

Fostering Low-Income Homeownership through Individual Development Accounts: A Longitudinal, Randomized Experiment

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Abstract

For low-income families, homeownership represents an important strategy for promoting long-term social and economic development. Individual Development Account (IDA) programs facilitate saving toward assets such as a home through matching, financial education, and case management. Using longitudinal experimental data from the American Dream Demonstration, this study examines the impact of IDA participation on homeownership rates and on clearing old debts. Low-income participants were interviewed after 18 months (Wave 2) and after program completion at 48 months (Wave 3).

Logistic regression results indicate that among those who were renters at baseline, IDA participation significantly increases the clearing of old debts at Wave 2 and homeownership rates at Wave 3. IDA participants with cleared debt activity had the highest probability of becoming homeowners at Wave 3 (32 percent), while those who were not IDA participants and did not have such activity had only a 9.6 percent probability.

Keywords: Assets; Homeownership; Programs

Introduction

Homeownership represents stability and opportunity for many families and is an integral part of the American Dream. For most U.S. families, homeownership is not only the primary vehicle for accumulating wealth, but is also associated with many benefits for individuals, families, neighborhoods, and communities. These benefits include increased satisfaction with life, improved health, greater participation in the labor force, higher educational attainment by children, and better housing maintenance and property improvement (Coulson and Fisher 2002; Dietz and Haurin 2003; Herbert and Belsky 2006; Robert and House 1996; Rossi and Weber 1996; Scanlon and Page-Adams 2001; Van Zandt and Rohe 2006).

Although homeownership rates have increased in recent years to the point that over two-thirds of families own their homes, the current subprime loan and foreclosure crisis has had a dampening effect on the homeownership rate. Moreover, low-income families face a number of unique barriers to achieving homeownership (Barakova et al. 2003; Collins 2004; Di and Liu 2004; Haurin and Morrow-Jones 2006; Herbert and Tsen 2005; Ratner 1996; Santiago and Galster 2004; Zhao, Ondrich, and Yinger 2006). These include financial obstacles, lack of information about the home-buying process, a shortage of affordable housing, and discrimination against minority families. These and other factors have produced a considerable gap in homeownership between lower-income and higher-income households. In 2004, just over half (51 percent) of very low income households (those whose income was below 50 percent of the area median income [AMI]) owned their homes, compared with 88 percent of higher-income households (those whose income was at or above 120 percent of the AMI [Herbert et al. 2005]).

Historically, low-income homeownership has been touted as promoting significant positive changes (Boehm and Schlottmann 1999; Di, Yang, and Liu 2003; Dietz and Haurin 2003; Green and White 1997; Haurin, Parcel, and Haurin 2002; Harkness and Newman 2002; Reid 2004). Yet, as Shlay (2006) and others (e.g., Rohe, Van Zandt, and McCarthy 2001) suggest, there is to date no definitive evidence to confirm these assertions. Nevertheless, accumulating wealth through owning a home can serve as an opportunity for long-term social and economic development for low-income households.

One way that such households can save for a home is through an Individual Development Account (IDA) or matched savings account. IDA programs promote savings by offering participants 1:1, 2:1, or higher-ratio matches for their deposits. IDAs have proven to be both popular and bipartisan. At this writing, there are as many as 1,000 IDA programs and nearly

50,000 account holders in the United States. Community-based initiatives have received support from foundations, financial institutions, other corporate sponsors, and private donors. Publicly sponsored IDA programs have been enacted in 40 states.

IDAs target low-income households and encourage them to save toward asset-building purposes such as a home, postsecondary education, and microenterprise—assets that promote long-term well-being and financial self-sufficiency (Sherraden 1988, 1991). IDA programs are implemented at the local level through community-based organizations in collaboration with the financial institutions that hold the accounts. IDAs are accompanied by mandatory general financial education, focusing on money management and asset-specific counseling to prepare participants for asset building. Matched contributions are funded through public and private sources (nonprofit organizations, foundations, churches, etc.).

Funding for IDAs comes from federal, state, and private sources. Federal grants are the largest source of funding, followed by financial institutions and private foundations. Public funding for IDAs totals approximately \$225 million annually; roughly \$185 million is provided by the federal government and the remainder by the states (Boshara 2005). In 1998, Congress passed the Assets for Independence Act, which authorized a five-year, \$125 million IDA demonstration project. Temporary Assistance for Needy Families is another federal source, since states can opt to use some of these funds for IDA programs.

Our study uses a series of logistic regression analyses to test the effect of IDA programs on homeownership rates and the clearing of old debt among low-income participants. We use longitudinal, randomized experimental data from the American Dream Demonstration (ADD), the first large-scale test of IDAs in the United States. The demonstration was initiated and organized by the Corporation for Enterprise Development (CFED) and the Center for Social Development (CSD) at Washington University in St. Louis. CFED implemented the demonstration, and CSD conducted the research. Abt Associates Inc. was awarded a contract to collect the data for the experimental component of ADD, which was funded by 12 foundations.¹ The demonstration uses a multimethod research design to collect data and analyze saving

¹They are the Ford Foundation, the Charles Stewart Mott Foundation, the F. B. Heron Foundation, the John D. and Catherine T. MacArthur Foundation, the Metropolitan Life Foundation, the Joyce Foundation, the Citigroup Foundation, the Fannie Mae Foundation, the Levi Strauss Foundation, the Ewing Marion Kauffman Foundation, the Rockefeller Foundation, and the Moriah Fund.

performance, investigate IDAs as an asset-building strategy, and observe the effects of IDAs on participants (Schreiner, Clancy, and Sherraden 2002).

ADD data collection began in 1998 and ended in 2003, with postprogram research still under way. Our findings suggest that IDAs appear to be effective in helping low-income families save for a home. By 18 months, participation led to increased engagement in clearing old debts. Among those who were renters at baseline, participation led to increased rates of homeownership by 48 months.

