

SHARED EQUITY HOMEOWNERSHIP EVALUATION: CASE STUDY OF DOS PINOS HOUSING COOPERATIVE

Final Report

October 2010

Prepared by:



The Urban Institute

2100 M Street, NW • Washington, DC 20037

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I. Introduction

This case study analyzes outcomes for the Dos Pinos Housing Cooperative (Dos Pinos), a 60-unit limited equity housing cooperative located in Davis, CA. The cooperative has information on 210 resales that have occurred since 1985. Using the available client-level data provided by Dos Pinos, we present analyses and findings that address the following four research topics:

1. **Affordability:** Is the program effective in creating and preserving affordability for low- and/or moderate-income households?
2. **Security of Tenure:** Is the program effective in maintaining high levels of owner-occupancy for its participants?
3. **Personal Wealth:** Is the program effective in building wealth for individual households, providing opportunities for financial gains that are unavailable to renters?
4. **Mobility:** Are program participants able to sell their shared-equity homes and move into other housing and neighborhoods of their choice?

II. Program Description

All homes in Dos Pinos were constructed at the same time, and completed between 1985 and 1986. The 60 unit limited-equity cooperative is governed by a seven-person board of directors elected by the resident members of the cooperative. All seven directors reside at Dos Pinos. Cooperative housing, as structured at Dos Pinos, works as follows: to become a voting member of the housing cooperative a person buys a share or membership certificate in the cooperative housing corporation, giving her an exclusive right to occupy one of the cooperative's dwelling units. Members occupy their private dwelling unit pursuant to a proprietary lease, also known as an occupancy agreement. Each member of the cooperative possesses, therefore, an individual and transferrable interest in the corporation that owns the real estate development, along with a leasehold interest in a specified dwelling unit. The cooperative's board of directors provides overall governance and operational guidance, and keeps a management company under contract.

Dos Pinos contains mainly 2 and 3-bedroom units, plus six 1-bedroom units. The units are all located on a 4-acre parcel of land in the Senda Nueva neighborhood of North Davis. Residents are charged a monthly carrying charge. When the cooperative's units were first sold in 1985 and 1986, residents were charged \$420 a month for a 1-bedroom unit, \$598 a month for a 2-bedroom unit, and \$798 a month for 3-bedroom units. By 2009, residents in these units were being charged a median monthly assessment of \$627, \$865, and \$1,076 for 1-, 2-, and 3-bedroom units, respectively. These monthly fees, charged to the cooperative's residents, cover the cooperative's general operating costs, including wraparound mortgage, insurance, replacement reserves, garbage removal, property taxes, corporate taxes, municipal assessments from schools and special districts, and property management, as well as monthly charges for water and sewer for the individual dwellings.

Shares in the cooperative cannot re-sell for more than the maximum transfer value (MTV) for that share, tied to each unit. The MTV is the sum of the value of the share at the time of purchase, annual increases in the share's value over the span of a member's residency, and the depreciated value of any permanent improvements made by a member (with prior approval of the cooperative's board) during residency. Annual share value increases are pegged to the prime rate on January 1 of each year (up to a maximum of 10 percent, as specified by California law). Permanent improvements, approved by the board, depreciate by 10 percent of their original value per year for 7 years, and then remain at 30 percent of their original value.¹ These guidelines set the *maximum* price that resident-members can charge for the resale of their shares; Dos Pinos memberships can sell for less than the maximum. Although almost all shares do sell for this maximum, owners are not guaranteed they will receive the full allowable appreciation increases. Resellers receive the sales price less a \$50 processing assessment, minus any costs to return the unit to standard condition that are beyond those due to normal wear and tear, minus any other obligations owed to the cooperative. To secure payment of obligations, Dos Pinos maintains a lien on the share. Buyers may obtain the money to purchase their shares from any source, but they cannot use the share as collateral for any loan. None of the Dos Pinos buyers used a mortgage to finance the transaction. However, some residents have been able to buy their cooperative share through a matched savings program with the Federal Home Loan Bank (the prospective buyer saves \$5,000 which is matched 3:1 by the Federal Home Loan Bank; 20 percent of the match is forgiven per year for five years).

Dos Pinos has the right of first refusal to re-purchase all shares, when notified of a resident's intent to move out of the cooperative. If the cooperative decides to exercise that right, it must pay the maximum transfer value. If the cooperative does re-purchase the share, it will sell it to the next person on the waiting list who wishes to buy it. Dos Pinos maintains separate waiting lists by number of bedrooms applied for, and each list is first-come, first-served (although current members wishing to change units have first priority).

The cooperative's bylaws provide that all prospective purchasers of member shares obtain the consent of the board of directors prior to being placed on the waiting list. This consent is granted or denied after an interview with the prospective member and a credit check, and after ensuring that the applicant has sufficient income to cover the monthly carrying charge without paying more than 40 percent of the applicant's household income. The cooperative does not provide pre- or post-purchase counseling. However, members have access to on-site property management, and a resident manager is available to assist both resellers and prospective purchasers with their questions.

¹ For example, suppose a home is bought in 2004 with a share value of \$15,000 and is sold in 2006 after \$2,000 of approved permanent improvements. The prime rate on January 1, 2005 was 5.25, and the prime rate on January 1, 2006 was 7.25; the maximum transfer value at resale will then be $\$15,000 \times 1.0525 \times 1.0725 + (\$2,000 \times 80\%) = \$18,532$.

III. Summary of Dos Pinos Sales and Homebuyers

Our analysis of Dos Pinos' 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 Dos Pinos. Information was not available for all sales, especially those before 2000², but we calculate averages based on all information provided.

