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EXPANDING THE MORTGAGE CREDIT BOX: LESSONS FROM THE COMMUNITY ADVANTAGE PROGRAM

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Abstract: The Great Recession has raised concerns about the promotion of homeownership to low- and moderate-income families. The subprime credit boom of the early 2000s was replaced with an overall credit retrenchment. The reforms to the housing finance system, begun with the passage of the Dodd-Frank Wall Street Reform and Consumer Protection Act, remain incomplete given the uncertain future of the Federal National Mortgage Association (“Fannie Mae”) and the Federal Home Loan Mortgage Corporation (“Freddie Mac”). In light of this uncertainty, can or should homeownership continue to be supported, and if so, in what way? In this paper, we examine one model of targeted mortgage lending for low-income households: the Community Advantage Program (CAP). Using more than ten years of longitudinal data, we summarize the design and key outcomes of CAP before and after the financial crisis, including mortgage performance, wealth accumulation, and the drivers of these outcomes. We then present lessons learned and suggest innovative approaches for the design of similar programs in the future.

INTRODUCTION

Mortgage credit became less available with the onset of the Great Recession. The Federal Reserve’s low interest rates and quantitative easing policies have kept interest rates at historically low levels. As such, lending should have increased following its traditional relationship to low interest rates. As interest rates decrease, we expect to see the demand for credit increase. Unfortunately, the supply of credit has receded as mortgage lenders have pursued a flight-to-quality approach by focusing on the credit needs of borrowers considered less risky: those with high credit scores.

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In all likelihood, uncertainty is making the flight to quality worse. The reform of the housing finance system is yet to be finished; in particular, decisions have yet to be made about what to do with the two housing government-sponsored enterprises (GSEs) since they were taken into conservatorship at the onset of the Great Recession. The future of the Federal National Mortgage Association (“Fannie Mae”) and the Federal Home Loan Mortgage Corporation (“Freddie Mac”) has been hotly contested. There is no consensus between Republicans and Democrats, or within either party, about what that future should look like. Should the current GSEs be replaced with something similar in the future? Should they be replaced with a purely private alternative? Should they be replaced with something between these two extremes? Similarly, the role of the Federal Housing Administration in a reformed system remains open to debate. Under the new Administration and Congress, it is uncertain when or if such reforms will occur.

The mortgage credit retrenchment has been well documented. Goodman (2016) found that “borrowers who took out mortgages in the last five years have rarely defaulted, making them better at paying their mortgages than any other group of mortgage borrowers in history.” She explains that this pattern has two causes: “only the best borrowers are getting loans today and these loans are so thoroughly scrubbed and cleaned before they are made that hardly any of them end up going into default.” Goodman believes that this is clear evidence that there is a need to extend credit to borrowers with less than perfect credit.

Prior to the subprime debacle, extending credit to those with less than perfect credit, especially low- and moderate-income and minority borrowers, was supported through lending products put in place under the auspices of the Community Reinvestment Act (CRA).¹ These so-called “affordable” lending products met one of the two criteria identified by Goodman as leading to negligible default rates among mortgage borrowers today: rigorous underwriting. Though often originated to borrowers with less than perfect credit, CRA products were thoroughly reviewed during the underwriting process. As a result, default rates in traditional CRA lending have been significantly lower than in subprime lending, which targets similar borrowers. (Ding et al. 2011, 245–46).

¹ The CRA requires insured depository institutions “to help meet the credit needs of the local communities in which they are chartered consistent with the safe and sound operation of such institutions.” 12 U.S.C. § 2901(b). Federal banking regulators examine depository institutions on their CRA performance and make their CRA exam ratings public. *Id.* §§ 2903(a)(1), 2906(a)–(b), 2908. Federal regulators also take an institution’s CRA performance into consideration when considering applications for a deposit facility. *Id.* § 2903(a)(2). Furthermore, bank holding companies must meet minimum standards for CRA performance before they can elect to become financial holding companies (*id.* § 2903(c)(1)(A)), and thereby expand their range of permissible nonbank activities.

A variety of lending programs, some private and some public, have promoted homeownership for low-income households. (Avery, Bostic & Canner 2000, 711; Galster & Santiago 2008, 60–61, 65). Although some of these initiatives appear to be associated with objective increases in average wealth and higher standards-of-living among program participants, considerable outcome variability exists. (Galster & Santiago 2008, 68–76). Thus, key questions remain as to which aspects of targeted lending programs contribute to favorable outcomes and which do not, as well as whether those features conducive to success can be manipulated to improve program outcomes systematically, including better mortgage performance.

We provide some answers to these questions by considering the experiences of the homeowners who received CRA mortgages through the Community Advantage Program (CAP). CAP was designed as a secondary mortgage market demonstration program targeting low- and moderate-income households. Its borrowers have been followed since program inception in 1998 with the goal of informing the design of targeted lending programs. A large body of research has been published about CAP; in addition to presenting the most recently available data concerning CAP mortgage performance and the home equity accumulation of CAP homeowners, we summarize and synthesize much of this literature as a means of identifying which aspects of CAP have contributed to program success and which represent potential areas for future improvement. In the concluding section, we derive implications for opening up the credit box to low- and moderate-income borrowers.

