002 to a 15 percent decline in 2006.

The Mayor's Office of Housing adopted a new resale formula for the city's inclusionary housing program in 2007. The resale of owner-occupied homes brought into the program after June 28, 2007 are priced on the basis of changes to the area median income for a 4-person household, published by HUD for the San Francisco MSA. This method eliminates the interest rate risk exposure that the reseller faced under the COFI method. Owners who priced homes under one of the two previous formulas may elect to price their home under this formula when they sell should it provide greater appreciation.

because some COFI reporting banks rely on fixed rate deposits with medium- and long-term maturities as a primary source of funds. The rates on these deposits are not affected by changing market interest rates until the deposit matures, so the total interest expense paid by savings institutions in a particular month will partially reflect previous interest rates. See <http://www.fhlbsf.com/cofi/faq.asp> for more information.

Table 1: Comparison of Indexes Used by MOH in Calculating Resale Prices

Year	Index		
	CPI	COFI	Change in AMI*
2002	1.20%	19%	7.50%
2003	2.10%	14%	6.30%
2004	3.10%	2%	3.80%
2005	2.80%	-12%	0.00%
2006	4.20%	-15%	-4.00%
2007	2.70%	-3%	-5.20%
2008	4.20%	29%	9.00%
2009	-1.50%	17%	2.70%

Sources: San Francisco Citywide Inclusionary Affordable Housing Program information and COFI 11th District <http://www.fhlbsf.com/cofi/default.asp>

* Note: Change in AMI repricing method only available to buyers since June 28, 2007.

A homeowner in San Francisco's inclusionary housing program is given a credit for eligible capital improvements, which can add up to a maximum of 7 percent of the home's initial purchase price to the resale price. The unit must be at least 10 years old for the owner to qualify for any capital improvement credit. Substantial improvements or repairs are fully reimbursed (up to the 7 percent cap) and include upgrades to a major system, additions constructed outside the unit, and improvements that increase the health, safety and energy efficiency of the home. Other replacements and repairs are reimbursed at a 50 percent rate if they appear on MOH's list of "eligible improvements," including the replacement of existing amenities and general maintenance that keeps the property in good working condition. Ineligible repairs, which do not earn a capital improvements credit, are those that are cosmetic or installations with a limited useful lifespan. Special assessments levied by Homeowner Associations may be added onto the resale price at any time at any level.

The Program's units are resold in a private seller-to-buyer transaction, and are not purchased and resold by the Mayor's Office of Housing. Under all three resale formulas, 5 percent is added to the resale price to pay realtor commissions; this charge is not taken out of a seller's proceeds. MOH oversees this transfer to ensure that the home resells for the "affordable" formula-determined price to an income eligible household.

Since 2006, purchasers of the program's resale-restricted homes have been required to use only fixed-rate, fully amortizing mortgages with terms of either 15, 30, or 40 years. The Citywide Inclusionary Affordable Housing Program does not assist buyers or sellers with closing costs, but the City does offer down payment assistance loans to buyers. These loans are structured as a shared appreciation, deferred-payment second mortgage. The principal is repaid to the City of

San Francisco at resale, along with a percentage of the property's appreciation that equals the proportion of the property's original purchase price that was covered by the second mortgage.

The program's homebuyers, since January 2008, have been required to receive first-time homebuyer counseling. Applicants may use their first-time homebuyer certificate to apply for any of the Mayor's Office of Housing first-time homebuyer programs. One adult titleholder in each household must attend a six to eight hour class sponsored by one of the following MOH-approved groups: Asian, Inc., Consumer Credit Counseling Service of San Francisco, Mission Economic Development Agency, SF Urban CHC, or the San Francisco Housing Development Corporation.

MOH does not offer post-purchase counseling, either as an internal function or as an external requirement. The program does not offer specific resale counseling but the program manager spends time as needed with sellers and their realtors to complete the resale process. The program offers regular trainings for mortgage lenders and requires all loan officers who work with the program's homeowners to attend annually.

III. Summary of San Francisco's Citywide Inclusionary Affordable Housing Program Sales and Homebuyers

Our analysis of the Program's performance, addressing each of the four research topics of affordability, personal wealth, security of tenure, and mobility, was based on client-level information provided by the program's representative. We focused on 771 sales and resales that took place between 1992 and 2009. We have some information on all initial sales and all resales after 2002. However, prior to 2002, the San Francisco Program only has information for a portion of resales. Further, the MOH was only able to provide mortgage information on 131 of the sales and resales.

The median price that was paid by households for the program's homes was \$289,409, calculated in constant 2008 dollars (Table 2). According to the program's website, these homes are priced to be affordable for families with an income no more than 100 percent of area median.³

The ability to purchase homes at prices well below-market prices (the median sales price for a resale restricted home was 53 percent of the median appraised value for these homes) provided homeownership opportunities to lower income households, all first-time homebuyers, who had a median household income (in 2008 \$) of \$59,709. As detailed in our affordability analyses, this is 63.3 percent of the San Francisco's 2008 median family income of \$94,300.⁴

³ http://www.sfgov.org/site/moh_page.asp?id=48083. Last accessed April 7, 2010.

⁴ San Francisco is San Francisco County, California. See the HUD-defined median family income here: http://www.huduser.org/portal/datasets/il/il08/ca_fy2008.pdf. This number differs from the median household income in San Francisco, California of \$73,127. These data from the Economic Research Service are derived from Bureau of Labor Statistics Local Area Unemployment Statistics data. See: <http://www.ers.usda.gov/Data/Unemployment/>.