There have been 216 resales during the 26 years that this cooperative program has operated, representing 78.3 percent of all sales. The median price paid to gain access to one of Dos Pinos' cooperative units was \$18,363, in constant 2008 dollars. For some of these buyers, Dos Pinos made homeownership possible for the first time: among those for whom prior homebuyer status is known, 40.3 percent were first-time homeowners (Table 1).³

Table 1: Selected Characteristics of Dos Pinos Memberships and Homebuyers

Number of units as of December 31, 2009	60
Number of resales, 1986–2009	216
Total number of sales	276
Median share price paid by homebuyer (in 2008 \$)	\$18,363
Median household income of purchasers (in 2008 \$)	\$51,988
Share of buyers who are first-time homebuyers	40.3 percent

Source: Authors' analysis of Dos Pinos client-level data

The ability to purchase cooperative shares for a relatively modest amount provided a homeownership opportunity for lower income households who might not have otherwise been able to purchase an average home in Davis. Over its entire history, Dos Pinos' resident members had a median household income at purchase (in 2008 \$) of \$51,988, which is 73.2 percent of the surrounding county's 2008 median family income of \$71,000.⁴

IV. Findings

In this section we present our analyses that address each of the four research topics:

² Fifty-eight resales occurred between 2001 and 2009, of which 35 have both the share price and resale date information necessary to calculate internal rate of return (IRR). None of the 152 resales prior to 2001 have this information, and eight sales are missing the date of resale.

³ The percent of Dos Pinos owners who were first-time homebuyers when moving into the development may be higher; this percentage includes those who moved from one home in Dos Pinos to another as non-first-time homebuyers on their second move, even if they were first-time buyers on their first move.

⁴ Davis is located in Yolo County, CA. 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 Yolo County, CA of \$57,877. This data from the Economic Research Service is derived from Bureau of Labor Statistics Local Area Unemployment Statistics data. See: <http://www.ers.usda.gov/Data/Unemployment/>.

affordability, personal wealth, security of tenure, and mobility.

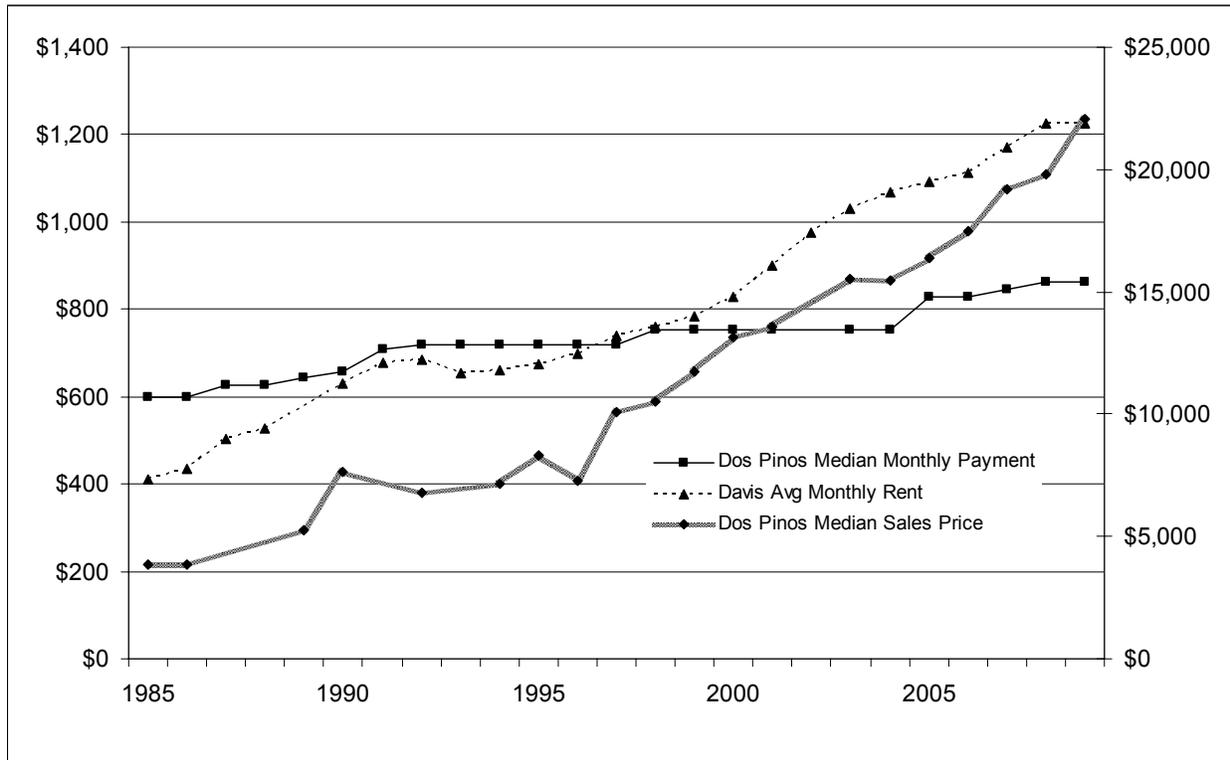
1. Affordability

The Dos Pinos cooperative is located in Davis, California. Due to the presence of the University of California at Davis, demand for rental housing is very strong, creating upward pressures on rents and keeping vacancy rates low. According to the most recent data available, the vacancy rate for all rental properties in the city was 3.2 percent in 2009; the median rent for two-bedroom units (the most common type of unit in the city) in 2009 was \$1,226. As a cooperative, Dos Pinos' shareholders pay a monthly carrying charge that, as discussed earlier, covers the cooperative's expenses. Based on information provided by Dos Pinos, we calculated the median monthly charge for units purchased in each year and compared those charges to the average rent for similarly sized units in Davis, CA in that year. Two-bedroom units are the most common type of unit within the cooperative and the city itself, so the relationship between monthly market-rate rents and the carrying charge is presented in the following figure.⁵

The carrying charge for Dos-Pinos' two-bedroom units was about the same as for the market rents for similarly sized units through 1999. By 2000, however, rents for market-rate two-bedroom units in Davis, CA were increasing by about 5 percent per year. The carrying charges for two-bedroom Dos Pinos units remained the same between 2000 and 2004, and increased in 2005, 2007, and 2008 (Figure 1). Yet, even with these increases, the monthly carrying charges for Dos Pinos cooperative units are currently about \$360 less than rents for comparably sized units. (The patterns are the same for one- and three-bedroom units.)