Literature review

Homeownership is a key mechanism for accumulating wealth. Some 69 percent of all U.S. households are headed by homeowners (Carasso et al. 2005). Housing wealth is the largest source of savings for most middle-income households and exceeds other assets such as retirement accounts and personal savings. On average, U.S. homeowners hold about half of their household wealth (48 percent) in the form of home equity (Di, Yang, and Liu 2003). Yet only half of the households in the lowest fifth of the income scale own their homes (Carasso et al. 2005). Therefore, fostering homeownership has become a major asset-accumulation strategy for low-income families.

Benefits of homeownership

A considerable body of research has established that for most families, homeownership is a key tool for accumulating wealth, and recent research has indicated that it may be even more crucial for low-income families. Using Panel Survey of Income Dynamics (PSID) data from 1984 through 2001, researchers found that low-income persons who were homeowners for the entire 18-year period had nearly eight times as much average wealth as those who rented during the same period (Di, Yang, and Liu 2003). Consistent with this finding, another study using PSID data found that low-income households that remained renters from 1976 through 1994 had essentially no wealth in 1994, while those who became homeowners over that period had accumulated between \$25,000 and \$30,000 (Reid 2004).

Studies have also shown a link between homeownership and improved child outcomes such as school attainment, earnings, and teenage pregnancy. Comparing the children of homeowners with the children of renters, researchers found that the former had greater school attainment, as well as higher mathematics and reading scores (Haurin, Parcel, and Haurin 2002). In addition, homeownership has been shown to be associated with financial benefits for children throughout their lives, including both increased earn-

ings and increased likelihood of owning a home (Boehm and Schlottmann 1999; Harkness and Newman 2002). Further, the findings of Green and White (1997) demonstrated that daughters of homeowners were less likely to become pregnant as teenagers than daughters of renters.

In a review of research on the social impacts of homeownership, Dietz and Haurin (2003) found that homeownership was associated with several positive social outcomes, including greater social involvement, increased participation and activism in local politics, better health, and enhanced community characteristics such as lower crime rates. Compared with renters, homeowners were more likely to be involved in volunteer work, neighborhood and block association meetings, and local politics (DiPasquale and Glaeser 1999). Also, homeownership has been shown to be associated with greater satisfaction with life and higher self-esteem on the part of household members (Rohe and Basolo 1997; Rossi and Weber 1996).

In addition to the impact that increased social and civic involvement may have on community, homeownership has been associated with a positive influence on the stability and functioning of neighborhoods. Compared with renters, homeowners are generally less mobile and more likely to remain in their homes for longer periods (Rohe and Stewart 1996; Scanlon and Page-Adams 2001). Homeownership has also been associated with a positive impact on property maintenance. Homeowners have more incentive to maintain and repair their homes than renters (Mayer 1981). Although the positive effects on neighborhoods and communities are promising, one recent study (Harkness and Newman 2002) found weak neighborhood effects. Specifically, these authors found that the positive effects of homeownership on children's development did not depend on neighborhood conditions.

Barriers to low-income homeownership

In recent years, a greater emphasis has been placed on increasing homeownership rates among low-income families. In response, the introduction of new mortgage products with low down payments and flexible underwriting guidelines that allow larger debt ratios have facilitated a surge in home purchases. However, there are still large gaps in homeownership by income level; specifically, low-income families continue to face many barriers in the home-buying process. In a survey of public housing residents who were participating in a homeownership program, respondents most frequently identified financial barriers such as poor credit ratings, insufficient savings, low hourly wages, and an inadequate income-to-debt ratio. Participants also mentioned discrimination by mortgage lenders as a barrier (Santiago and Galster 2004).

Research has indicated that both income and net wealth are related to achieving homeownership (Di and Liu 2004). Although not having enough income can constrain homeownership in terms of mortgage payments and home maintenance costs, limited wealth has been identified as more problematic (Barakova et al. 2003; Di and Liu 2004). Cash reserves are needed for a down payment, closing costs, and taxes. Despite the establishment of affordable lending tools requiring low down payments or none at all, research has found that a lack of wealth continues to be a significant barrier to buying a home (Barakova et al. 2003; Di and Liu 2004; Herbert and Tsen 2005).

A recent study suggests that a relatively small amount of savings or assistance can influence a household's ability to buy a home. Herbert and Tsen (2005) found that savings between \$0 and \$1,000 had the greatest impact on the probability of homeownership. Households with \$1,000 in liquid wealth were 41 percent more likely to buy a home than households with no wealth.

Although wealth constraints have historically been the greatest barrier to homeownership, efforts in the 1990s to provide affordable lending products (flexible and subprime lending) enabled more households to overcome some of the traditional barriers (Listokin et al. 2001). Simultaneously, however, credit quality-based constraints moved to the forefront, indicating the rise in the number of households with poor credit (Barakova et al. 2003). For example, an analysis by Fellowes (2006) of consumer credit reports for every U.S. county between 1999 and 2004 found that homeownership rates were strongly associated with credit scores. Fellowes (2006) observed a significant difference in the percentage of households that owned their homes between counties with high and low credit scores (73% versus 63%). In addition, consumer debt in recent years has increased substantially and at an alarming rate among low-income families. The average debt among these families doubled between 1984 and 2001. This dramatic increase is particularly worrisome because debt levels have increased much faster than debt payments as a result of lower interest rates and the increasing substitution of mortgages for other forms of more expensive debt. Wagmiller (2003) found that among poor families, total debt was equal to nearly half of total annual family income in 2001.

Not only are credit and debt issues direct barriers to homeownership, but they have also been identified as barriers to saving by IDA program participants (Carpenter 2008). For example, almost half of the participants in a recent Rhode Island study had debt burdens of more than \$10,000 during their first year in the program. Such a level of debt means that instead of

being placed in an IDA, earned income is diverted to pay down debt in order to qualify for a mortgage.