Table 2: Selected Characteristics of MOH Resale Restricted Homes and Homebuyers

Number of units reported as of 12/31/2009	721
Number of resales reported: 1992-2009	50
Median sales price paid by homeowner (in 2008 \$)	\$289,409
Median appraised value of homes at sale (in 2008 \$)	\$542,783
Median difference between appraised value and sales price (in 2008 \$)	\$268,445
Median down payment and closing costs paid by purchaser (in 2008 \$)	\$40,533
Median household income of purchasers (in 2008 \$)	\$59,709
Share of buyers who are first-time homebuyers (program requirement)	100 percent

Source: Authors' analysis of BMR client-level data

IV. Findings

In this section we present analyses that address each of the three research topics: affordability, personal wealth, and security of tenure.⁵

1. Affordability

A primary purpose of any shared equity or resale restriction program is to provide homeownership opportunities to lower income families that continue to be affordable across multiple resales. Meeting this objective is more challenging in a market like San Francisco's where house prices have rapidly appreciated. Overall, as measured by the Federal Housing Finance Agency's (FHFA) house price index, home prices increased by about 122 percent between the first quarter of 1992 and the fourth quarter of 2009 in the San Francisco metropolitan area. The median price in San Francisco for detached homes in 2008 was \$824,300. Applying FHFA's index to this price, we estimate that median prices (in nominal dollars) for detached homes increased from about \$327,500 in the first quarter of 2000 to its current level of about \$777,000.⁶

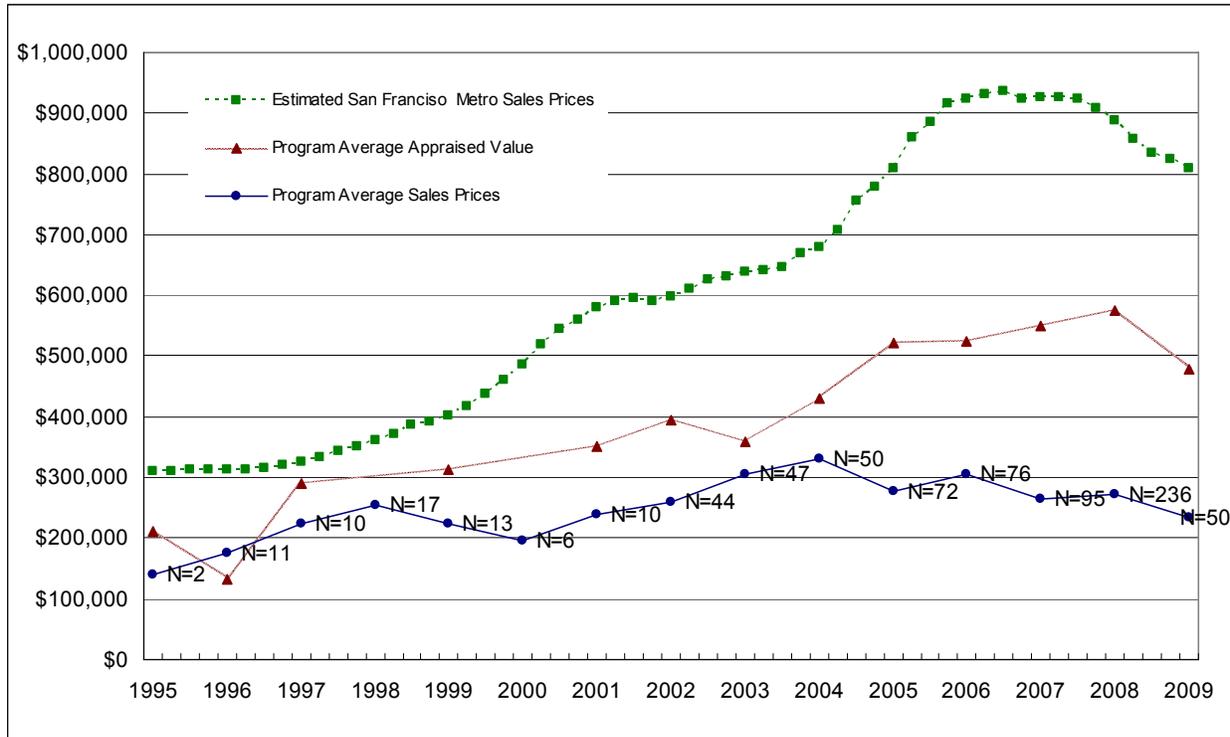
The Mayor's Office of Housing provided appraisal information for Program sales that took place between 1995 and 2009. During this period, the median price the Program's homes remained substantially below the median price for all homes in the San Francisco area. The appraised

⁵ We cannot analyze mobility findings for this site due to data limitations. We can say, however, that median length of tenure among movers we could analyze was 4.2 years.

⁶ Data taken from the 2008 American Community Survey.

value for the Program's homes were, for most years, about 60 percent of the median price for all homes sold in the San Francisco area (Figure 1).