⁵ Comparing median rents in Davis to Dos Pinos costs does not account for differences in quality or location.

Figure 1: Analysis of Monthly Payments and Sales Price of Dos Pinos Buyers, and Average Rents in the Davis Area: 1985–2009



Sources: FHFA House Price Index, American Communities Survey, and authors’ analysis of Dos Pinos client-level data.

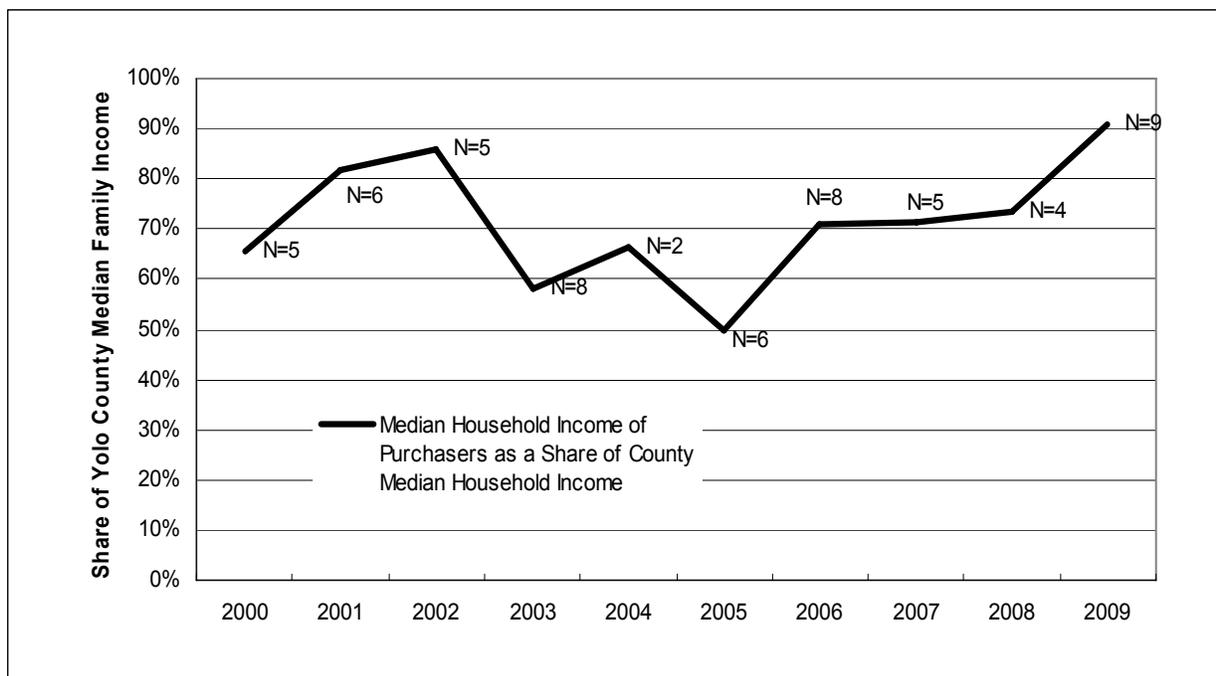
In other studies, the difference between market rents and the monthly carrying charge has been used to measure the financial return earned by Dos Pinos’ members.⁶ In this study we take a more conservative approach when calculating financial return. There is no doubt that cooperative members are better-off being able to pay a lower monthly carrying charge for a unit in Davis, CA when compared to a market-rate unit. However, including that savings assumes that the only option available to buyers is to rent a comparably priced market-rate unit in the locality, and that the buyer could afford such a unit. Because we do not know buyers’ willingness (or ability) to pay for housing, we cannot assume that they are saving the difference in the mortgage or cooperative payments and market rents to include in a calculation of financial returns. Therefore, we exclude this potential financial benefit from our calculations.

Co-op members, of course, must purchase their shares to be able to benefit from the savings resulting from the difference between the monthly carrying charges and market-rate rents. The median share price for a two-bedroom cooperative in 2009 was \$22,000, which is more than 5 times the earliest share price (in 1985) and 68 percent larger than the \$13,200 median share price in 2000.

⁶ See, for example, Thompson, David. 2004 “Dos Pinos Housing Cooperative in Davis, California from 1986 to 2005: The Long-Term Value of Cooperative Homeownership versus Rental.” *2004 Cooperative Housing Journal*: pp.5-9.

The real median household income of all Dos Pinos homebuyers was 73.2 percent of Yolo County’s median family income in 2008. This income spread has varied over time (Figure 2). In recent years (when Dos Pinos has kept records on income), the median income of the cooperative’s residents as a share of the county’s median has ranged from a low of 49.6 percent (in 2005) to a high of 90.9 percent (2009). On average, Dos Pinos’ homes were purchased by households with an income of less than the surrounding area median income.

Figure 2: Median HH Income of Dos Pinos Homebuyers Relative to Median Family Income for Yolo County, 2000–2009



Source: Authors’ Analysis of Dos Pinos client-level data.

One of the major objectives of a shared equity homeownership program like Dos Pinos’ 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.”⁷ 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.⁸ 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

⁷Goodman, Jack. 2001. *Housing Affordability in the United States: Trends, Interpretations, and Outlook*. A Report Prepared for the Millennial Housing Commission, page 3.