Some households encounter barriers that stem from a lack of knowledge about the home-buying process as well as misconceptions about how eligibility is determined. One ethnographic study (Ratner 1996) found that some families assumed that they would not qualify for home loans, and others did not know how creditworthiness is evaluated. In addition, some families were unaware of the availability of first-time homeowner and subsidized programs. Similar findings were reported in Fannie Mae's 2003 National Housing Survey, which showed that respondents had varying levels of accurate information about homeownership and the home-buying process (Fannie Mae Foundation 2003).

Haurin and Morrow-Jones (2006) examined the lack of information about the home-buying process by race. Using data derived from a survey of residents in the Columbus, OH, area, the authors were among the first to test a causal hypothesis relating knowledge of the real estate market held by blacks and whites to the gap in homeownership. Results revealed that the lack of such knowledge is a significant barrier to becoming a homeowner and that racial differences explained 8.5 percent of the gap in homeownership rates.

Although owning a home has always been a part of the American Dream, for many, the dream has been deferred by a long history of discrimination and inequality in home mortgage lending. The 1968 federal Fair Housing Act and the 1974 Equal Credit Opportunity Act made racially based mortgage discrimination illegal (Walter 1995), but minority and low-income buyers are still at a disadvantage when buying a home. According to 2003 Home Mortgage Disclosure Act data, black applicants for conventional home purchase loans were rejected at twice the rate for white applicants (24 percent and 12 percent, respectively; Collins 2004).

Real estate brokers have also been identified as participating in racial and ethnic discrimination. Using national audit data from the 2000 Housing Discrimination Study, Zhao, Ondrich, and Yinger (2006) found that although discrimination remains, its prevalence and incidence have declined since 1989. More recently, some researchers have asserted that another type of inequality has emerged in the form of subprime lending, problematic types of housing, predatory practices, and a lack of consumer protections (Carr 2007; Williams, Nesiba, and McConnell 2005).

Collins, Crowe, and Carliner (2001) found that many low-income renters could not become homeowners because there were not enough afford-

able housing units in the areas where they wanted to live (based on factors such as the availability of public transportation or a reasonable commute for work). In fact, affordable housing is becoming scarce throughout the country. Between 1997 and 1999, house price inflation and lack of vacancies resulted in a decrease of nearly half a million affordable owner-occupied homes.

The impact of affordable lending efforts on homeownership has also been studied to better understand the use of flexible underwriting guidelines. Quercia, McCarthy, and Wachter (2003) compared changes in the down payment and housing burden requirements with changes resulting from lower interest rates. Their results indicated that affordable lending practices addressing the savings needed for a down payment (e.g., Freddie Mac's Alt 97 and Fannie Mae's Flex 97) would likely increase homeownership opportunities for underserved populations. However, their findings also indicated that affordable products are not likely to affect all targeted populations equally; this is particularly true for households lacking income growth potential, such as those with low and moderate incomes.

Saving to buy a home with an IDA

IDA programs were created to foster savings and asset accumulation, including homeownership for low-income households. Those participating in an IDA program establish an account at a financial institution and can save toward a down payment or closing costs. At the end of the period, savings are matched with funds from either government or private sources. The matched funds enable participants to overcome one of the major obstacles to buying a home. Further, an IDA program helps participants acquire the habit of saving, which will later help them make monthly loan payments. In addition to the matched savings accounts, IDA programs provide financial education, case management, and opportunities for peer support. Participants are required to attend financial education classes on topics such as how to save for a house, how to shop in the real estate market, and how to work with real estate agents.

In recent years, IDA programs have received bipartisan political support. Also, a considerable body of research has examined the savings performance of participants. Results have shown that when given the institutional support of an IDA program, the poor are able to save (Curley, Ssewamala, and Sherraden 2005; Grinstein-Weiss, Wagner, and Ssewamala 2006; Schreiner, Clancy, and Sherraden 2002; Schreiner and Sherraden 2007; Ssewamala and Sherraden 2004).

Moreover, substantial evidence from previous ADD investigations suggests that subgroups of IDA participants go through different experiences with savings. Key variables include race, education, age, residency, and household composition (Grinstein-Weiss, Curley, and Charles 2007; Grinstein-Weiss et al. 2007; Grinstein-Weiss and Sherraden 2006; Grinstein-Weiss, Wagner, and Ssewamala 2006; Grinstein-Weiss, Zhan, and Sherraden 2006; Mills et al. 2008; Zhan and Grinstein-Weiss 2007).

Of specific interest to our study are homeownership rates and the process leading to homeownership. Although previous studies have primarily used the data collected by program staff at the 14 individual sites,² we use data from the longitudinal, randomized, controlled trial that was conducted in Tulsa, OK. Abt Associates Inc. was responsible for collecting data and reporting impacts for the first three waves of ADD. Beginning with the baseline interview at Wave 1, the experiment ran for 4 years (from 1998 to 2002, but the data collection took longer). The first follow-up interviews (Wave 2) were conducted at 18 months, and the second (Wave 3) were conducted at the end of the program (48 months).

To build on the work of Abt Associates Inc. (2004), we tested the effect of IDA participation on homeownership rates after 18 and 48 months. We also tested the effect of participation on the activity of clearing old debts at Wave 2 and Wave 3.

Our study extends the work of Mills et al. (2008) in several ways. First, we use data from all three waves to investigate the process of becoming a homeowner and to determine whether the final outcome of homeownership is achieved. Mills et al. (2008) used data solely from the first and third waves. Second, although both studies examine the impact of IDA participation on homeownership, we also focus on clearing old debts at Wave 2 as one of the two main outcomes. This was not included in the work by Mills et al. (2008).