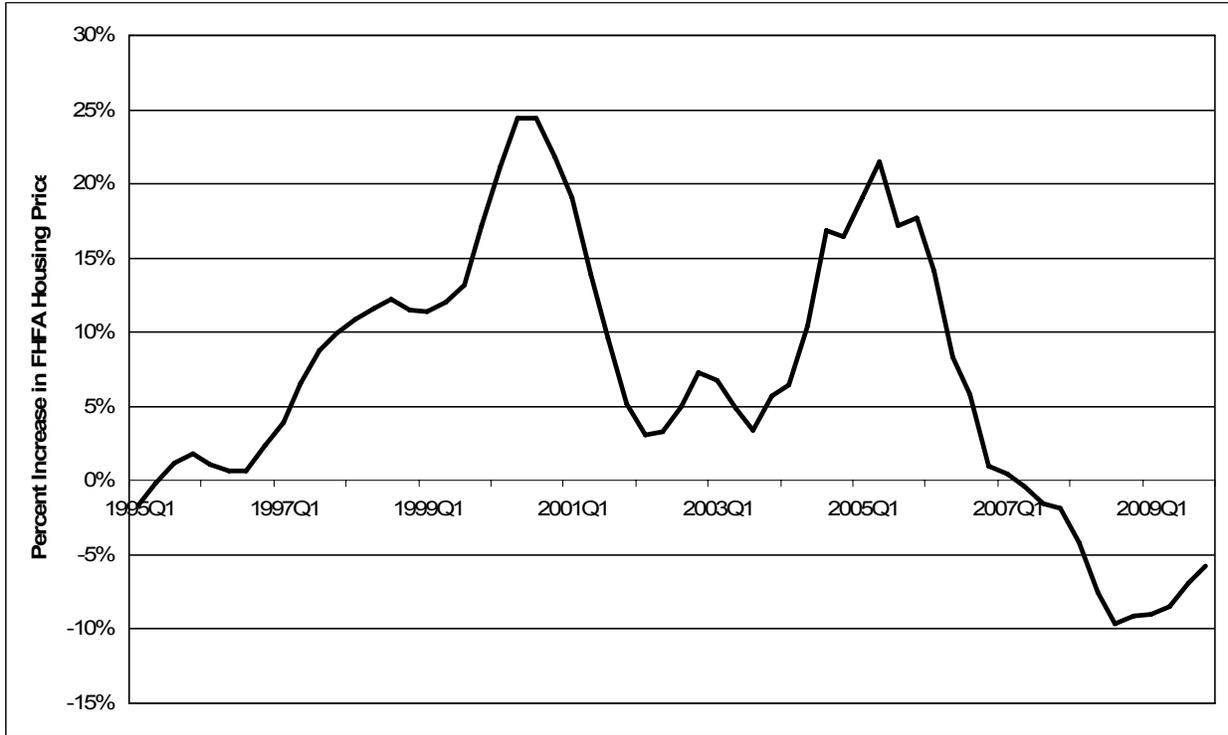
Figure 1: Estimated Median House Prices and Appraised Values in BMR and the San Francisco Metropolitan Area: Homes Sold from 1995 through 2009



Sources: FHFA House Price Index, American Communities Survey, and authors' analysis of San Francisco client-level data.

Annual price increases for market-rate homes in the San Francisco metropolitan area have fluctuated wildly over the past 15 years. There was virtually no price appreciation from 1995 through 1997. Housing prices then appreciated at annual rate of nearly 25 percent between 1997 and 2000. With the dot com recession, appreciation fell to around 5 percent per year until 2005, when home prices began again to appreciate at a rate 20 percent. With the mortgage meltdown, appreciation decreased rapidly in 2006, turning negative in 2007. Prices have continued to fall since then. (Figure 2)

Figure 2: Year-by-year Percentage Change in House Prices in the San Francisco Metropolitan Area: Homes Sold from 1995 through 2009

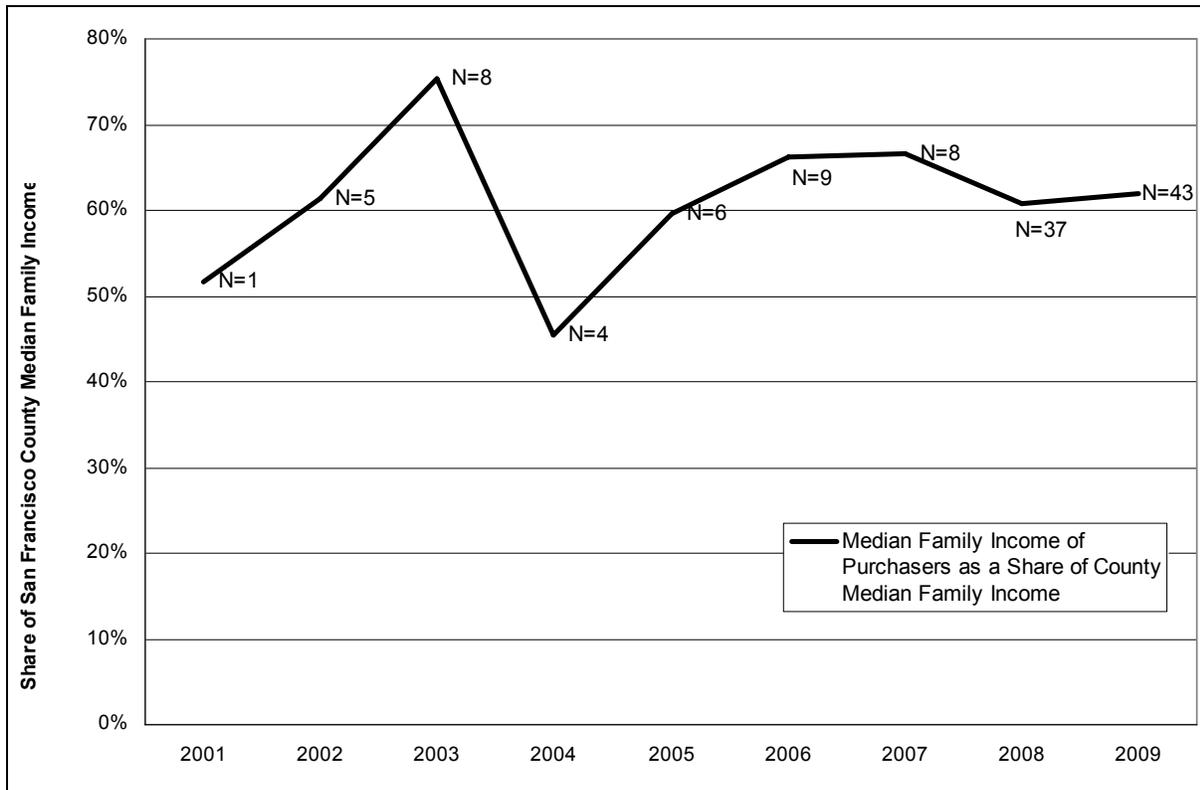


Sources: FHFA House Price Index

Like the surrounding San Francisco area, the Citywide Program homes saw considerable price appreciation during this time; all three of the indexes used in calculating resale prices trended upwards. Nevertheless, the program still was able to sell and to resell homes for prices that lower-income buyers could afford. The real median household income of the Program’s homebuyers was 63.3 percent of San Francisco County’s HUD-defined median family income for a family of four in 2008.⁷ This percentage fluctuated between 45 and 75 of area median income for a family of four from 2001 to 2009 (see Figure 3).