I. PROGRAM AND DATA OVERVIEW

A. The Community Advantage Program Design

The Community Advantage Program (CAP) is a secondary mortgage market demonstration program that was initiated in 1998 via a partnership among the Ford Foundation, the Federal National Mortgage Association (“Fannie Mae”), and Self-Help, a non-profit lender with headquarters in Durham, North Carolina. Under CAP, Self-Help purchased qualifying loans from the originating lenders and resold them to Fannie Mae while retaining recourse for an agreed-upon period of time. The Ford Foundation provided the original underwriting capital for this purchasing arrangement. Qualifying loans were those made to households with annual incomes no greater than 80% of the area median income at the metropolitan statistical area level (MSAMI), or to minority households with annual incomes no greater than 115% of the MSAMI. CAP was designed to provide policy-relevant

insights with respect to community reinvestment lending, as defined by the Community Reinvestment Act (CRA), and to inform future housing policy.

Overall, more than 46,000 loans were purchased through CAP, for a total of more than \$4 billion loaned. Purchased loans were almost exclusively 30-year, fixed-rate, low down payment mortgages originated at near-prime interest rates. (Self-Help added a small risk fee to the interest rate instead of requiring primary mortgage insurance from its borrowers. For all loans in the portfolio, this risk fee ranged between zero basis points and 150 basis points (0% to 1.5%)). Origination dates range from 1983 to 2010, with 95% originated after 1995. CAP loans had a median original loan-to-value ratio of 97% and were originated at a median interest rate of 7%. The median original loan balance was \$79,000.

B. The Community Advantage Panel Survey

With ongoing funding from the Ford Foundation, approximately 3,700 CAP borrowers were surveyed annually beginning in 2003. These borrowers received loans between 1999 and 2003 and agreed to participate in a longitudinal survey panel that would collect information about their homeownership experiences for the purposes of academic research and program evaluation. In 2004, a comparison panel of about 1,500 similar renter households located in the same metropolitan areas was also recruited and interviewed. Both survey samples (owners and renters) were interviewed annually through the end of 2014. Detailed information about the wealth accumulation and asset holdings of survey participants was collected in 2005, 2009, and 2012. The product of these data collection activities is known as the Community Advantage Panel Survey (CAPS).

As is common with panel surveys, CAPS has experienced some attrition of respondents over time. The sample sizes retained as of 2014, which was the last year of survey data collection, were approximately 1,800 owners sample members and 800 renters sample members. Males and Hispanics have been most likely to attrit from the survey over time. (Riley, Nguyen & Manturuk 2015, 142–53).

C. Population Profile: Demographics and Underwriting

Summary statistics for the demographic and underwriting characteristics of the borrowers who obtained loans through CAP are provided in Table 1. At the time of loan origination, the median CAP borrower was thirty-two years old and had an annual income of \$31,000 (or 60% of MSAMI), a credit score of 681, and a debt-to-income ratio of 37%. The median CAP property was valued at \$84,000 at the time of purchase, and the median CAP borrower's original equity in the property was approximately \$2,500.

About 40% were members of a racial/ethnic minority group, with about 19% black and about 14% Hispanic representation. At the time of loan origination, about 14% of CAP properties were located in rural areas, about 32% were located in low-income census tracts, and about 30% were located in minority census tracts. Nearly 70% of CAP properties were located in the South, with approximately 30% in North Carolina. The subset of CAP borrowers who participated in CAPS presents a similar profile overall, except that survey participants were more likely to be located in the Midwest and less likely to purchase a property in a minority tract.

The CAPS renters sample exhibits important differences from the CAPS owners sample with respect to both demographic and geographic characteristics at survey baseline. Compared to the CAPS owners sample, survey participants in the CAPS renters sample had a higher median age at the survey baseline (39 vs. 32) and had a lower median household income (\$19,000, or 30% of AMI, vs. \$31,000, or 54% of AMI). In addition, renters were more likely to be black (33% vs. 20%) or Hispanic (19% vs. 16%) and less likely to be male (30% vs. 54%). Renters were also less likely to be married (28% vs. 46%), less likely to have completed education beyond high school (25% vs. 39%), and less likely to be employed (63% vs. 92%). Finally, renters were more likely to be located in the South (74% vs. 62%). Because of these differences, existing analyses comparing the financial outcomes of these two samples have tended to employ selection models or matching methods as a means of correcting for sample imbalance on key respondent attributes.

Important differences also exist between CAPS participants and the larger population of low-income households. Compared with similar low-income participants in the 2003 Current Population Survey, CAPS respondents tend to be much more likely to live in the South; they also appear to be somewhat more educated and more attached to the labor force. Compared with low-income homeowners in the Current Population Survey, the CAPS owners sample also tends to be younger and exhibits greater representation of males. However, these two groups appear to be similar with respect to distributions of race, income, and household size. Compared with low-income renters in the Current Population Survey, the CAPS renters sample demonstrates higher representation of blacks and females but similar distributions of income and household size. (Riley, Ru & Quercia 2009, 251–52). These differences between CAPS participants and the general low-income population should be kept in mind when considering the generalizability of analyses based on CAPS data.