Method

Data and sample

One of the ADD programs involved a randomized field experiment conducted at the Community Action Project of Tulsa County (CAPTC), a multiservice community action agency whose clients are low-income residents in

² The ADD had 14 IDA program sites across the country from which data were collected. The randomized, longitudinal experiment was done only at the Tulsa, OK, site.

the Tulsa (OK) metropolitan area (Abt Associates Inc. 2004). Those whose family income was below 150 percent of the federal poverty level were eligible to participate in the experiment.³

CSD contracted with Abt Associates Inc. to collect data from 1998 to 2003 and to report the initial effects for the first three waves of ADD. A longitudinal design was used to collect data. About a month after completing a baseline survey (Wave 1), 1,103 participants were randomly assigned to either a treatment (N = 537) or a control group (N = 566). The Wave 2 survey was administered about 18 months after random assignment (between May 2000 and August 2001). An interview was first attempted by telephone. If telephone attempts were unsuccessful, a field interviewer tried to arrange an in-person interview at the respondent's residence via telephone and/or a follow-up letter. The Wave 3 survey followed the same process and occurred approximately 48 months after random assignment (January to September 2003). A participant who did not answer at Wave 2 was still contacted for the Wave 3 survey. The average interval between the baseline and Wave 3 interviews was 1,449 days for treatment cases and 1,456 days for controls; the difference is not statistically significant. Interviews were conducted using computer-assisted telephone and face-to-face interviewing methods.

Our study excluded people who were already homeowners at baseline for both treatment and control groups.⁴ Table 1 reports sample sizes for each of the waves. At baseline, 863 renters were randomly assigned to the treatment or control group. This number decreased to 721 respondents at Wave 2 and 642 respondents at Wave 3. Retention rates were generally high and did not vary significantly between groups. High retention rates may be due in part to extensive tracing efforts and the incentives provided. Six tracing letters were sent between the various surveys; sample members received \$10 for each letter to which they responded. At Wave 2 and Wave 3, respondents received \$35 for completing the interview.

Of the 642 respondents who completed the 48-month follow-up survey, the treatment and control groups numbered 318 and 324, respectively. All had been renters at baseline. The treatment group had access to matched savings accounts, financial education, and case management. Although the amount of savings was flexible, there was a minimum expectation that participants

³The area median income was \$38,213 in 1999 dollars (U.S. Bureau of the Census n. d.).

⁴Participants in IDA programs saved for different asset-building purposes (first-time homeownership, education, microenterprise, etc). While most of the participants were interested in saving for a home, those who were already homeowners could join the program to save for other purposes, such as education.

Table 1. Sample Size by Each Wave: Renters at Baseline Only

Wave	Description	Survey Period	Treatment Group	Control Group	Total	Response Rate
1	Baseline interview	October 1998 to December 1999	N = 434	N = 429	N = 863	N/A
2	18-month follow-up	May 2000 to August 2001	N = 363	N = 358	N = 721	83.54%
3	48-month follow-up	January 2003 to September 2003	N = 318	N = 324	N = 642	74.39%

NA = not applicable.

would make a monthly deposit of at least \$10 in 9 out of every 12 months. The control group did not have access to these components and agreed to abstain from participating in any other matched savings or homeownership program offered by CAPTC (e.g., direct financial assistance through either a matched savings program or the lease-purchase program). However, control group participants could receive homeownership counseling from other area providers. Members of the control group were released from these restrictions after completing the Wave 3 interview (or after September 2003 for nonrespondents). Of these 642 eligible people, 475 participants with no missing data on any relevant variables were used for this study.⁵ Missing data analysis using Little's (1988) test showed that the pattern was MCAR (missing completely at random), which indicates that there are no significant differences in sample characteristics between the analyzed and deleted samples due to missing data. Thus, the results of this study would not be biased because of missing data (Horton and Kleinman 2007).

Measures

Dependent variables. We examined two dependent variables for each of the two waves: homeownership status and cleared old debts activity. Homeownership was a dummy variable with 1 indicating a homeowner and 0

⁵Once participants become homeowners, they were no longer asked the questions on clearing old debts. Thus, the sample sizes of clearing-debt analyses were further reduced: 389 at Wave 2 and 307 at Wave 3.

indicating a renter. Dummy coding was also used to indicate participation in cleared old debts activity. Positive responses for such activity were coded as 1 and negative ones as 0. The specific question asked for cleared old debts activity was: “*Since [date of last interview], has anyone in your household cleared up old debts in order to apply for a home loan?*”

Independent variables. The first independent variable indicated whether respondents were assigned to the treatment group (coded 1) or the control group (coded 0). Additional independent variables included demographic factors, household composition, and financial characteristics. All independent variables were measured at baseline. The age of participants (in years) was a continuous variable. Race/ethnicity was divided into three groups: Caucasian (the reference group), black, and others. Marital status at baseline fell into one of three groups: never-married single, separated/widowed/divorced, and married (the reference group). The education variable indicated the highest level of education that participants had completed at baseline: less than high school (the reference group), completed high school, attended some college, and graduated from college. Household composition comprised two continuous measures: the number of adults (18 or older) other than respondents at baseline and the number of children (17 or younger) at baseline.

Financial characteristics included total household income, total net worth, and residence in public housing. The income variable was defined as the total monthly gross household income divided by 1,000.⁶ Total household income included the amount of income from employment, public assistance, public insurance, and informal sources. Net worth was measured as the total amount of assets minus liabilities. Total assets summed the value of savings with trusted friends or family members who kept money safe for the respondent, liquid assets (savings or checking account, cash saved at home), IDAs and other subsidized assets (401k, Individual Retirement Accounts [IRAs]), long-term financial assets (bonds, certificates of deposit, stocks, mutual funds, vacation accounts), physical assets (home, car, business, property), and any other kinds of savings. Total liabilities included debts for physical assets and education; regular monthly bills; and installment, business, and personal debts. A dichotomous variable indicated whether the respondent lived in public housing at Wave 1, with a 1 indicating residence in public housing. Other respondents were coded 0.

⁶All financial characteristics variables were divided by 1,000 to make the metric consistent. Compared with the other variables, financial variables are very large numbers, causing the value of regression coefficients to be too small to be presented in the table.