⁸ 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.

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 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 Dos Pinos unit 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.⁹

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.¹⁰ 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 using the real cooperative assessment reported by Dos Pinos. (None of the Dos Pinos buyers used a mortgage to finance the transaction.) 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 (in 2008 \$) of \$20,000 at the initial sale, and, at a resale that takes place 3

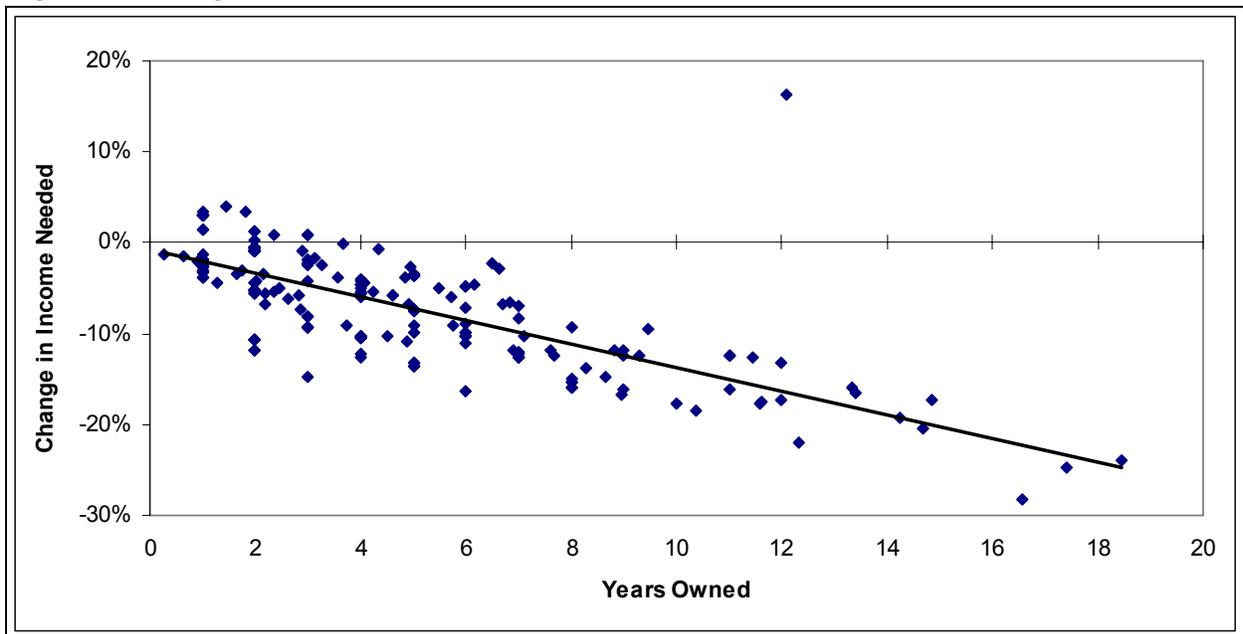
⁹ See, for example, Gangl, Markus. 2008. "A Longitudinal Perspective on Income Inequality in the United States and Europe. *Focus*" Vol. 26(1). The author reports, using data from the Panel Study of Income Dynamics, that the income for households within the bottom three income deciles between 1992 and 1997 either remained the same or declined during the five-year period.

¹⁰ Goodman, page 17.

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 declined between units' initial and subsequent resale by 1.6 percent per year, which is an increase in affordability over time. Given this relationship, it is not surprising that 99 percent of units sold required a minimum income that was, in real terms, no more than 10 percent greater than the income required for 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. For Dos Pinos's co-op units, living in the unit for an additional year is associated with a 1.3 percentage point decrease in income needed (Figure 3).

Figure 3: Changes in Income Needed vs. Years Owned



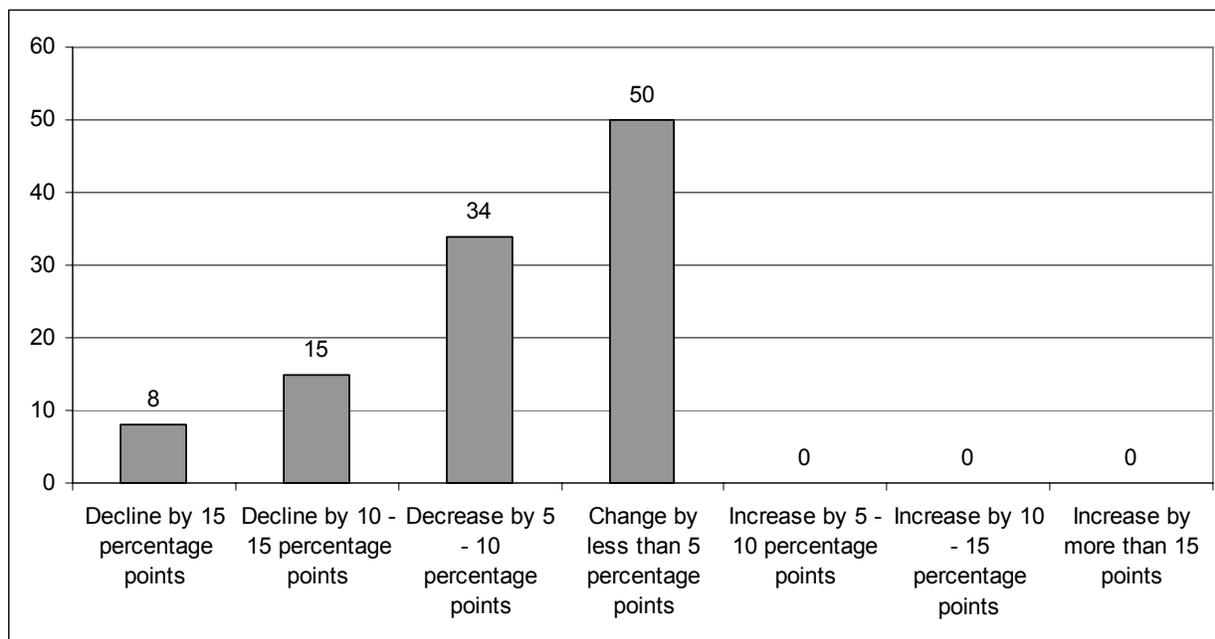
Source: Authors' analysis of Dos Pinos client-level data.