As we consider the experiences of CAP borrowers, we draw from both Self-Help's administrative data for the CAP portfolio as a whole and the

survey panel data collected through CAPS. Geocodes for the residences of CAPS respondents permit linkage with local geographic information and census data. In addition, we derive rates of return using zip-code-level house price estimates provided by Fannie Mae. In combination, these data sources permit a variety of inferences concerning both the benefits of community reinvestment lending for low-income households and the challenges associated with successfully facilitating homeownership for this population. The following discussion leverages both our direct calculations from the data and the cumulative work of other researchers who have used the CAP database for more in-depth examinations of various aspects of the low-income homeownership experience.

II. MORTGAGE PERFORMANCE

A. Default and Foreclosure

As of the end of 2015, approximately 20% of the Community Advantage Program (CAP) loan portfolio remained active. An additional 69% had prepaid; 4% had been returned to the originator; and 7% had been terminated via foreclosure sale. With respect to worst-ever payment delinquency status, more than 80% of CAP loans had never been 90 or more days delinquent. Approximately 62% had never been delinquent at all; 15% had been at most 30 days delinquent; and about 4% had been at most 60 days delinquent.

When compared with the broader mortgage market, CAP rates of serious delinquency—i.e., at least 90 days late on payments or in foreclosure—during the financial crisis tended to fall in between those for fixed-rate prime loans and those for other mortgage products. This relationship is illustrated in Figure 1, which compares CAP serious delinquency rates over time with those for prime fixed-rate loans, prime adjustable-rate loans, subprime fixed-rate loans, subprime adjustable-rate loans, and Federal Housing Administration (FHA) loans. The figure depicts serious delinquency rates for all loans that are active as of each point in time, and spans the period from 2006, when house prices peaked, to the end of 2010, which is the most recent origination year for CAP loans. It is noteworthy that when subprime serious delinquency rates peaked in the fourth quarter of 2009, the serious delinquency rate for active CAP loans and FHA loans was about 10%. In contrast, the comparable rate for prime fixed-rate loans was about 5%, while those for prime adjustable-rate loans, subprime fixed-rate loans, and subprime adjustable-rate loans reached 18%, 22%, and 43%, respectively.

The intermediate risk profile of CAP mortgages reflects the fact that CAP borrowers resembled subprime borrowers with respect to credit characteristics, but received fixed-rate loans at near-prime interest rates rather

than subprime loans. In consequence, CAP mortgage performance does not reflect the layering of risk that was present for subprime loans. The mortgage product itself is a potentially important risk factor that can mediate the relationship of the borrower's credit profile to realized mortgage performance. (Ding et al. 2011, 254–58).

The timing of loan origination also influences serious delinquency rates, as illustrated in Figure 2. The figure displays serious delinquency rates by vintage and seasoning—i.e., months since origination—for all active CAP loans originated between 1998 and 2008. Loans originated during the period of 1998 through 2004 had relatively homogenous serious delinquency rates and are, therefore, grouped together for purposes of presentation. Serious delinquency rates increased substantially for subsequent vintages, with those loans originated in 2006 representing the highest default risk.

B. Drivers of Default

Like the performance of other mortgage products, CAP mortgage performance generally reflects the impact of standard underwriting factors, including household income, credit score, loan-to-value ratio, and debt-to-income ratio. (Quercia, Pennington-Cross & Tian 2012, S161–62). Thus, default tends to be more likely among those borrowers with lower incomes, lower credit scores, higher loan-to-value ratios, and higher debt-to-income ratios.

Additional factors that influence CAP mortgage default include environmental factors related to the local economy, precautionary household savings, and the loan origination channel. Both individual unemployment and the local unemployment rate increase the likelihood of default. (Tian, Quercia & Riley 2016, 28–35). Enduring structural unemployment at the local level, however, has a greater impact on mortgage default than cyclical unemployment. (Quercia, Pennington-Cross & Tian 2016, 364). Moreover, the local mix of employment opportunities appears to influence default rates, as urban areas with a greater diversity of accessible employment options exhibit less mortgage delinquency. (Kaza et al. 2016, 758–62). Furthermore, precautionary savings can compensate for the increased default risk generated by unemployment shocks. (Tian, Quercia & Riley 2016, 47). Finally, the lending channel appears to influence default rates, as broker-originated loans represent higher risk than those originated directly by lenders. (Ding et al. 2011, 271). These drivers of CAP mortgage performance and their relationship to the likelihood of default are summarized in Table 2.

Consistent with the idea that unemployment is a key driver of mortgage default for CAP borrowers, default motives among CAP participants primarily reflect liquidity concerns rather than strategic responses to the house price level. In particular, most CAP borrowers who had negative equity during the financial crisis did not default on their loans, and most CAP borrowers who did go into default did not also have negative equity. (Riley 2013, 24).