Data analysis

Differences in sample demographics between treatment and control groups at baseline were examined using chi-square tests for categorical variables and *t*-tests for continuous variables. Differences in homeownership and cleared old debts activity between the two groups were assessed by wave with chi-square tests.

To test the effect of IDA participation on homeownership and cleared old debts activity, we used multivariate logistic regressions, controlling for group differences in demographics and financial background. Because of a multicollinearity issue between homeownership status and cleared old debts activity (questions on the latter were asked only of renters), we could not include homeownership and cleared old debts activity in the same model. Therefore, we created four logistic regression models to predict homeownership and another two to predict cleared old debts activity:

$$\text{Logit (Homeownership at Wave 2)} = \beta_0 + \beta_1 \text{Treat} + X\beta$$

$$\text{Logit (Homeownership at Wave 3)} = \beta_0 + \beta_1 \text{Treat} + \beta_2 \text{ Homeownership at Wave 2} + X\beta$$

$$\text{Logit (Homeownership at Wave 2)} = \beta_0 + \beta_1 \text{Treat} + \beta_2 \text{ Cleared old debts at Wave 1} + X\beta$$

$$\text{Logit (Homeownership at Wave 3)} = \beta_0 + \beta_1 \text{Treat} + \beta_2 \text{ Cleared old debts at Wave 2} + X\beta$$

$$\text{Logit (Cleared old debts at Wave 2)} = \beta_0 + \beta_1 \text{Treat} + \beta_2 \text{ Cleared old debts at Wave 1} + X\beta$$

$$\text{Logit (Cleared old debts at Wave 3)} = \beta_0 + \beta_1 \text{Treat} + \beta_2 \text{ Cleared old debts at Wave 2} + X\beta$$

where X = [age, gender, race, marital status, education, number of adults, number of children, income, public housing]

Because the coefficients of the logistic regression are not intuitive, odds ratios are provided for interpretation. The odds ratio, also known as relative risk, is defined as $\exp(\beta)$. The model fit of each logistic regression was assessed by the likelihood ratio test and overall percent correct prediction. The likelihood ratio test determined whether the overall model was statistically significant. An overall logistic model that demonstrates a significant

improvement over the intercept-only model provides a better fit for the data. The percent correct prediction indicates how many cases are correctly predicted based on knowledge of the other values in the model. Lastly, we held covariates at their sample means and calculated predicted probabilities of homeownership at Wave 2 and Wave 3 by IDA participation and cleared old debts activity according to Allison (1999).

Results

Descriptive statistics

Table 2 presents descriptive statistics for the sample used in this study.⁷ The age of respondents ranged from 18 to 72, with a mean age of 34.83. Most respondents were female (83 percent), black (46 percent), and never married (46 percent); they had attended some college (42 percent) and did not live in public housing (84 percent). The mean number of adults other than the respondent in the household was 0.4 (standard deviation [SD] = 0.7), and the mean number of children was 1.8 (SD = 1.4). The average monthly household income was \$1,441 (SD = \$932), and the average total net worth⁸ was -\$4,160 (SD = \$14,249). The treatment group (N = 228) and the control group (N = 247) did not differ in most of the demographic variables, household composition, or financial characteristics assessed at baseline. However, the treatment group had more children in the home ($p < 0.05$) and about \$200 more in monthly income ($p < 0.05$) than the control group.

Changes in homeownership and cleared old debts activity

Table 3 presents the percentage of homeownership and cleared old debts by wave for each group. Because the sample was restricted to renters at baseline, the homeownership rates for both treatment and control groups were 0. Homeownership rates increased to about 18 percent for both groups at Wave 2 and to 36 percent for the treatment group and 30 percent for control group at Wave 3. However, these differences were not statistically significant at Wave 3.

⁷To assess representativeness, the entire ADD sample was compared with a general low-income population (household income at or below 200 percent of the family size-adjusted poverty threshold) from the National Longitudinal Survey of Youth (NLSY). According to Grinstein-Weiss, Zhan, and Sherraden (2006), these results indicate that the ADD population is somewhat different from the NLSY sample on several key sociodemographic variables (more likely to be single, to be better educated, to have a higher level of employment, and to have a bank account). This suggests that the ADD sample constitutes the working poor (see Grinstein-Weiss, Zhan, and Sherraden 2006 for details).

⁸Net worth is the variable used to measure wealth.

Table 2. Descriptive Statistics for the Sample at Baseline (N = 475)

Variable	All (N = 475)		Control Group (N = 247)		Treatment Group (N = 228)		t/ χ^2
	Mean		Mean		Mean		
Age	34.83 (9.75)		35.00 (9.47)		34.64 (10.06)		0.41
Female	83.16%		84.62%		81.58%		0.53
Race							
Caucasian	44.21%		47.77%		40.35%		2.85
Black	45.89%		42.91%		49.12%		
Other race	9.89%		9.31%		10.53%		
Marital status							
Married	23.37%		20.24%		26.75%		7.78
Never married single	46.32%		51.82%		40.35%		
Separated/widowed/divorced	30.32%		27.94%		32.89%		
Education							
Less than high school	4.00%		4.45%		3.51%		1.26
Completed high school	26.32%		27.13%		25.44%		
Attended some college	42.11%		40.49%		43.86%		
Graduated from college	27.58%		27.94%		27.19%		
Household composition							
Number of adults	0.44 (0.67)		0.43 (0.66)		0.44 (0.69)		-0.16
Number of children	1.73 (1.35)		1.62 (1.32)		1.92 (1.37)		-2.38*
Household income per month							
Mean	\$1,441.19		\$1,340.80		\$1,549.94		
Standard deviation	(\$932.29)		(\$671.80)		(\$1,141.48)		2.41*
Minimum	-\$4,159.55		-\$4,169.69		-\$4,148.56		-0.02
Maximum	(\$14,249.22)		(\$14,796.24)		(\$13,664.41)		
Net worth							
Mean	16.00%		14.17%		17.98%		1.53
Public housing							