Note: An increase in tenure of one year is associated with a 1.3 percentage point decrease in income needed. This is significant at the .01 level.

Looking at the relative measure, the median minimum income required to purchase a Dos Pinos cooperative that was subsequently resold was 61.6 percent of the area MFI. These homes, when resold, required a median minimum income that was 58.7 percent of area MFI. The median difference between these two ratios for all of the units resold by Dos Pinos was -5.1 percentage points, which indicates a relatively large (when compared to other programs included in this study) increase in affordability. As shown in the following figure, all of the units

had the required minimum income, as a share of area MFI, increase by less than 5 percentage points.

Figure 4: Percentage Point Change in Income (as a share of Median Family Income) Needed for Dos Pinos’ Co-ops, Initial Purchase vs. Later Resale



Source: Authors’ analysis of Dos Pinos client-level data.

Note: We assume that one-third of income is paid towards the cooperative’s monthly assessment.

2. Personal Wealth

Co-ops typically allow members to live in units for monthly assessments that are less than rents for comparable units. As discussed earlier, this savings provides a benefit to the cooperative member, but not necessarily a financial return. Therefore, compared to other shared equity homeownership models, our expectation is that the financial returns realized by cooperative members to be less than deed restricted or land trust models, because share prices are relatively small when compared to homes purchased under other shared equity homeownership models. Therefore, the basis on which appreciation is calculated (the share price, which is for Dos Pinos about \$18,000 in 008 \$) is small, thereby restricting the appreciation realized by the reseller.

The average member, when reselling his or her share, received the original cost of purchasing the share, plus annual increases (i.e., appreciation) and a credit for permanent improvements. Resellers typically walked away from the closing table, therefore, with a median of \$19,585 (in 2008 \$) in cash.¹¹ Of the total proceeds pocketed by members reselling their shares, 18.2 percent came from appreciation. Considering only those proceeds from appreciation, Dos Pinos

¹¹ This average is based on data only for those resales where information on proceeds was known, representing approximately 33.3% of Dos Pinos’ 216 resales.

resellers realized a median net gain in equity of \$4,171 on an initial investment (share payment and closing costs) of about \$18,363. Using these figures, we calculate the median return realized by resellers, which was 6.5 percent.¹² Note that the return is a function of applying the appreciation formula to the share price. Because purchasers do not finance their share, there is no leverage realized by sellers, as there are in other homeownership programs in which buyers place a relatively small share of the purchase price down at closing. Twenty-four resellers made permanent improvements to their homes; these sellers were credited with a median of \$479 (in 2008 \$) at resale for these improvements.

According to program staff, a major financial benefit realized by owners is that the monthly assessment paid by the owner is less than rents for comparable units within the Davis, CA market. Dos Pinos provided information on the comparable rents for some of the units in the program. As discussed earlier, there were relatively small differences between market rents and the monthly carrying charge between 1985 and 1999, but then diverged starting in 2000. Because so many resales took place before 2000, the median difference (in 2008 \$) between the monthly assessment and a comparable rent for all resold units is \$82. This difference was even greater in recent years: among those who bought their homes in or after 2000, the average monthly savings was, in 2008 \$, \$341.

Using the median difference of \$82, and that resellers lived in their units for a median of 48 months, cooperative members who resold their units saved approximately \$3,936 (in \$2008 \$) during their tenure. As detailed earlier, we did not include this savings in the IRR because we are uncertain that reseller would have selected to rent a market-rate unit. 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.

Calculating IRR for the program is difficult given data limitations for Dos Pinos. Although there were 216 resales, we received information on the appreciation realized for just 35 of these resales. We do not know the extent to which these resales are representative of all 216 such resales. Therefore, to compare IRR to other investment strategies, we estimated the appreciation realized by resellers by applying the appreciation formula (prime rate as of January 1 of a given year).¹³

¹² IRR is $[(\text{effective appreciation} + \text{his or her down payment}) / \text{his or her down payment}]^{(1/\text{yrs}_\text{owned})} - 1$. We define effective appreciation as the lesser of (seller's realized appreciation + capital improvements) and (seller's proceeds at resale + capital improvements - principal paid).

¹³ The 35 resellers for whom we could calculate IRR realized a 6.5 percent median return. When we estimate return for these same 35 resellers based on the prime rate appreciation formula, their median estimated IRR is 6.1 percent. Differences may be due to capital improvements and fees.

Table 2: Summary Characteristics of Dos Pinos Purchase Transactions

Median purchase price (in 2008 \$)	\$18,363
Median down payment and closing costs paid by purchaser at closing (in 2008 \$)	\$18,363
Median estimated appreciation realized by resellers (in 2008 \$)	\$4,171
Number of resellers with permanent improvements	24
Median permanent improvements among those with information (in 2008 \$)	\$479
Median estimated proceeds realized by resellers (in 2008 \$)	\$19,585
Median estimated internal rate of return earned by resellers	7.9 percent

Source: Authors' analysis of Dos Pinos client-level data.

Note: Price plus appreciation and permanent improvements do not approximately add up to proceeds because of incomplete information. Information on sales prices was available for 94 of 276 sales, while information on appreciation was available for the 35 of these that were resales; and information on proceeds was available for 72 resales.