C. Prepayment and Mobility

Nearly half of Community Advantage Panel Survey (CAPS) owners sample members refinanced their CAP mortgages at some point during the study period. About 40% obtained a new fixed-rate mortgage, while about 8% took out an adjustable-rate mortgage. Those who refinanced into adjustable-rate mortgages were more likely to have obtained their loans from brokers rather than retail lenders. (Spader & Quercia 2011). On average, refinancers achieved an initial interest-rate reduction of between one and two percentage points, and those with adjustable-rate mortgages experienced further interest-rate reductions as interest rates continued to fall during the study period. The fact that CAPS participants have been less likely than higher-income households to prepay their mortgages suggests that community reinvestment mortgages may represent lower prepayment risk for lenders. It may also indicate that some untapped opportunities for interest-rate savings via refinancing exist for households receiving such loans prior to declines in market interest rates. (Ratcliffe et al. 2007, 3–8; Spader & Quercia 2008). For example, Spader and Quercia (2008, 694–95) compare CAP mobility rates with those of homeowners in the Panel Survey of Income Dynamics (PSID) who purchased their properties in a similar time period and find that about 17% of CAP borrowers moved by the end of 2005, compared with 36% of PSID homeowners. In addition, Ratcliffe et al. (2007, 6–8) compare CAP mortgage prepayment hazards with those for mortgages securitized by the Federal National Mortgage Association (“Fannie Mae”) and the Government National Mortgage Association (“Ginnie Mae”) and find that CAP prepayment rates generally have fallen below the others for a variety of loan vintages and interest rates. In some cases, post-purchase counseling may be an effective means of encouraging borrowers to refinance when it is financially beneficial for them to do so. (Ding, Quercia & Ratcliffe 2008, 319).

As of the last year of CAPS data collection in 2014, about half of the respondents in the owners survey sample had moved out of their original CAP residences. About 38% had moved and purchased a new residence, while about 14% had returned to renting. The most frequently given reasons

for moves during the study period involved changes in family structure, such as marriage or divorce, the birth of a child, or the need to care for elderly relatives. Secondary reasons, in order of relative importance, included the costs associated with paying the mortgage and maintaining the property, neighborhood amenities and conditions, employment opportunities, the characteristics of the property itself, and other miscellaneous reasons. Those movers who remained homeowners were more likely to move for reasons of family structure, while employment opportunities and the costs associated with homeownership were more salient for those movers who transitioned to renting. (Riley, Nguyen & Manturuk 2015, 149–50).

III. HOUSE PRICE APPRECIATION AND WEALTH ACCUMULATION

A. Rates of Appreciation and Return on Equity

Figure 3 presents the real Federal Housing Finance Agency (FHFA) purchase-only house price index from 1991 to 2014. We adjusted all nominal index values to 1991 values using the Consumer Price Index (CPI) for all urban consumers less shelter. As illustrated, national house prices exhibited considerable volatility during the period of Community Advantage Program (CAP) program evaluation. Thus, many of the CAP borrowers who sold their homes during the study period experienced historically high rates of house price appreciation and return on equity. Among those Community Advantage Panel Survey (CAPS) owners who sold their CAP properties during the survey period, 89% sold their houses for at least what they initially paid while the remaining 11% incurred a loss from sale. Those who experienced a gain from sale reported a median nominal gain of nearly \$26,000, while those who experienced a loss from sale reported a median nominal loss of about \$10,000.

Those CAP borrowers who retained their CAP properties experienced modest gains more consistent with long-term rates of market appreciation. As of the end of 2015, CAP properties had appreciated at a nominal annualized rate of 1.7% since loan origination, which corresponds to a potential annualized return on equity of approximately 20%. This latter leveraged rate of return on equity compares favorably with returns on alternative unleveraged investment vehicles, as the Dow Jones Industrial Average returned a nominal annual return of about 4% during the period, and the 10-year Treasury bill rate was about 5% at the time of CAP loan origination. These rates of return are calculated relative to the origination date for each loan.

More specifically, Figure 4 illustrates the potential gains in home equity that CAP borrowers remaining in their CAP properties could have

achieved as a result of the evolution of house prices between CAP property purchase and the end of 2015. We calculate potential home equity as the difference between the market value of the property and the last observed unpaid principal balance on the CAP mortgage. At the median, CAP borrowers potentially experienced nominal equity growth of about \$29,000 during the period; including the original equity held in the property at the time of purchase, the median CAP borrower would have accumulated a total of \$33,000 in home equity. The upper 75th percentile represents accumulated total equity of about \$60,000, while the lower 25th percentile represents accumulated total equity of about \$16,000. This variation across CAP properties primarily reflects geographic differences in local and regional housing market conditions.

B. Wealth Accumulation

As of the end of 2012, the most recent year in which comprehensive wealth accumulation and asset holdings information was collected from CAPS participants, the owners sample reported a median net worth of approximately \$70,000. This wealth represents primarily the value of home equity and retirement accounts, with liquid assets and the value of vehicles making secondary contributions. As of the end of the survey period, home equity represented about 23% of total net worth for the CAPS owners sample as a whole, and retirement account balances represented about 40%; net liquid assets—i.e., liquid assets less unsecured debt—contributed an additional 20%, followed by the net value of vehicles, at 7%. More than 70% of CAPS owners reported having retirement accounts during the study period. In contrast, the renters sample reported median net worth of approximately \$11,000 in 2012, and about 40% reported having retirement accounts. These patterns are summarized in Table 4. In addition, when differences in 2005 wealth are considered in conjunction with tenure status during the period of the survey, the wealth gap between the two samples is particularly pronounced. For example, when those CAPS participants with less than \$10,000 in net worth in 2005 are considered, CAPS owners who remained owners reached a median net worth of about \$41,000 in 2012, while CAPS renters who remained renters accumulated less than \$1,500 at the median. (Freeman & Quercia 2014, 4–8). Thus, CAP homeowners accumulated considerably more wealth than similar renters during the study period and were more likely to hold investment assets other than home equity.