Note: Standard deviations are in parentheses.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

Table 3. Homeownership and Cleared Old Debts by Each Wave: Renters at Baseline Only (N = 475)

Wave	Homeownership			Cleared Old Debts		
	Treatment Group (%)	Control Group (%)	χ^2	Treatment Group (%)	Control Group (%)	χ^2
1	0	0		29.82	30.36	0.02
2	17.54	18.22	0.04	43.85	29.70	8.38**
3	36.40	29.96	2.22	40.00	33.53	1.43

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$

In addition, as can be seen in table 3, there were no significant differences between the two groups in cleared old debts activity at Wave 1 (approximately 30 percent for both groups) and at Wave 3 (40 percent for the treatment group versus 34 percent for the control group). However, at Wave 2, such activity was significantly higher among the treatment group than it was among the control group (44 percent versus 30 percent, respectively, $p < 0.01$).

IDA participation and homeownership

Table 4 presents the effect of treatment on homeownership at Waves 2 and 3. After we controlled for differences in demographics and financial background between the treatment and control groups, results showed that participation in the IDA program did not significantly increase homeownership at Wave 2. However, the program became a significant predictor for homeownership at Wave 3 ($p < 0.05$), when the odds of being a homeowner were 75 percent higher for the treatment group than for the control group. Among covariates, age, income, and net worth were significantly associated with being a homeowner at Wave 2. After we controlled for other variables, an additional year of age decreased the odds of being a homeowner at Wave 2 by 3.1 percent. For a one-unit increase in income and net worth (\$1,000), the odds of being a homeowner at Wave 2 increased by 61 percent for the treatment group and 2.3 percent for the control group.

Among the covariates at Wave 3, race, marital status, number of adults, net worth, public housing, and homeownership at Wave 2 had a significant association with homeownership at Wave 3. Black participants had 48 percent lower odds of being homeowners than Caucasians, separated/widowed/divorced participants had 49 percent lower odds than married respondents, and respondents who lived in public housing had 71 percent lower odds than their counterparts who lived elsewhere. The addition of one more adult

Table 4. The Effect of IDA Treatment on Homeownership at Wave 2 and Wave 3: Logistic Regression

Variable	Homeownership at Wave 2			Homeownership at Wave 3		
	B	SE	OR	B	SE	OR
Intercept	-0.871	1.059		-1.169	1.048	
Treatment	-0.221	0.260	0.802	0.558*	0.256	1.746
Female	-0.472	0.348	0.624	-0.377	0.361	0.686
Age (in years)	-0.031*	0.015	0.969	-0.003	0.013	0.997
Race						
(Caucasian)						
Black	-0.314	0.297	0.730	-0.735*	0.292	0.479
Other race	-0.008	0.447	0.992	0.159	0.404	1.172
Marital status						
(Married)						
Never married single	-0.733	0.377	0.481	-0.545	0.359	0.580
Separated/widowed/divorced	0.129	0.375	1.138	-1.154**	0.397	0.316
Education						
(Less than high school graduate)						
Completed high school	0.517	0.818	1.678	1.093	0.816	2.983
Attended some college	0.272	0.813	1.312	0.637	0.810	1.891
Graduated from college	0.968	0.818	2.631	1.471	0.821	4.354
Household composition						
Number of adults	0.197	0.195	1.218	-0.524*	0.218	0.592
Number of children	0.011	0.105	1.011	0.043	0.103	1.044
Public housing	-0.349	0.421	0.706	-1.115**	0.422	0.328
Household income (divided by 1,000)	0.475**	0.179	1.608	0.182	0.189	1.199
Net worth (divided by 1,000)	0.023*	0.010	1.023	0.024*	0.010	1.024
Homeownership at Wave 2	—	—	—	3.320***	0.392	27.656
N		475			475	
-2 Log L		396.544			420.299	
Likelihood ratio test (<i>df</i>)		49.760 (15)***			182.525 (16)***	
Percent predicted correctly		81.1			77.7	

Note: The dashes indicate that the variable is not included in the model.

B = β coefficient; OR = odds ratio; SE = standard error.

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

to the household decreased the odds of homeownership by 41 percent. For every one-unit increase in net worth (\$1,000), the odds of being a homeowner increased by 2.4 percent.

Cleared old debts activity, IDA participation, and homeownership

We conducted two additional logistic regressions to predict homeownership by including cleared debts activity as an independent variable in addition to IDA participation. These findings are presented in table 5. The results of these models are quite similar to the results of the models without such activity. The main difference is that when we included cleared debts activity in Wave 1 and Wave 2 as an independent variable, the effect of IDA participation on homeownership became only marginally significant at Wave 2 ($p = 0.06$). However, cleared old debts activity at Wave 2 was found to be a

Table 5. The Effect of IDA Treatment on Homeownership at Wave 2 and Wave 3: Logistic Regression with Controlling for Cleared Old Debts Activity

Variable	Homeownership at Wave 2			Homeownership at Wave 3		
	B	SE	OR	B	SE	OR
Intercept	-0.867	1.059		-2.157	1.294	
Treatment	-0.227	0.262	0.797	0.531	0.283	1.700
Female	-0.473	0.349	0.623	-0.391	0.404	0.676
Age (in years)	-0.031*	0.015	0.969	-0.003	0.015	0.997
Race						
(Caucasian)						
Black	-0.305	0.300	0.737	-1.031**	0.333	0.357
Other race	-0.004	0.448	0.996	-0.120	0.448	0.887
Marital status						
(Married)						
Never married single	-0.738	0.378	0.478	-0.428	0.405	0.652
Separated/widowed/divorced	0.132	0.375	1.139	-1.152*	0.449	0.316
Education						
(Less than high school graduate)						
Completed high school	0.524	0.819	1.689	1.659	1.109	5.252
Attended some college	0.279	0.814	1.322	1.160	1.102	3.191
Graduated from college	0.979	0.820	2.663	1.893	1.119	6.642
Household composition						
Number of adults	0.198	0.195	1.219	-0.748*	0.290	0.474
Number of children	0.013	0.105	1.013	0.130	0.114	1.139
Public housing	-0.350	0.421	0.705	-1.283*	0.504	0.277
Household income (divided by 1,000)	0.481**	0.181	1.617	0.275	0.211	1.316
Net worth (divided by 1,000)	0.023*	0.010	1.023	0.022*	0.011	1.022
Cleared old debts at Wave 1	-0.060	0.285	0.942	—	—	—
Cleared old debts at Wave 2	—	—	—	0.956***	0.280	2.602
N		475			389	
-2 Log L		396.500			341.938	
Likelihood ratio test (<i>df</i>)		49.804 (16)***			58.740 (16)***	
Percent predicted correctly		81.1			76.6	