⁷ This statistic reflects information for 125 home buyers; income information is missing for 646 households.

Figure 3: Median HH Income of Homebuyers in San Francisco’s Citywide Inclusionary Affordable Housing Program Relative to Median Family Income for All Homebuyers in San Francisco County, 2001–2009



Source: Authors’ analysis of San Francisco client-level data.

One of the major objectives of a shared equity homeownership program like San Francisco’s is to ensure that the price of any homes that are resold will remain permanently affordable for successive generations of lower income homebuyers. The key question is whether or not the home remains affordable to the next buyer. There are many ways to measure the continuing affordability of renter-occupied or owner-occupied housing, although every method begins with the basic assumption that “housing affordability is a measure of housing costs relative to income.”⁸ Previous analyses of changes to the affordability of shared equity homes have used the minimum income required to purchase a home as the indicator of the housing *cost* and the area’s median family income (MFI), published by HUD.⁹ To the extent that the ratio of the minimum income required to purchase a home relative to the MFI is the same, when a home is initially purchased and when that home is resold, the unit is considered to have maintained its affordability. (We refer to this method as the MFI method.)

This MFI method measures, at two separate points in time, the required minimum income to

⁸Goodman, Jack. 2001. *Housing Affordability in the United States: Trends, Interpretations, and Outlook*. A Report Prepared for the Millennial Housing Commission, page 3.

⁹ See, for example, Davis, John Emmeus and Alice Stoke. 2009. *Lands in Trust, Homes That Last: A Performance Evaluation of the Champlain Housing Trust*. Burlington VT: Champlain Housing Trust.

purchase a given home relative to the MFI. A problem with this methodology is that it does not measure changes to a particular household's income over time; rather, it assumes the incomes of the target population for whom shared equity homes are being kept affordable and to whom these homes are being resold increase at the same rate as the MFI. But, as discussed earlier, the incomes of the families purchasing homes under this program are well below the area median family income; and the minimum income required to purchase a shared equity home is often lower than the purchasers' actual income. Given uneven income growth for families earning less than the median, using the MFI to calculate affordability may overstate the extent to which homes remain affordable to lower income families because the growth in MFI reflects changes to the types of households living in the area at the two different points in time (initial sale and resale) as well as changes to incomes for households that are present at both time periods.¹⁰

Despite these drawbacks, the MFI method has two distinct advantages: its sensitivity to local area differences in incomes and family size; and its widespread use by policy analysts in evaluating major housing assistance programs funded by HUD, where eligibility is set by household income relative to median incomes in the local area.¹¹ As a result, we analyzed changes to the affordability of resold units, comparing changes in required income *relative* to MFI.

Recognizing the issues associated with the MFI method, we first calculated the *absolute* changes in required real minimum income to purchase a home at resale. This measure establishes the required income growth for a given household to purchase a home at resale, and so identifies the extent to which *the same* household earning the required minimum income at a given point in time can afford a unit when it is resold. Consequently, it is not dependent on an area's changes in income distribution or household structure; rather, it provides information about the income growth required for a particular cohort of households to be able to afford a home at resale.

Starting with the absolute measure, we calculated the real income required for the initial purchase and subsequent resale of the shared equity homes, assuming that the buyer would finance the purchase with a 30-year, fixed rate mortgage that had an interest rate that was the median interest rate for all buyers. In addition, we assumed that the buyer paid a down payment that was equal to the median down payment share of all homes sold under the program, and further assumed that the buyer would spend no more than 33 percent for his/her income for housing (which included the mortgage payment and any property taxes or co-op fees reported by the program).

Based on the length of time between the two sales, we calculated the average annual increase in the required minimum income. For example, assume that a home requires a minimum income