One factor contributing to these differences in wealth across the owners and renters samples in CAPS is the fact that the user cost of owning compared with renting a comparable property was lower for most of the study period. This pattern reflects the high levels of house price apprecia-

tion that were observed toward the beginning of the study and the fact that the CAP mortgages carried very low down payments. The latter feature of these mortgages tended to reduce the opportunity cost of owning and to increase the benefit from even small amounts of house price appreciation. (Riley, Ru & Feng 2013, 125, 136). A second contributing factor has involved gains in equity markets, as those CAPS participants with retirement savings have experienced increases in net worth as a result of appreciation in non-housing investments.

C. Drivers of Appreciation

The substantial contribution of home equity to net worth for the median CAP borrower notwithstanding, some variation in house price appreciation, and thus in home equity returns, exists within the sample. Given the fact that CAP loans were generally originated with very low down payments, this variation is associated primarily with geographic factors, particularly local housing market conditions, the land use regulatory environment, and neighborhood demographic composition. During the housing market boom that took place prior to 2007, those CAP properties to experience the highest rates of appreciation were those located in neighborhoods with higher median house values, a higher homeownership rate, a higher level of neighborhood disadvantage—i.e., poverty, single-parent households, etc.—and a somewhat older housing stock, as well as those with a substantial Hispanic immigrant population, particularly in California. (Riley & Quercia 2011, 194–205; Stegman, Quercia & Davis 2007, 404–05). Restrictive land use regulations and a lack of readily developable land also contributed positively to house price appreciation during this period, while areas with higher unemployment rates experienced less appreciation. (Riley 2012, 753–64).

After the housing market downturn began, those properties that best retained their value tended to be the less expensive single-family properties located in more affluent neighborhoods with a somewhat older housing stock. In contrast, properties located in disadvantaged neighborhoods and areas with high homeownership rates, more restrictive regulation, less developable land, higher unemployment, and a greater prevalence of subprime lending experienced the greatest declines. Thus, many of those factors that contributed positively to house price appreciation during the housing market boom were, in fact, associated with greater house price volatility throughout the period as a whole. The behavior of house prices in the most volatile markets may reflect a lower elasticity of housing supply in these areas. (Riley 2012, 753–64). The relationships of these factors to CAP

house price appreciation, both before and during the financial crisis, are summarized in Table 3.

IV. IMPLICATIONS FOR MORTGAGE PROGRAM DESIGN

As described in the earlier sections, the favorable outcomes for Community Advantage Program (CAP) borrowers suggest that the credit box could be opened in a responsible manner. Ideally, efforts aimed at low- and moderate-income households should incorporate considerations of the entire lending lifecycle, from the time the prospective homeowner explores lending options to the eventual termination of the loan, as well as environmental factors that can mediate outcomes. The design process should consider approaches to site selection, underwriting, servicing, and counseling that are conducive to these goals. Each of these various factors alone can be leveraged to support favorable outcomes for borrowers, but synergy may be achieved when they are considered concurrently.

A. Location and Timing

A truism about real estate is that location is the most important determinant of value. Thus, the affordable homeownership experience could be enhanced by taking into consideration not only the characteristics of specific properties and neighborhoods but also the characteristics of the larger housing market. Providing relevant education and property selection assistance could help potential borrowers with strategic site selection in light of their needs, resources, and specific time horizons.

At the property and neighborhood levels, single-family properties that are modestly priced but located in more affluent neighborhoods appear to represent the best long-term investments. Suitable properties could be identified systematically in each market, and a list could be made available to households in the initial stages of the home buying process. Alternatively, potential homebuyers could be guided to suitable options by selected real estate and other professionals in their local areas who have been specifically trained to provide this service.

At the market level, the presence of stable and diverse employment opportunities is important for the long-term sustainability of homeownership among low- and moderate-income households. Declining or stagnant markets in which structural unemployment has taken hold are likely to be particularly unsuitable for these borrowers. Renting in these locations may be a more appropriate and less risky option.

Moreover, the presence of restrictive land use regulation and/or land scarcity, which are associated with more volatile house prices, may prove either productive or counterproductive in the context of long-run wealth

accumulation. The risk premium associated with homeownership and the rate of house price appreciation can be higher in markets with greater levels of land use regulation due to the greater house price volatility that tends to be present in such locations. Thus, these markets have the potential to offer low-income homeowners a greater degree of equity accumulation. By the same token, however, it becomes more important in such markets to consider carefully the timing of purchase and sale, or to consider the home purchase decision as a long-term investment. Purchasing at the top of a declining market can lead to large losses if the market is not given time to recover prior to sale. In addition, in markets where homeowners experience large gains, there may be an increased incentive to sell, which could erode equity gains via the transaction costs of liquidation. Thus, expanding the credit box for low-income households in less regulated markets may have the preferred dual effect of promoting modest long-term wealth gains while minimizing investment risks due to market volatility and timing. (Riley 2012, 753–64).

Given the facts that house prices fluctuate over time and that house price appreciation is the primary determinant of a homeowner's user costs, the timing and duration of home purchase is itself also arguably an equally important consideration for enhancing sustainability. Homeownership is a long-term investment and, as such, both long-term mobility intentions and commitment to place are key. Providing financial incentives for reduced mobility (such as proactively refinancing mortgages when interest rates are declining) may facilitate longer investment horizons. To the extent that residential mobility is not predictable due to the unforeseeable nature of many life events that may induce borrowers to sell their houses and relocate, the judicious use of economic indicators and cost ratios may also be advisable.