Note: The dashes indicate that the variable is not included in the model.

B = β coefficient; OR = odds ratio; SE = standard error.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

significant predictor of homeownership at Wave 3 ($p < 0.001$). It is likely that there is an indirect effect of IDA participation on homeownership through cleared old debts. In other words, IDA participation could affect cleared old debts activity, which could then affect homeownership. Therefore, including IDA participation and cleared old debts activity in the same model to predict homeownership reduced the significance level of IDA participation to a marginal degree.

Table 6 presents the predicted probabilities of being a homeowner for four groups created by combining the two independent variables of interest:

Table 6. Predicted Probabilities of Homeownership at Wave 2 and Wave 3 by IDA Participation and Cleared Old Debts Activity

	No IDA and No Cleared Debts	No IDA Cleared Debts	IDA and No Cleared Debts	IDA and Cleared Debts	<i>F</i>
Homeowner at Wave 2	16.31%	15.51%	13.45%	12.77%	1.24
Homeowner at Wave 3	9.60%	21.65%	15.29%	31.96%	51.90***

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

IDA participation and cleared old debts activity. On the basis of the logistic regression models in table 5, we held all other covariates at their sample means and calculated $1/(1+\exp(x))$ to obtain the probability of being a homeowner for participants who had (1) no IDA, did not clear debts; (2) no IDA, cleared debts; (3) IDA, did not clear debts; and (4) IDA, cleared debts.

At Wave 2, there was no significant difference in the predicted probabilities of homeownership among the four groups, but we found significant differences at Wave 3 ($p < 0.001$). Among respondents who reported clearing old debts to apply for a home loan, IDA participants were more likely to become homeowners than control group members (32 percent versus 22 percent). Among respondents who did not report clearing old debts, IDA participants were still more likely to become homeowners than control group members (15 percent versus 9.6 percent). Finally, respondents who had both IDA participation and cleared old debts activity had the highest probability of becoming homeowners at Wave 3 (32 percent), and respondents who did not have an IDA and did not clear debts had the lowest probability (9.6 percent).

Cleared old debts activity

The results of the logistic regression for cleared old debts activity are presented in table 7. After controlling for differences in demographics, financial background, and cleared old debts activity at baseline, we found that IDA program participation significantly increased the clearing of old debts at Wave 2 ($p < 0.01$). The odds that the treatment group was engaged in clearing old debts was 1.95 times greater than it was for the control group at Wave 2. However, IDA program participation was not a significant predictor of clearing old debts activity at Wave 3.

Table 7. The Effect of IDA Treatment on Cleared Old Debts at Wave 2 and Wave 3: Logistic Regressions

Variable	Cleared Old Debts at Wave 2			Cleared Old Debts at Wave 3		
	B	SE	OR	B	SE	OR
Intercept	-1.806	0.955		1.410	1.004	
Treatment	0.667**	0.234	1.949	-0.004	0.267	0.996
Female	-0.340	0.365	0.712	0.102	0.436	1.107
Age	-0.005	0.013	0.995	-0.034*	0.015	0.966
Race						
(Caucasian)						
Black	0.412	0.271	1.510	0.476	0.317	1.610
Other race	0.296	0.407	1.344	0.550	0.488	1.733
Marital status						
(Married)						
Never married single	0.121	0.357	1.128	-1.102*	0.434	0.332
Separated/widowed/divorced	0.019	0.375	1.019	-0.935*	0.442	0.393
Education						
(Less than high school graduate)						
Completed high school	0.230	0.713	1.258	-1.211	0.629	0.298
Attended some college	0.669	0.695	1.952	-0.958	0.602	0.384
Graduated from college	1.002	0.713	2.724	-0.881	0.645	0.414
Household composition						
Number of adults	-0.025	0.197	0.975	-0.456	0.236	0.634
Number of children	-0.055	0.094	0.946	-0.145	0.112	0.865
Public housing	-0.487	0.335	0.615	-0.519	0.363	0.595
Household income	0.180	0.184	1.197	0.541*	0.226	1.717
Net worth	0.003	0.008	1.003	-0.005	0.009	0.995
Cleared old debts at Wave 1	1.242***	0.247	3.462	—	—	—
Cleared old debts at Wave 2	—	—	—	1.237***	0.280	3.444
N		389			307	
-2 Log L		455.282			351.049	
Likelihood ratio test (<i>df</i>)		55.290 (16)***			52.916 (16)***	
Percent predicted correctly		65.3			66.1	

Note: The dashes indicate that the variable is not included in the model.

B = β coefficient; OR = odds ratio; SE = standard error.

* $p < 0.05$. ** $p < 0.01$. *** $p < 0.001$.

For Wave 2, the only significant covariate other than IDA program participation was cleared old debts activity at baseline ($p < 0.001$). Age, marital status, income, and cleared old debts at Wave 2 were all significant predictors for cleared old debts at Wave 3, when every one-year increase in age decreased the odds of participating in cleared old debts activity by 3.4 percent ($p < 0.05$). Compared with married participants, never-married single and separated/widowed/divorced participants had 67 percent ($p < 0.05$) and 61 percent ($p < 0.05$) lower odds of cleared old debts activity, respectively.

