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This paper examines the influence of structured savings program arrangements on the saving performance of low-income households in individual development accounts (IDAs). Data are drawn from the American Dream Demonstration (1997-2004), which looked at the saving performance of low-income households in matched savings accounts across the United States. Hierarchical multivariate regression is used to identify which specific structural program arrangements are important in influencing the saving performance of low-income families. Findings suggest that overall, structured program arrangements, including financial education, peer mentoring groups and saving targets are important in influencing people's saving performance—including low-income families.

Key words: *IDA, low-income households, financial education, peer mentoring, saving targets*

Introduction

Investment-oriented policy strategies to assist the poor have become increasingly prominent in the last decade. For example, Michael Sherraden's (1991) work on asset-based welfare proposes policy that aids and encourages saving and asset accumulation among the poor, under the assumption that acquisition and ownership of assets improve economic, psychological, and social well-being.

A key feature of this policy is the influence of formal and structured program arrangements on individual asset accumulation. However, the study of structured program arrangements as a predictor of asset accumulation—specifically among low-income families—is only starting to emerge. Although a larger body of how fundamental/macro components of social structures influence individual behaviors and outcomes exists (e.g., Gordon, 1980; Green, 1991; Neale, 1987), there is little research that explicitly connects structured program arrangements to asset-accumulation in low-income households.

To date, the largest and most comprehensive study in this area is the American Dream Demonstration (ADD). ADD is a study of individual development accounts (IDAs), which are matched savings accounts for low-income households. IDAs are specifically designed to increase savings for the poor and are used for specific asset purchases, including homeownership, post-secondary education, microenterprise development, and retirement. A financial education component, intended to help participants gain more knowledge about issues regarding financial management, is a requirement for each participant in the program.

The purpose of this paper is to contribute to the emerging research on the role of structured program arrangements/institutions in individual asset and wealth accumulation, particularly in low-income households. The paper provides a closer examination of the emerging institutional theory of saving (Sherraden, 1991; Beverly & Sherraden, 1999) as an important framework that may help explain the saving performance and asset accumulation of low-income households in the United States. Specifically, the paper answers the following key question: Controlling for income and several measurable

individual characteristics, do structured program arrangements matter in influencing the saving performance and asset accumulation of low-income households?

Background

The institutional theory of saving mentioned earlier suggests that structured program arrangements (also referred to as institutional factors) greatly influence individual's ability to save. According to this theory, saving and asset accumulation are primarily a result of structured arrangements that involve explicit connections, rules, incentives and subsidies (Sherraden, 1991). Several theorists maintain that such structured arrangements matter in shaping and influencing opportunities and behaviors (see Neale 1987; North 1990; Sherraden, 1991; Weaver & Rockman 1993; Beverly & Sherraden 1999; Peters, 1999). This suggested link between structured arrangements or institutions and financial well-being may have important implications in social policy. For example, Sherraden (1991) observes, the middle-class "participates in retirement pension systems ...not [as] a matter of making superior choices. Instead, a priori choices are made by social policy, and individuals walk into the pattern that has been established" (p. 127). Given the premise of institutional theory, this paper posits that low-income households are not able to save and accumulate assets primarily because they do not have the same institutional opportunities that higher-income households receive. Otherwise, provided with access to the same institutional frameworks that their higher-income counterparts utilize, low-income households might be in position to save and accumulate assets. It is against this background that the institutional question in this paper is being addressed.

The answer to the question guiding this paper: the role of structured program arrangements in influencing the saving performance and asset accumulation of low-income households, is important for at least two reasons: First, one would be justified to argue that because saving is hard for most people, it is even harder for those with low incomes. Therefore, the ability to clarify the role of structured program arrangements in facilitating the saving performance and asset accumulation

of low-income households would be a step in the right direction. This clarification may help initiate the move toward more inclusive social policy and program proposals which could provide low-income households with the same opportunities to participate in saving and asset accumulation programs as their higher-income counterparts. Second, given the on-going discussion in the policy arena about an ownership society, which includes low-income households (Boshara, Cramer & Parrish, 2005), results from this study may contribute to the debate by providing knowledge on how programs and policies toward an ownership society could be structured, tested and implemented.

Traditional Theories of Saving

Existing theories on saving and asset accumulation focus on economic and socio-psychological perspectives. Economic theory focuses on individual preferences and opportunities in response to changes in incentives. For the economist, savings are looked at as a surplus of resources after consumption choices have been decided. Two of the more recognized economic theories of saving are: (1) the life-cycle hypothesis (LHC) [Ando & Modigliani, 1963; Modigliani & Ando, 1957; Modigliani & Brumberg, 1954] and, (2) the permanent-income hypothesis (Friedman, 1957). These theories view savings as a way of balancing the fluctuation of household resources for consumption throughout a lifetime. The LHC, for example, assumes that consumption and saving patterns reflect an individual's age or stage within the life cycle, with a significant amount of saving occurring in the middle years. The permanent-income hypothesis suggests savings decisions are based on income being perceived as either permanent or temporary. According to this model, changes in household consumption over time occur only in response to permanent income and not temporary income (Friedman, 1957).