Based on Dos Pinos' prime rate appreciation formula, and excluding savings on rent, resellers realized a modest median return of 7.9 percent. This is below California's 10 percent cap on appreciation for limited equity housing cooperatives.¹⁴ The median estimated return is below the average returns that resellers would have earned if, instead of buying into Dos Pinos, they had rented an apartment and invested the money they had paid for their cooperative share in stocks (10.6 percent median return if Dos Pinos resellers invested their share price amount in an S&P 500 index fund). The median estimated return was almost identical to investments in 10-year Treasury bonds, which had a median yield at the time that the resellers initially purchased their home of 7.8 percent.¹⁵ Overall, most resellers' estimated returns were lower than they could have realized if they had invested their money elsewhere: only 21.3 percent earned higher returns than they would have seen in either stocks or bonds.

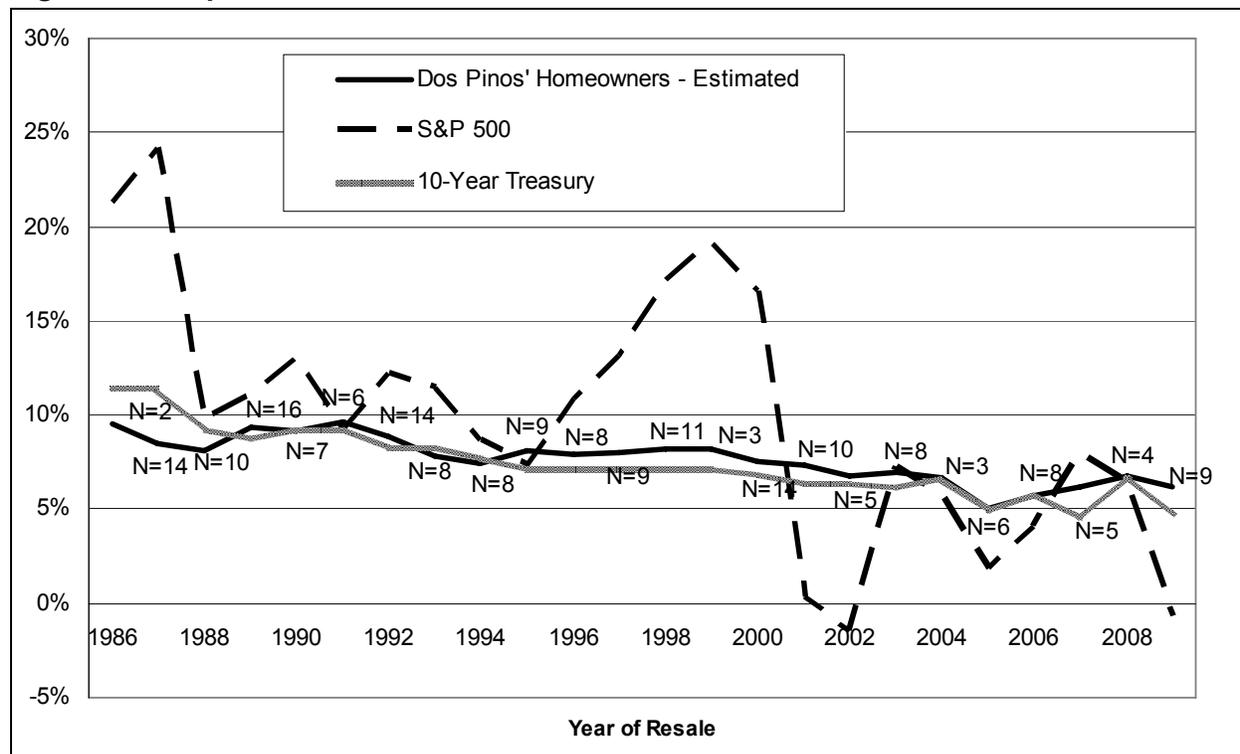
Note that the differences in rates of return vary slightly depending on the year that a Dos Pinos share was resold, while returns on the stock market vary greatly based on the year. The median internal rate of return earned by resellers ranged from 5.0 percent (in 2005) to 9.6 percent (in 1991) (Figure 5). The estimated internal rate of return for resellers in most years was lower than

¹⁴ We calculate estimated return for 197 of the 216 resales. The remaining resales are missing the cooperative member's length of tenure.

¹⁵ We assume that Dos Pinos 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 Dos Pinos homes.

the return they would have realized in the stock market, but higher than they would have seen by purchasing a risk-free 10-year Treasury bond.

Figure 5: Comparison of Median Rates of Return for Alternative Investments



Source: Authors' analysis of Dos Pinos client-level data; Treasury data (http://www.ustreas.gov/offices/domestic-finance/debt-management/interest-rate/yield_historical_main.shtml); S&P 500 data (<http://www.irrationalexuberance.com/>)

We do not compare members' returns from selling their Dos Pinos home to returns that would have been realized had a member purchased a market-rate cooperative unit, or a single family house: we do not know if a member could have purchased a market-rate unit, and it is unlikely that a member could have afforded a condominium, given that the mean price in Yolo County, in 2008, for such units was \$388,200.¹⁶ Assuming that a member had sufficient funds for a 3 percent down payment, her monthly share loan payment would have been \$2,258, assuming a 30-year fixed rate loan at 6.0 percent. This payment would require an annual income of over \$81,000, well higher than actual median income of approximately \$52,000 for Dos Pinos homebuyers.

3. Security of Tenure

As a result of the mortgage meltdown, some policymakers and stakeholders are questioning the wisdom of programs that expand homeownership opportunities to lower income families. The

¹⁶ Data taken from the 2008 American Community Survey.

cooperative model, however, is appreciably different from traditional affordable homeownership strategies. We investigate whether Dos Pinos buyers were able to retain their homes, avoiding eviction and the intermediate step of delinquency.