More broadly, lending efforts may be most effective if they incorporate market considerations. Rather than being uniformly applied throughout the business cycle, the characteristics of lending efforts such as cost ratios and other underwriting considerations could be adjusted to enhance long-term sustainability given current and foreseeable market conditions. For instance, lending efforts could be tightened during time periods when owned properties are overvalued relative to rents, and expanded during periods when the opposite is true.

B. Underwriting

Traditional underwriting factors that predict mortgage performance in the larger housing market are just as relevant for low-income households as for the general population. Thus, mortgage underwriting should carefully

take into consideration the income, credit history, and debt burden of each borrower, as well as how these factors relate to the value of the home being purchased and the amount of the loan being requested.

Once creditworthiness has been established given the property being purchased, the lending product itself contributes directly to mortgage performance. As noted by Shi and Riley (2014, 139–47), whether fixed-rate or adjustable-rate mortgages generate lower default rates will typically depend on whether the loan is originated in an increasing or decreasing interest-rate environment. Default rates will typically be higher for adjustable-rate mortgages when interest rates are increasing, and higher for fixed-rate mortgages when interest rates are falling. However, given the cyclical nature of such rates and behavioral preferences for predictability in mortgage payments, fixed-rate mortgages likely represent the most suitable product for long-term investment by low-income households. To the extent that interest rates can be minimized or subsidized at the time of loan origination, the layering of risk as a function of the payment stress experienced by the borrower will be minimized, as well.

C. Counseling and Servicing

It seems obvious that a more informed person should be a better borrower than one who is less informed. However, at this point, it is not clear that homeownership education and counseling (HEC) has any direct impact on mortgage default. On the basis of our work, post-purchase in-person or classroom counseling can increase the likelihood that a homeowner refinances when it is financially beneficial to do so. (Quercia & Spader 2008, 305). Moreover, post-purchase counseling among borrowers who are already delinquent can improve repayment rates. (Ding, Quercia & Ratcliffe 2008, 316–18). This observation is similar to findings that high-touch specialty servicing can improve outcomes among delinquent borrowers and reduce the likelihood that delinquency will escalate to foreclosure. (Stegman, Quercia & Davis 2007, 393; Tian, Quercia & Riley 2015, 19).

The quality of servicing in terms of the handling of distressed loans also potentially has an impact on the financial stress experienced by the homeowner and, thus, the homeowner's experience with the lending program. In particular, servicing can improve outcomes through early and regular personal contact, and through appropriate loan modifications. However, modifications that merely extend the loan term without a reduction in principal or monthly cost burden appear to do little to address the financial stress of delinquent borrowers. (Lindblad & Riley 2015, 1093–1103). Moreover, modifications that do not reduce the monthly payment burden and/or the amount of outstanding principal represent higher redefault risk.

(McCoy 2014, 422–30; Quercia & Ding 2009, 184–91). Thus, to be effective, modifications must be sufficiently forgiving to address the underlying financial constraints that originally led to default. In those cases where a modification of this kind is not feasible for the lender, an expeditious foreclosure is recommended. (Lindblad & Riley 2015, 1093–1103).

The limited evidence supporting the role of counseling on preventing mortgage defaults notwithstanding, an expanded counseling or education requirement for low- and moderate-income borrowers may nonetheless be warranted on the grounds that it may facilitate better financial decision-making as a whole. Homeownership counseling requirements may be warranted especially when credit is extended to marginal borrowers. To the extent that these potential borrowers may not naturally recognize the need to make home purchase decisions in line with market considerations, it may make sense to structure affordable lending programs as ongoing supportive partnerships involving frequent and routine interactions between the borrower and program administrators, rather than as gateways. Moreover, administering the effort from the broader perspective of holistic financial growth for the targeted household, rather than from that of a lender making a loan, may facilitate outcomes that are not dependent on any particular lender but rather reflect an evolution toward greater financial independence under the guidance of a support organization that provides ongoing partnership in the form of education and counseling. In this sense, viewing a lending program for marginal borrowers simply as a lending program may limit the effectiveness of such an effort, given the interdependence of financial decision-making in regards to homeownership and other components of the household balance sheet. A more robust framework may involve the participation of a variety of stakeholders, including not only the lender but also realtors, economists and other market analysts, specialty servicers, and financial educators and counselors. All of these stakeholders could be brought together under a third-party roof that would provide necessary coordination and team oversight so that program participants receive the balanced and ongoing individualized support that they need to succeed.

CONCLUSION

The persistent nature of the debate concerning the desirability and feasibility of supporting homeownership for low- and moderate-income households in regards to both opening up the credit box and reforming the housing finance system speaks to the need for clarity about why some such efforts work and others do not. By considering the outcomes of low-income homeowners who received mortgages through the Community Advantage

Program (CAP), we have identified a variety of success factors that can be leveraged in the design of future lending programs. At the median, CAP participants experienced positive house price appreciation and substantial increases in home equity between loan origination and the end of 2015. Their overall gains in wealth greatly exceed that for similar renters during the same time period. Moreover, foreclosure rates for CAP borrowers have remained well below those for subprime mortgage loans made to similar borrowers during the same time period. The factors contributing to the relative success of CAP include careful underwriting and mortgage product selection (echoing Goodman (2016)), as well as proactive servicing. Moreover, the outcome variation that exists within the program highlights the need for careful consideration of the potential effects of market timing and property location. As a means of generating synergy among these various program components, we suggest that a collaborative model of long-term partnership among diverse stakeholders, rather than a lender-centric program orientation, may be most conducive to achieving optimal participant outcomes.