In addition to the economic theories, there are the socio-psychological theories of saving (Cohen, 1994; Duesenberry, 1949; Katona, 1975). These theories posit that individual's preferences change in response to economic and social variations, thus, people's motives, aspirations and expectations influence their saving choices.

Although there is reason to believe that saving may be an attribute of individual traits, preferences and income relative to consumption, studies have begun to arise explicitly acknowledging the role of deliberately designed and structured program arrangements or formal institutional mechanisms in influencing the saving performance of individuals. In other words, individual attributes and income may not be enough in explaining the saving behavior of individuals. Institutions, specifically formal policies and program arrangements, may be equally important.

Institutional Theory of Saving

The institutional theory of saving recognizes the important role that structured arrangements play in savings. The theoretical framework advances five constructs as being instrumental in predicting individual saving and asset accumulation, particularly among low-income households: 1) access, 2) information, 3) incentives, 4) facilitation, and 5) expectations (Sherraden, 1991; Beverly & Sherraden, 1999; Sherraden, 1999; Sherraden, Schreiner, & Beverly, 2003).

Access. This construct refers to institutional mechanisms that make the depositing process more available, for example, number of available deposit locations per participant within a given distance and no minimum balance required. When access to these means is permitted, savings rates are likely to be higher.

Information. The assumption behind information—as an important institutional determinant of saving normally offered through financial education—is that when people are made more aware of their savings options and opportunities, savings will be higher. Often financial education is provided to employees whose companies offer pension plans. Studies report that when financial education is offered to employees, participation levels are higher (Bayer, Bernheim, & Scholz, 1996; Bernheim & Garrett, 1996).

Incentives. This construct represents efforts to motivate higher savings. Interest rates and rates of return on investments are the most familiar. The proposition is that, generally, an increase in the rate of return will cause an increase in savings. Empirical evidence confirms the positive effects

of employer matching on participation rates in savings programs (Engelhardt & Kumar, 2003; Engelhardt & Kumar, 2007; Huberman, Sethi-lyenger & Jiang, 2007; Mitchell, Utkus, & Yang, 2005).

Facilitation. These are institutional arrangements that provide mechanisms that make saving more manageable. These mechanisms can be in the form of direct deposit, online banking services and automatic enrolling in programs. Overall, the proposition is that these arrangements will more likely increase individual savings. Although empirical evidence on facilitation is limited at this time, one study on 401(k) participation finds participation and contributions rates to be higher after the employer started automatically enrolling employees into the 401(k) plans (Madrian & Shea, 2000).

Expectations. This construct refers to the specific saving goals, targets and rules communicated to participants by the programs. Individuals with specific saving expectations are more likely to save more than individuals with no saving expectations.

Based on the institutional theory of saving, IDAs were developed as a policy initiative that could help provide poor people with the opportunity and structured mechanisms to save money (Sherraden, 1990, 1991).

Data

The American Dream Demonstration (ADD) was designed to test the IDA saving model. ADD involved 14 programs at 13 sites around the country selected from 250 interested community-based organizations through a competitive process to design, implement, and run IDA programs (see Table 1).

The study followed over 2,000 low-income (200 percent of poverty or less) participants across the United States for four years (1997-2001). All participants were tracked through a data management program called Management Information System for Individual Development Accounts (MIS IDA). Program staff collected monitoring data with MIS IDA, which incorporated a quality control component. Savings data came from monthly passbook savings account records from depository institutions. The socio-economic and demographic information used in this study was gathered at time of enrollment.