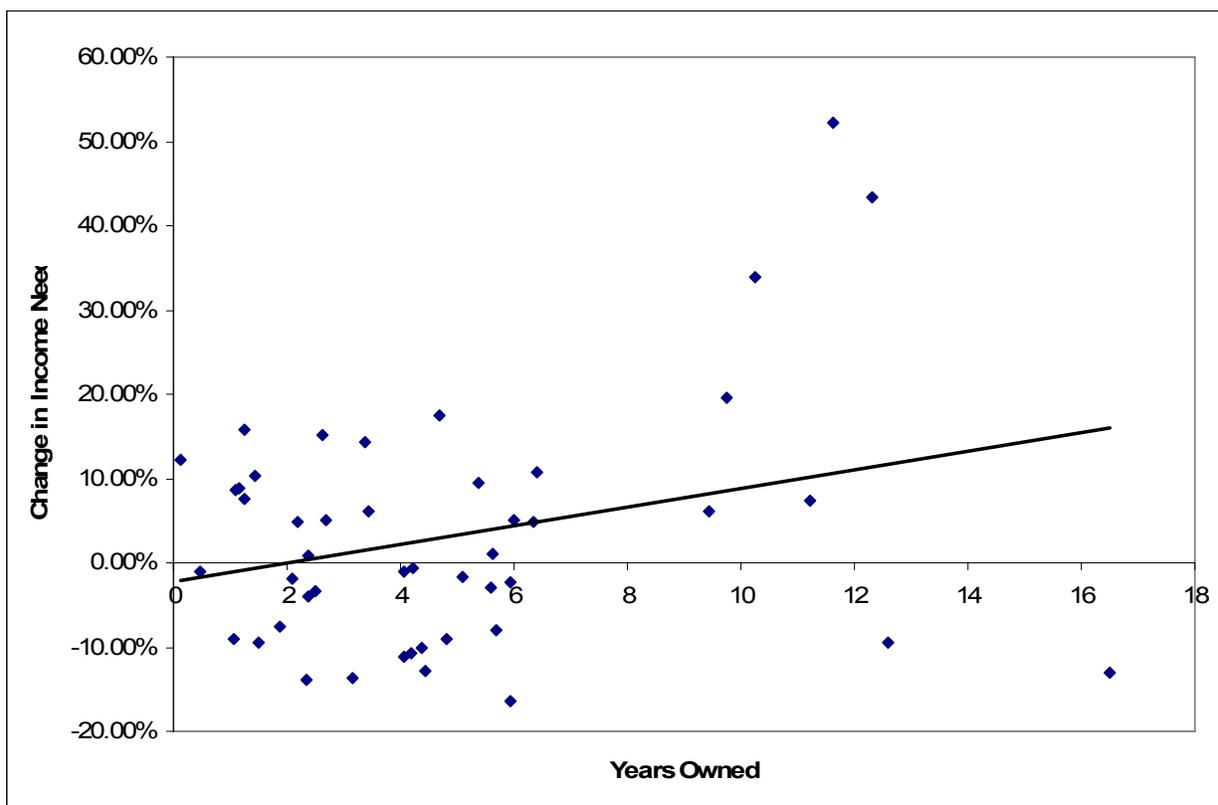
¹⁰ See, for example, Gangl, Markus. 2008. "A Longitudinal Perspective on Income Inequality in the United States and Europe. *Focus*" Vol. 26(1). The author reports, using data from the Panel Study of Income Dynamics, that the income for households within the bottom three income deciles between 1992 and 1997 either remained the same or declined during the five-year period.

¹¹ Goodman, page 17.

(in 2008 \$) of \$20,000 at the initial sale, and, at a resale that takes place 3 years later, requires a minimum income (in 2008 \$) of \$22,000. The real income at resale is 10 percent greater than at the initial sale, which means that the required minimum income increased by an average of 3.3 percent per year. To the extent that real incomes increased by the same amount for households earning \$20,000 at the time of the initial sale, the unit remains affordable to such households. Using this methodology, we calculated that the real required minimum income was virtually the same for units' initial and subsequent resale—increasing by 0.3 percent per year. Given this relatively modest change, nearly three-quarters of resold units required a minimum income that was, in real terms, no more than 10 percent larger than the initial sale.

In addition, we ran a regression in which the percentage change in required minimum income was the dependent variable and length of tenure was the explanatory variable. The parameter estimate from this regression indicates the percentage change in the minimum income (in real \$), by year, that is required to purchase the home. Our analysis revealed a slight relationship between the extent to which the affordability of a resold home declined and the length of time that the initial purchaser lived in the home. We found an increase in tenure of one year is associated with a 1.0 percentage point increase in income needed to purchase a resale restricted home. This increase was statistically significant at the 0.1 level.

Figure 4: Changes in Income Needed vs. Years Owned

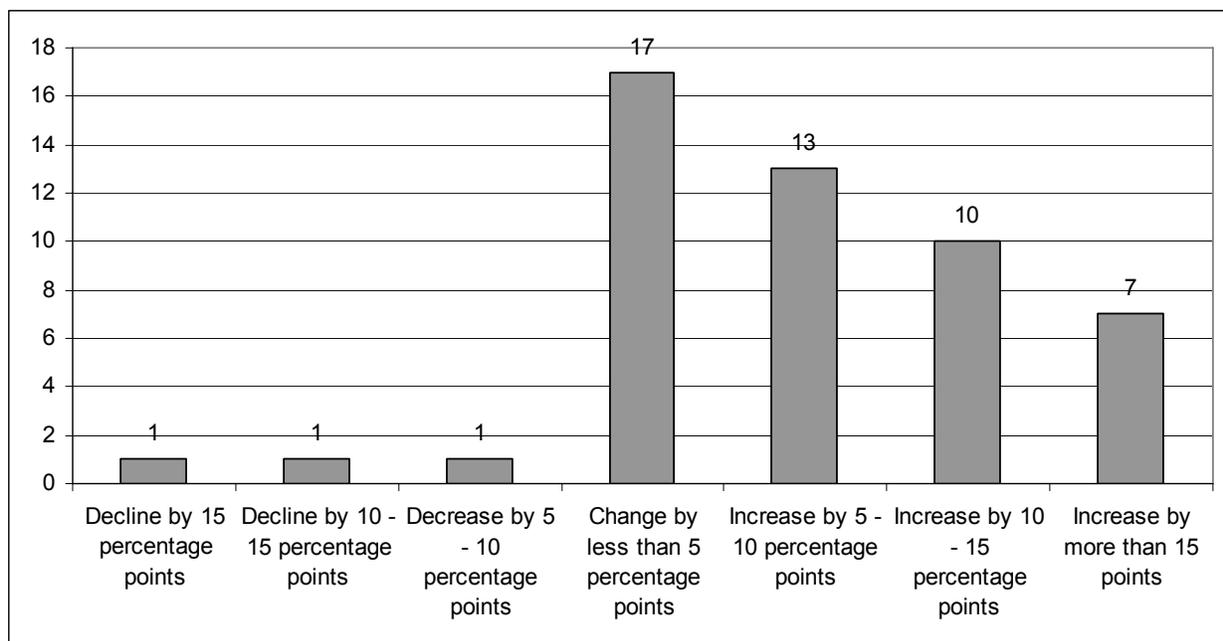


Source: Authors' analysis of San Francisco client-level data.