When properly done, as reflected in the CAP experience, extending mortgage credit to low- and moderate income borrowers can be both sustainable and profitable. Opening the credit box to these borrowers with the right products would be beneficial to all stakeholders. In the longer run, the reform of the housing finance system should take into account support for the credit needs of the low- and moderate-income households who are ready to assume the promise of homeownership.

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Table 1. Characteristics at CAP Mortgage Origination or Survey Baseline

	CAP Portfo- lio N=46,547	CAPS Owners Sample N=3,743	CAPS Renters Sample N=1,529
Age (median, years)	32	32	39
Income (median, \$)	30,792	30,672	19,000
Income (median, % of AMI)	60	58	33
Male (%)	57	54	30
Race (%)			
<i>White</i>	61	61	44
<i>Black</i>	19	20	33
<i>Hispanic</i>	14	16	19
<i>Other</i>	6	3	4
Marital status (%)			
<i>Married</i>	.	46	28
<i>Widowed/divorced/separated</i>	.	20	32
<i>Never married</i>	.	35	40
Educational attainment (%)			
<i>Less than High School</i>	.	9	20
<i>High school diploma or GED</i>	.	51	55
<i>Associate's or trade school degree</i>	.	14	8
<i>Bachelor's degree</i>	.	19	13
<i>Graduate degree</i>	.	6	4
Employment status (%)			
<i>Working</i>	.	92	63
<i>Unemployed (looking for work)</i>	.	3	12
<i>Out of labor force</i>	.	3	20
<i>Retired</i>	.	2	5
Geographic region (%)			
<i>Midwest</i>	16	26	14
<i>Northeast</i>	4	3	0
<i>South</i>	69	62	74
<i>West</i>	12	10	12
Rural (%)	14	18	.
Low-income tract (%)	32	30	.
Minority tract (%)	30	25	.
Purchase price (median, \$)	84,000	77,500	.
Loan amount (median, \$)	79,000	74,775	.
Original loan-to-value ratio (median, %)	97	97	.
Original debt-to-income ratio (median, %)	37	37	.
Original credit score (median)	681	673	.

Table 2. Key Drivers of CAP Mortgage Default

<u>Borrower and Loan Characteristics</u>	<u>Direction of Impact</u>
Household income	-
Loan-to-value ratio (original or current)	+
Debt-to-income ratio (i.e., back-end ratio)	+
Credit score	-
Unemployment	+
Precautionary savings	-
<u>Environmental Characteristics</u>	
Local unemployment rate (especially structural component)	+
Diversity of local employment opportunities	-
Broker origination channel	+

Note: See Ding et al. (2011); Quercia, Pennington-Cross & Tian (2012); Tian, Quercia & Riley (2016); Quercia, Pennington-Cross & Tian (2016); and Kaza et al. (2016).

Table 3. Key Drivers of CAP House Price Appreciation

<u>Property Characteristics</u>	<u>Direction of Impact</u>		
	<u>Before 2007</u>	<u>2007-2010</u>	<u>Overall</u>
Purchase price	-	-	-
Single family	n.s.	+	+
<u>Neighborhood Characteristics</u>			
Homeownership rate	+	-	-
Median property value	+	+	+
Median property age	+	+	+
Hispanic immigrant population	+	n.s.	+
Disadvantage scale	+	-	+
Subprime origination rate	n.s.	-	-
<u>Regional Characteristics</u>			
Restrictive land use regulation	+	-	-
Unavailable land share	+	-	n.s.
Unemployment rate	-	-	-

Notes: (1) The abbreviation “n.s.” indicates not statistically significant. (2) See Stegman, Quercia & Davis (2007); Riley & Quercia (2011); and Riley (2012).

Table 4. Wealth Accumulation by CAPS Owners and Renters

	<i>Owners Sample</i>	<i>Renters Sample</i>
Median net worth	\$71,664	\$11,266
Home equity share of net worth	23%	22%
Retirement accounts share of net worth	40%	45%
Net liquid assets share of net worth	20%	11%
Net value of vehicles share of net worth	7%	9%
Percent holding retirement accounts	70%	40%

Note: The renters sample's home equity share of net worth reflects the facts that (1) approximately 35% of the renters sample became owners during the survey period, and (2) the total net worth of renters who did not become owners represents a much smaller share of total sample net worth than that of the renters who became owners.

Figure 1.