An additional \$1,000 in income was associated with a 72 percent increase in the odds of clearing old debts.

Given that IDA participation was significant for both homeownership at Wave 3 (table 4) and cleared old debts activity (table 7), it is likely that the latter explains part of the relationship between IDA participation and homeownership through an indirect (mediation) effect.

Discussion

Helping low-income families save for a home through IDAs represents an important strategy for social and economic development that, if expanded to a larger scale, could work to reduce the homeownership gap. Moreover, by coupling savings incentives with prepurchase homeownership counseling that seeks to qualify participants for prime and FHA-insured loans, IDAs promote a safer way—and one that is more likely to be successful and sustainable—for low-income families to achieve homeownership. A first-time home purchase can be overwhelming for anyone, but it is especially daunting for low-income buyers who may lack financial experience and support. Because these buyers often face additional challenges, IDA programs are designed to provide participants with access, support, incentives, and information that facilitate saving for a home. A critical and standard element of IDA programs is the requirement that participants attend general financial education classes and receive asset-specific assistance, such as prepurchase counseling for prospective homeowners. Such counseling typically includes reviewing a participant's credit report and identifying ways to improve it, such as paying off or otherwise resolving delinquent accounts, disputing questionable items, and establishing a consistent record of paying monthly bills on time. Thus, credit remediation and saving are concurrent activities.

Using data from a randomized longitudinal experiment in Tulsa, OK, our study finds that among those who were renters at baseline, participating in an IDA program leads to higher homeownership rates after 48 months. We also find that such participation increased engagement by renters in the process of clearing old debts to apply for a home loan. Building on other studies that find IDAs effective in helping low-income families save for a home (Grinstein-Weiss 2004; Mills et al. 2008; Schreiner and Sherraden 2007), our study adds to current understanding of the path from IDA enrollment to homeownership. Further, prepurchase counseling that includes credit remediation strategies to clear up old debts is an important part of the home-buying process for low-income buyers (Hirad and Zorn 2001).

Historically, homeownership was attainable only by those who had good credit (a FICO [Fair, Isaac & Company] score above 680) and who could produce a down payment of at least 20 percent (Retsinas and Belsky 2002). As the policy goal of homeownership was expanded, so too were lending regulations and underwriting standards, enabling more people with low incomes to obtain loans and become homeowners (Stamper 1997). However, a lack of access to traditional lending services, in addition to poor regulation of predatory lending practices targeting those with no money for a down payment and a faulty credit history, meant that a disproportionate number of low-income buyers received loans they could not afford (Center for Responsible Lending 2007). In the aftermath of the mortgage and credit crises, it is increasingly apparent that low-income homeowners have borne the brunt of the fallout and have lost their homes to foreclosures at much higher rates than their higher-income counterparts (Carr 2007; Center for Responsible Lending 2007).

Because subprime loans target consumers with lower credit scores and little or no savings for down payments, IDA programs can mitigate the higher risks facing low-income households by combining savings incentives with prepurchase counseling that includes credit remediation. Further, in receiving general financial education and homeownership counseling, IDA participants are more likely to apply for loans with a better understanding of repayment obligations, ability to pay, and future needs. IDA participants also may be more informed about subprime lenders/banks/mortgage brokers and buyers who have been able to get better loan terms.

It is important to note that our study has several limitations:

1. The match rate for savings provided greater incentives for treatment participants to purchase a home during the four-year study period. Specifically, home purchases for the treatment group could have been accelerated because buying a home within the study period resulted in a 2:1 match rate. Participants who did not buy a home and rolled their savings into a Roth IRA received a 1:1 match rate (Mills et al. 2008).
2. Participants in ADD programs do not represent a random sample of people eligible for IDAs. They are selected for the program because they meet eligibility criteria, and they are self-selected as well because they volunteer (Schreiner et al. 2001). Therefore, the current sample may not be representative of the larger low-income population, and the results may not reveal how members of this population save.

3. Our investigation examines only those eligible for IDA participation in Tulsa, OK. Therefore, our ability to generalize our findings to other cities is limited.
4. Engagement in clearing old debts is self-reported, and changes in credit scores were not measured.

Research should explore the long-term effect of IDA participation by following up with graduates after program completion. Because homeownership may take a few years to achieve, we could see even higher rates several years after the program has ended. Indeed, a long-term study of ADD is now under way. Wave 4 will assess the 10-year impact of IDAs by conducting a new survey of both treatment and control participants 5 years after graduation from CAPTC or completion of the study. Wave 4 will help determine whether IDA graduates can maintain homeownership and will explore the types of loans participants receive while at the same time examining the effects of better loans on low-income buyers.

Evidence that low-income participants enter homeownership through prime loans would strengthen the notion that IDAs can serve as a conduit for safer lending in the wake of the subprime crisis. In addition, Wave 4 will explore the long-term social, psychological, and economic benefits of homeownership for IDA graduates. Finally, Wave 4 will involve a cost-benefit analysis of IDAs and provide additional important economic information for policy makers.

Conclusion

Asset accumulation is an important strategy intended to provide low-income households with opportunities for social and economic development. Owning a home is conducive to stability and makes available important resources that can serve as buffers and support for families in need. Additional research and policy development are required to explore how to make IDA and other programs available to more low-income families seeking to achieve the American Dream. These programs can mitigate the risks faced by low-income buyers who lack the money for a down payment and have lower credit scores and thus should be considered an effective way to foster sustainable low-income homeownership.

Specifically, federal and state policy makers should expand existing IDA programs and consider increased support for credit and repurchase counsel-

ing for participants choosing to become homeowners. Allowing individuals and families to use matched savings for debt reduction and credit improvement, which we have shown to be a crucial step toward stable homeownership, is an important step in achieving ultimate savings goals and thus should be an allowable use of IDA savings.

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