Note: An increase in tenure of one year is associated with a 1.0 percentage point increase in income needed. This is significant at the 0.1 level.

Turning to the relative measure, the median minimum income required to purchase a San Francisco home that was subsequently resold was 85.6 percent of the area MFI. These homes, when resold, required a median minimum income that was 92.9 percent of area MFI. The median difference between these two ratios for all of the units resold by San Francisco was 6.7 percentage points, which indicates a relatively large (when compared to other programs included in this study) decline in affordability. As shown in the following figure, about 60 percent of resales had the required minimum income, as a share of area MFI, increase by more than 5 percentage points. This finding is a function of the fact that a large share of reported resales took place between 2004 and 2006, when the area MFI declined. We believe, however, that San Francisco’s findings of changes to required absolute income more accurately reflect changes to the affordability of units sold by the program because the analysis is not overly influenced by changes to a relatively small number of years’ MFIs.

Figure 5: Percentage Point Change in Income (as a share of Median Family Income) Needed for San Francisco Homes, Initial Purchase vs. Later Resale



Source: Authors’ analysis of San Francisco client-level data.

Note: We assume that one-third of income is paid in principal, interest, taxes, insurance, and ground lease fee, with a 6% 30-year fixed-rate mortgage and a 3 percent down payment

2. Personal Wealth

Shared equity homeownership programs attempt to balance the competing goals of providing buyers with an ability to accumulate wealth while also maintaining the affordability of the units for subsequent purchasers. As detailed in the previous section, San Francisco’s Citywide

Inclusionary Affordable Housing Program works to preserve the affordability of its units, even in a housing market that had a steady rate of price appreciation in the last decade. By allowing sellers to resell homes according to one of three indexed formulas, the Program's resellers earned a median internal rate of return of 11.3 percent on their initial investment of about \$40,533, including both the homeowner's down payment and closing costs.¹²

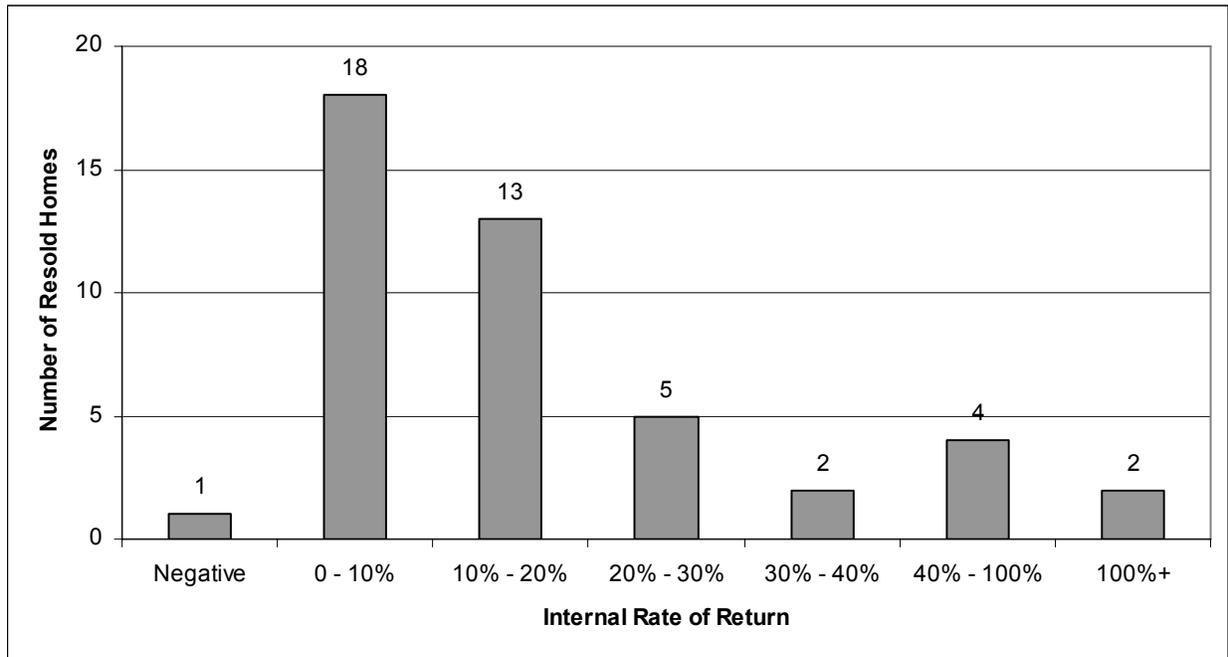
The median rate of return realized by Program home resellers exceeded the returns that those resellers would have earned if they had rented a unit¹³ and invested their down payment in stocks (3.2 percent median return if BMR resellers invested their down payment amount in an S&P 500 index fund). Their returns also exceed a comparable investment in 10-year Treasury bonds, which had a median yield at the time that the resellers initially purchased their home of 4.4 percent.¹⁴ Not all BMR owners saw such high rates of return, though; 2.2 percent of Program resellers saw negative effective appreciation, an additional 20.0 percent earned no more than \$5 of appreciation, and only 66.7 percent of BMR homeowners with an IRR calculated saw a higher return than they would have realized with either the S&P 500 or Treasury yield. On the other hand, one in four of the Program's resellers (24.4 percent) realized internal rates of return of at least twice the median, and 13.3 percent earned rates of return of over 40 percent (see Figure 6). Note that residents with short tenures have greater variability in IRR; because of this, many resellers with very high and very low rates returns actually had fairly low effective appreciation in dollar terms.