Dos Pinos share buyers paid the entire share cost up front, and therefore had no housing debt at the start of ownership. According to Dos Pinos' client-level data, none of their current residents are seriously delinquent on their monthly assessments – that is, more than 90 days late. Only 1 of Dos Pinos' 276 owners has ever been seriously delinquent; that shareholder was eventually evicted.

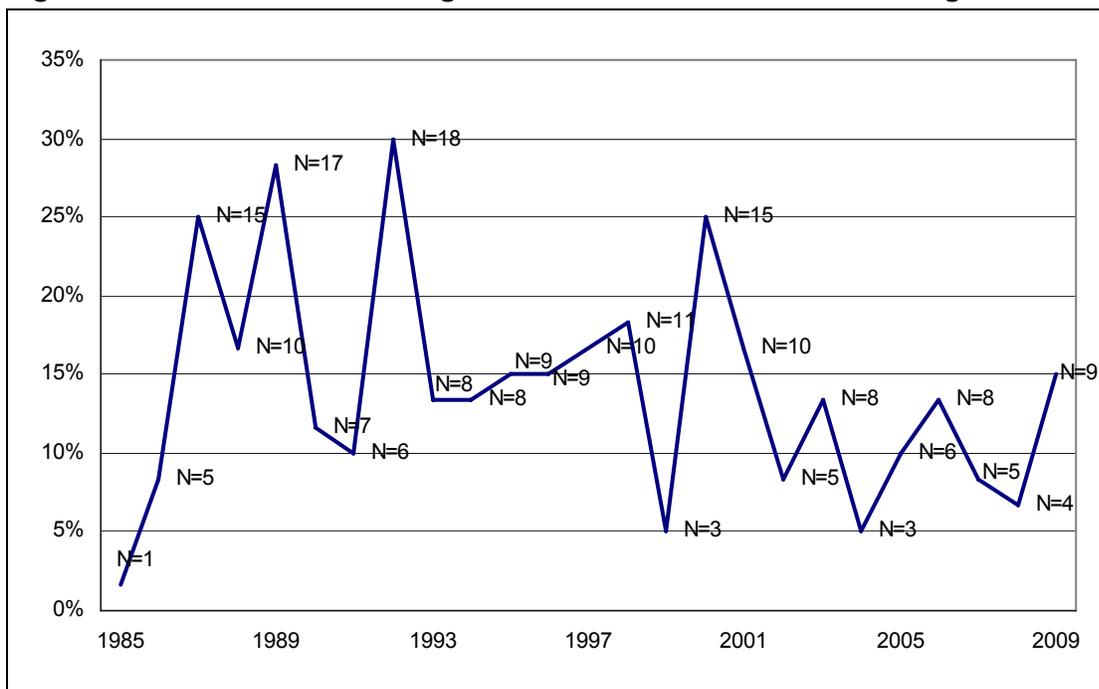
4. Mobility

Families move frequently. According to the ACS, about 13 percent of the U.S. population moved to a new address in 2008. Rates are higher for renters than homeowners. High rates of mobility nationally raise key questions for limited equity cooperatives and other shared equity homeownership programs. Does the purchase of a cooperative home limit mobility—or enhance it? Does cooperative housing reduce the turnover rate that is found in most multi-unit housing projects and promote cohesive communities? To inform these questions, we assess the rates at which Dos Pinos participants moved and their average length of tenure. We also conducted a survey of movers to get at their motivations for moving, the destination of their move, and the type of home they moved into.

Of the 276 owners who purchased homes under the Dos Pinos program since its inception, 216 (78.3 percent) had moved by the point of data collection in 2009¹⁷. From 1985 to 2009, an average of 8.6 owners moved each year, though there was high variation by year. As shown in Figure 6, the percentage of households that moved between these years was mostly between about 5 and 30 percent of all households.

¹⁷ Comparison data can be used from the National Association of Home Builders: <http://www.nahb.org/generic.aspx?sectionID=734&genericContentID=110770&print=true>. Note that comparison data can only be calculated for those with information on whether they are first-time homebuyers; 22.5 percent of such Dos Pinos residents have resold their home. This number is so different from the overall number because first-time homebuyer information is only available in recent years. During a comparable time period and with buyers of the same first-time homebuyer status, we would have expected 32.7 percent nationally to have sold their homes and moved. Based on this data, Dos Pinos homebuyers seem to be moving at slightly lower rates than similar homebuyers.

Figure 6: Number and Percentage of Dos Pinos Homeowners Moving Each Year



Source: Authors' analysis of Dos Pinos client-level data.

A different way to look at this same information is to calculate the length of tenure for families who move. Across the 26-year life of Dos Pinos' program, the median length of tenure for movers was 4.0 years, and does not seem to depend on the year of resale. Looking both at the percentage of Dos Pinos homeowners who moved and their length of tenure, we do not see evidence that homeowners in the Dos Pinos program were stuck in place.