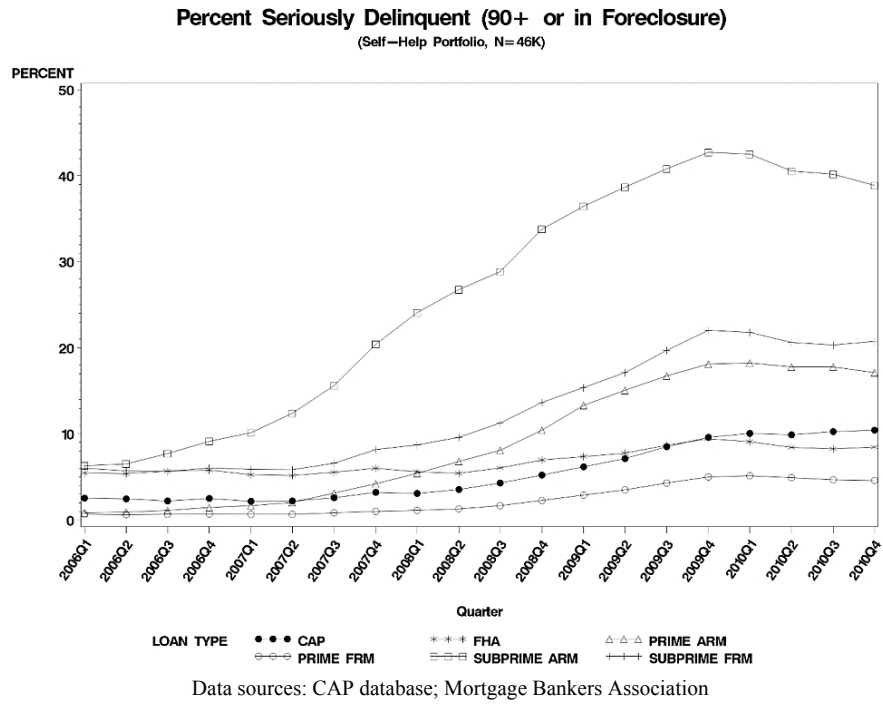


Figure 2.

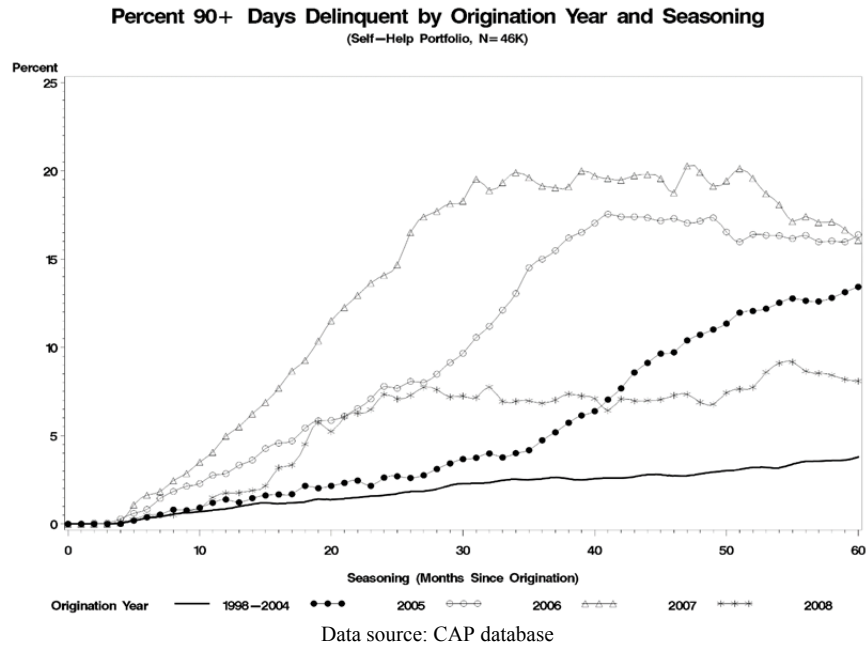


Figure 3.

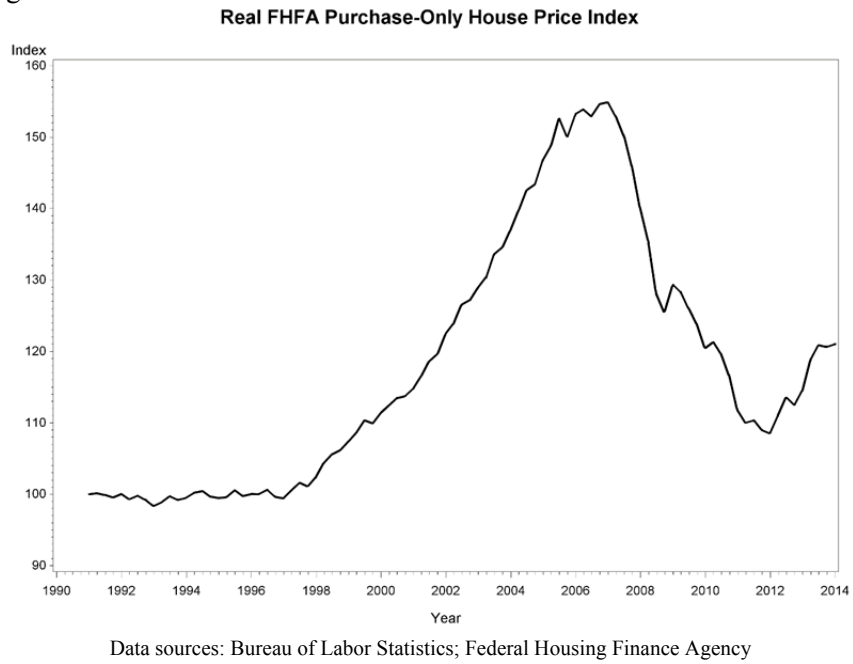


Figure 4.

Median Equity Accumulated Since Origination, with Interquartile Range
(Self-Help Portfolio, N=46K)