¹² IRR is $[(\text{effective appreciation} + \text{his or her down payment}) / \text{his or her down payment}]^{(1/\text{yrs_owned})} - 1$. We define effective appreciation as the lesser of (seller's realized appreciation + capital improvements) and (seller's proceeds at resale + capital improvements + cash-out refinancing - principal paid). This internal rate of return does not include 4 sales in which down payment or appreciation information is missing and 1 sale with \$0 down payment.

¹³ To add simplicity to the analysis, we assume that the rent paid by the owner, if he/she chose to rent the purchased home, would have been the same as the after-tax cost of owning a home. This simplifying assumption may not be correct: the median total monthly payment for all BMR owners, in 2008 dollars is \$2,146.64. The median gross rent in 2008 in San Francisco was \$1,262 (source: 2008 American Community Survey). There are other benefits and costs to homeownership that we have also excluded from our analysis. Benefits include the deduction of house and mortgage interest paid from income tax liabilities, any homebuyer tax credits, and stabilization of housing payments (for those with fixed rate mortgages). Added costs include maintenance costs, realtor fees, and other transfer and transaction costs.

¹⁴ We assume that Program resellers would hold their 10-year Treasury bonds until maturity, and so did not calculate any gains or losses that would have resulted from selling their bonds at the time that the owners sold their BMR homes.

Figure 6: Rates of Return for Resold Homes in BMR



Note: Internal rate of return does not include 5 sales with missing data or \$0 down payment.

Source: Authors' analysis of San Francisco client-level data.

In addition to the appreciation they received as a result of an indexed resale formula being applied to their home's purchase price, resellers received the entire principal amount that they had paid on their first-lien mortgage (including their down payment) and the amount spent for capital improvements. Nine of the 131 homeowners for whom we have mortgage information had second-lien amortizing mortgages, with a median value of \$9,937, interest rate of 6.0 percent, and term of 30 years. These mortgages, arranged through the California Housing Finance Agency, are originated by commercial lenders and defer payments for the life of the loan. Additionally, 15 homeowners had to repay non-amortizing mortgages at resale, which they received as down payment assistance. The median value for these second mortgages was \$41,909. The 7 homeowners who made capital improvements and sold their home were also credited with \$15,437, at the median. As a result, resellers walked away from the closing table with a median of nearly \$70,500 after they resold their home, of which about a quarter was appreciation (see Table 3). Over the life of their loan, the median reseller paid \$45,706 in principal, which includes her down payment and closing costs. Upon resale, the median homeowner earned \$17,321 in appreciation.

Table 3: Summary Characteristics of San Francisco Citywide Inclusionary Affordable Housing Program Purchase Transactions

Median purchase price (in 2008 \$)	\$289,409
Median down payment and closing costs paid by purchaser at closing (in 2008 \$)	\$40,533
Median percent of sales price paid in down payment	13.1 percent
Number of purchasers with first-lien mortgage information	131 homebuyers
Median first-lien mortgage among those with a mortgage (in 2008 \$)	\$227,065
Share of first-lien mortgages with fixed interest rates, among those with this information	83.3 percent (70 of 84 mortgages)
Median initial interest rate on first-lien mortgages	5.9 percent
Share of first-lien mortgages with a term of 30 years, among those with this information	93.0 percent (80 of 86 mortgages)
Share of purchasers who received amortizing second-lien mortgage of those for whom we have mortgage information	6.9 percent (9 of 131 homebuyers)
Median second-lien amortizing mortgage among those with a mortgage (in 2008 \$)	\$9,937
Share of second-lien mortgages with fixed interest rates	100 percent
Median initial interest rate on second-lien mortgages	6.0
Share of second-lien mortgages with a term of 30 years, among those with this information	87.5 percent (7 of 8 mortgages)
Share of purchasers who received a non-amortizing mortgage as down payment assistance of those for whom we have mortgage information	11.5 percent (15 out of 131 homebuyers)
Median non-amortizing mortgage amount for 15 purchasers reported to have received such a mortgage (in 2008 \$)	\$41,909
Number of purchasers who received a down payment assistance grant	35 homebuyers
Median down payment assistance grant, among those who received such a grant (in 2008 \$)	\$35,772
Median principal paid on home by resellers (including down payment and closing costs) (in 2008 \$)	\$45,706
Median forced savings—principal paid on mortgages other than down payment (in 2008 \$)	\$3,951
Median proceeds realized by sellers (in 2008 \$)	\$70,495
Median appreciation realized by sellers (in 2008 \$)	\$17,321
Number of resellers with capital improvements	7 resellers
Median capital improvements among those with information (in 2008 \$)	\$15,437
Median Internal Rate of Return Earned by resellers	11.3 percent

Source: Authors' analysis of San Francisco client-level data.

It is important to note that 36 of the 50 resales reported by the program took place after June 2007, when a unit's resale price could be determined by changes in the area median income. Prior to that, resale prices were set either by an indexed formula based on the CPI or by a mortgage-based formula pegged to what a household at 100 percent of the AMI could afford to buy without spending more than 33 percent of the household's annual income for principal, interest, taxes, insurance (PITI), and any homeowner association fees.

Prior to June 2007, under the mortgage-based formula, the Program's homeowners were exposed to interest rate changes. Even if they had fixed-rate mortgages, the resale price of their homes was linked to changes in the Cost of Funds Index (COFI). The resale price moved inversely with interest rate changes. The COFI increased from 1.9 percent as of December 31, 2003, to 3.3 percent as of the end of 2005, and increased by another 1.1 percentage points to 4.4 percent by the end of 2006. As a result of these increases, 6 of the 14 (42 percent) reported resales that took place between 2004 and 2007 yielded the seller no appreciation. After 2007 (when sellers could elect to use the area median resale formula), only 4 out of 31 (13 percent) of the reported resales had no appreciation. Even those homeowners who earned little appreciation on their original investment did realize a financial benefit at resale from forced savings; that is, they got back their down payment and whatever they had paid off on the principal of original mortgage. Resellers had a median of \$3,951 in forced savings.