Dos Pinos has established that some families move because of positive changes in a family's circumstances, such as buying a bigger home to fit a growing family or moving to be close to a new job. But mobility can also be a symptom of instability and insecurity. To gain a better understanding of why Dos Pinos buyers moved and what their housing outcomes were, we conducted a short web-based survey of movers. Of the 216 Dos Pinos resellers, 25 responded to the survey. The most frequently cited reason for moving was wanting to secure individual ownership of a home (as opposed to sharing ownership in a cooperative), which 6 movers reported. This was followed by job reasons (5 movers) and two movers left for other reasons (see Table 3).¹⁸ Only one mover left for what may be considered a negative reason (wanting a better home). These responses paint a picture of most owners leaving their Dos Pinos homes not in financial stress or reluctantly, but in response to family, life cycle, and employment

¹⁸ Family reasons include: change in marital status, establish own household, or other family reason. Job reasons include: new job or job transfer, to look for work or lost job, to be closer to work/easier commute, retired, or other job-related reason. Housing and neighborhood reasons include: wanted to own home, not rent, wanted new or better house/ apartment, wanted better neighborhood/less crime, wanted cheaper housing, or other housing reason. Other reasons include: to attend or leave college, change of climate, health reasons, or a natural disaster.

changes. To provide context for these Dos Pinos findings, we include in Table 3 the percentage of households who moved nationwide for these same reasons in 2008. We used data from the Current Population Survey that we restrict to more closely resemble the Dos Pinos homebuyers¹⁹. Based on these comparisons, responses in Dos Pinos were similar to national averages.

Table 3: Main reason for Moving, Dos Pinos and Nation

	Dos Pinos Movers (N)	Dos Pinos Movers (%)	Movers Nationwide (%)
Family reason	9	36	28
Job reason	5	20	19
Housing and neighborhood reason	9	36	43
Other reason	2	8	10
Total	25	100	100

Note: Data missing for 191 Dos Pinos movers (all survey non-respondents). Nationwide figures include movers age 18 and over, who are not claimed as a dependant, with household incomes ranging from \$15,000 to \$50,000.

Source: Authors' analysis of Dos Pinos mobility survey. National data from the Current Population Survey Annual Social and Economic Supplement, 2009 release.

Nationally, most movers resettle near the home they are leaving. We found this to also be the case for Dos Pinos movers, though they tended to move further than the national average, possibly because of the steep increase in housing prices in the area in the early 2000s. Forty percent of them stayed within the same county (10 of 25), and most of those stayed in the City of Davis (8 of 10). Eleven Dos Pinos movers left Yolo County, but stayed within California, and 4 households moved out of state. These figures may show a lower likelihood for local moves than nationwide estimates (Table 4).

Table 4: Destination of Movers, Dos Pinos and Nation

	Dos Pinos Movers (N)	Dos Pinos Movers (%)	Movers Nationwide (%)
Within same county	10	40	68
Another county, but same state	11	44	17
Different state or country	4	16	15
Total	25	100	100

Note: Data missing for 191 Dos Pinos movers (all survey non-respondents). Nationwide figures include movers age 18 and over, who are not claimed as a dependant, with household incomes ranging from \$15,000 to \$50,000.

Source: Authors' analysis of Dos Pinos mobility survey. National data from the Current Population Survey Annual Social and Economic Supplement, 2009 release.

¹⁹ Figures include movers age 18 and over, who are not claimed as a dependant, with household incomes ranging from \$15,000 to \$50,000. These figures include both renters and homeowners, however.

Finally, we asked movers about the tenure of housing they moved into after reselling their Dos Pinos home. This measure is an important outcome of residential and economic mobility. The majority of movers reported transitioning into another owner-occupied home (13 out of 24). All of these newly acquired homes were market-rate housing. With proceeds, at the median, of nearly \$18,000, these movers had accumulated funds for a moderate down payment on their next home. However, a sizable share of movers, 42 percent, shifted to rental housing subsequent to leaving their Dos Pinos home.

Table 5: Type of New Unit for Dos Pinos Movers

	Dos Pinos Movers (N)	Dos Pinos Movers (%)
Owner-occupied, market rate housing	13	54
Market-rate rental housing	10	42
With family	1	4
Total	24	100

Note: Data missing for 192 Dos Pinos movers (191 survey non-respondents, 1 item non-respondent)

Source: Authors' analysis of Dos Pinos mobility survey.

V. Conclusion

Dos Pinos Housing Cooperative, a 60-unit limited equity cooperative, has provided affordable homeownership opportunities since its completion in 1985. To assess outcomes of housing affordability, wealth creation, security of tenure, and mobility, we examined client-level information on 276 sales. Approximately 40.3 percent of these sales were to first-time homebuyers, and the median sales price paid for cooperative shares was \$18,363 (in 2008 \$). This sales price provided homeownership opportunities for households with incomes below the area median: Dos Pinos' resident members had a median household income of \$51,988 (in 2008 \$), which is 73.2 percent of the surrounding county's median household income. In addition to the initial share price, all of which was paid at purchase, cooperative members are responsible for a monthly charge that currently ranges from \$627 for a one-bedroom unit to \$1,076 for a three-bedroom townhouse.

During a period when the Sacramento area's housing market was undergoing considerable appreciation, pushing rents and prices beyond the reach of many households, the cooperative units at Dos Pinos retained—and even increased—their affordability. Living in the home for an additional year is associated with a 1.6 percent decrease in income needed. When factoring in the change in real median family incomes it is clear that Dos Pinos saw net gains in affordability.

With a near-absence of delinquencies on monthly cooperative assessments, the Dos Pinos cooperative has clearly been both an affordable and secure investment for these families. Dos Pinos' limits on the equity that its resident members may receive when leaving the cooperative do not appear to limit mobility. An average of 8.4 percent of Dos Pinos' residents resold their shares each year.

Resellers walked away with a median of \$19,585 (in 2008 \$) in cash from the closing table. Most of these funds came from the cooperative member's initial share purchase (median of \$18,363). About a fifth of the resellers' proceeds came from appreciation on the value of their shares. However, resellers earned a relatively low rate of return on their \$18,363 investment—6.5 percent. This return is somewhat less than alternative investments realistically within their reach. Resellers may have been able to accumulate additional savings during their residency at Dos Pinos if the monthly cost of buying and occupying a cooperative unit was lower than what they would have had to pay to rent a comparable apartment in Davis.