The resale price restriction model used by San Francisco provides a subsidy by pricing its homes at about \$250,000 below their appraised value and then passing along that lower price to subsequent homebuyers at resale. An alternative method for subsidizing homeownership would have been to provide this subsidy directly to BMR homebuyers, who could have used it to purchase the same homes, but without any restrictions on the amount of appreciation they could realize upon resale. We performed an analysis to compare these two approaches.

For the direct subsidy-to-homeowner grant program, we assumed (1) that homebuyers would make the same down payment as they did when purchasing the home under the inclusionary zoning program and (2) that the price charged by those who resold their homes was equal to the appraised value of their homes at the time of resale. The median amount of market-value appreciation for units resold through the program (in 2008 \$) was \$112,602. Under a traditional grant program, resellers would have realized a median internal rate of return of 35.5 percent (given a median down payment of \$40,533), if they had been able to pocket all of the capital gains in their homes.

By limiting the amount of appreciation that a reseller is allowed to keep, San Francisco's program ensures that the home can be resold to lower income families without the need for additional subsidies, beyond those required to make the home affordable. A per-unit subsidy of nearly a quarter of a million dollars, representing the difference between the appraised value and the actual sales price of the Program's homes, would be needed to allow a new homeowner to purchase one of these homes under a traditional grant program. If there are about 100 resales per year (as reported by the program's website), the additional cost of subsidizing these homes under a traditional grant program would be approximately \$25 million per year.

We do not compare owners' actual returns to IRRs that would have been achieved had an owner purchased a market-rate home. It is unlikely that an owner could have afforded one,

given that the median price in San Francisco, in 2008, for such units was \$824,300 according to the ACS. Assuming that a member had sufficient funds for a 3 percent down payment, the monthly share loan payment would have been \$4,794, assuming a 30-year fixed rate loan at 6.0 percent. This payment would require an annual income of over \$172,000, well higher than actual median income of approximately \$60,000 for program homebuyers.

3. Security of Tenure

High-cost loans (also referred to as subprime loans) often contain features that increase the likelihood of a borrower default. Some high-cost loans allow borrowers to make payments that are less than the amount required under a fully amortizing loan. In addition, many subprime loans are originated with low teaser rates that reset after a given period of time; borrowers oftentimes cannot afford payments with the new interest rate. While the MOH does not maintain records on the occurrence of delinquency or foreclosure for homes in its program, we examine the percentage of the program's beneficiaries who have financed their homes using subprime loans, a leading indicator of the likelihood of delinquency and foreclosure.¹⁵

None of the first mortgages for which we have data on the homes in San Francisco's inclusionary housing program had prepayment penalties. Just 2.3 percent (2 of 86) were high cost, defined as having an interest rate more than 300 basis points above a comparable term yield. By comparison, 6.8 percent of all mortgages on one to four family homes in San Francisco, CA were high cost between 2004 and 2006, according to data from the Home Mortgage Disclosure Act (HMDA).¹⁶ HMDA, which includes both lower and upper income buyers, defines high-cost loans as first-lien mortgages with an APR that is at least 300 basis points above the comparable term Treasury yield. We apply a similar definition to the San Francisco Program home loans.¹⁷

V. Conclusion

This case study analyzes the San Francisco Citywide Inclusionary Affordability Program's provision of homeownership opportunities to low-and moderate income families. The findings

¹⁵ The San Francisco Program does not have measures of delinquency or foreclosure for homeowners.

¹⁶ http://www.foreclosure-response.org/assets/hmda_08/hmda_state_CA_11_2009_Novice.xls

¹⁷ Where available, we used yields on 30-year Treasury securities. This information is not available from February 2002 to February 2006. The U.S. Department of Treasury provides, for those years, the 20-year Treasury security yield along with an extrapolation factor, which we use to obtain an estimate for the 30-year yield. See http://www.ustreas.gov/offices/domestic-finance/debt-management/interest-rate/yield_historical_main.shtml and <http://www.ustreas.gov/offices/domestic-finance/debt-management/interest-rate/ltcompositeindex.shtml>. HMDA high cost loans are calculated using the Treasury yield on the 15th of a given month when the interest rate was determined. (Any interest rate determined before the 15th of a month is calculated using the previous month's yield.) See Robert Avery, Kenneth Brevoort, and Glenn Canner. 2006. Higher-Priced Home Lending and the 2005 HMDA Data. For the San Francisco Program, we do not have the date the interest rate was determined, so we use the purchase date.

suggest that the Program does a good job of promoting sustainable homeownership to lower income families. By design, all of the 771 families who purchased homes were first-time homebuyers, with incomes, at the median, just under \$60,000. In the midst of a highly volatile housing market, the required real minimum income required to own a home at resale increased by only 0.3 percent per year. However, affordability of the homes declined: the required incomes at resale as a share of MFI were 6.7 percentage points greater than the same measure at the initial sale. This finding is a function of the fact that a large share of reported resales took place between 2004 and 2006, when the area MFI declined.

Despite restrictions on the resale price of their homes, resulting in lower returns they could personally realize upon resale, homeowners who resold their home realized a median internal rate of return of 11.3 percent; 66.7 percent earned higher returns than they would have seen in either the stock or bond market. Program participants who resold in later years under the AMI indexed formula largely did better than owners whose home was priced using the COFI formula. Most resellers earned returns above what they would have seen had they placed their down payment in either the stock or bond market, although 20 percent had lower returns than they would have realized in either. Resellers may have also saved more by renting if the monthly cost of buying and occupying their unit was higher than what they would have had to pay to rent a comparable apartment in San Francisco. Gauging the accumulation of personal savings among MOH homeowners, however, was beyond the scope of the present study.