Table 1. Host organizations in ADD

Host Organization and Location	Type of Organization	Targeted Participants for IDAs
ADVOCAP Fond du Lac, WI	Community action agency	Former AFDC/TANF recipients; the working poor
Alternatives Federal Credit Union Ithaca, NY	Community development credit union	Single parents; youth
Bay Area IDA Collaborative (formerly EBALDC) Oakland, CA	Collaborative of 13 community-based organizations	Low-income Asian Americans; African Americans; Hispanics
Capital Area Asset Building Corporation (CAAB) Washington, D.C.	Collaborative of 8 community-based organizations	TANF recipients; youth; African Americans; Hispanics; Asian Americans
Foundation Communities (formerly Central Texas Mutual Housing) Austin, TX	Not-for-profit housing organization	Rental property residents; youth
Central Vermont Community Action Council (CVCAC) Barre, VT	Community action agency and community development corporation	TANF recipients; youth
Community Action Project of Tulsa County (CAPTC) Tulsa, OK	Community-based anti-poverty organization	Small-scale: Working families with children at or below 200% of poverty. Large-scale: at or below 150% of poverty.
Heart of America Family Services Kansas City, MO	Community-based family-services agency	Hispanics; African Americans
Mercy Corps (formerly Human Solutions) Portland, OR	Social-service organization	Rental property residents
MACED/Owsley County Action Team Berea, KY	Association of community development organizations	Rental property residents; the working poor
Near Eastside IDA Program Indianapolis, IN	Social-service organization/Community development credit union	Neighborhood residents; youth
Shorebank Corporation Chicago, IL	Community development bank with not-for-profit affiliate	Rental property residents; Shorebank customers
Women's Self-Employment Project (WSEP) Chicago, IL	Microenterprise development organization	Low-income, self-employed women; public-housing residents

ADD used an extensive multi-method research design to gather as much information as possible concerning the effectiveness of the programs in terms of the communities, participants and administration in order to inform IDA policy and program development outside of ADD (Sherraden et al., 2000). This study uses two specific data sets out of ADD: (1) data gathered from MIS IDA (described above) and (2) a survey conducted on the 14 ADD programs. The survey was administered using a combination of both face-to-face and telephone interviews with personnel from ADD programs. The interview questions were based on the institutional constructs suggested in Sherraden (1991) and Beverly and Sherraden's (1999) institutional theory of saving. The program survey data were merged with the ADD participant data. The total participant sample size for this study is 2,211.

Dependent Variable: Saving Performance

This study uses *average monthly net deposit (AMND)*, as the measure of saving performance. This measure is consistent with measures used in prior research on ADD (see Sherraden et al., 2000; Schreiner et al., 2001; Schreiner, Clancy & Sherraden, 2002; Ssewamala & Sherraden, 2004).

AMND measures the specific dollar amount of a participant's average monthly deposit. It is net deposit divided by the number of participation months, thus controlling for length of participation in an IDA program. Higher AMND implies higher savings.

$$\text{AMND} = \frac{\text{Deposit} + \text{Interest} - \text{Unmatched withdrawals} - \text{Unmatchable deposits}}{\text{Total number of months of participation}}$$

The variable *net deposit*, used to calculate AMND, is defined as deposits plus earned interest minus unmatched withdrawals (withdrawals that do not qualify for matching funds). Net deposit includes matched withdrawals, but excludes unmatchable deposits in excess of the match cap (ceiling on the matchable deposits within a specified time period) or after the time cap period (limit on the time frame for which participants are allowed to deposit matchable funds). Deposits over the match

cap and after the time cap are excluded because, although the extra deposited amounts are considered savings, they are not considered IDA savings. Given that participants may have other types of savings that are not included in the saving measure for this study, adding in the extra deposits over and above the match cap and after the time cap might bias the results. The average AMND for this study population is $18.44.

Independent Variables: Individual Participant Characteristics

Individual participant demographic and financial characteristics are used as controls in this analysis. They include age, gender, dependency ratio (calculated by dividing the household size by the number of adults in the household), race/ethnicity, education level, employment, marital status, rural residency, car ownership, home ownership, business ownership, ownership of checking or savings account, income-to-poverty ratio (calculated by multiplying monthly household income by 12 and then dividing it by the official family-size-adjusted poverty guideline), income, net worth (calculated by subtracting total liabilities from total assets), and never having been on TANF (public assistance use) (see Table 2 for details). As mentioned earlier, all of these variables are measured at the time of enrollment.

Independent Variables: Institutional Characteristics

Access is a continuous variable indicating the number of deposit locations available to participants. Hypothesis: the greater the number of deposit locations, the greater the saving performance.

Information is measured by: (1) Financial education, a continuous variable indicating hours of financial education taken by each participant. A multi-joint spline[1] is used creating 3 different segments: 1-6 hours, 7-12 hours, and 13 or more hours. In addition, a dummy variable was created for people with no hours of financial education. It is important to note that although financial education was a required component for all sites, the amount taken varied between programs because each program designed its own curriculum. Hypothesis: The greater the number of financial education hours attended, the greater the saving performance; (2) Peer mentoring is a dichotomous

Table 2. ADD participant characteristics

Characteristics
Demographics
Gender
Female=80% Male=20%
Age Mean=36, St. Dev.=10
13-19=4% 20s=26% 30s=36% 40s=25% 50s=7% 60-72=2%
Race/Ethnicity
African American=44% Asian-American or Pacific Islander=2%
Caucasian=40% Hispanic=9% Native American=3% Other=3%
Marital Status
Never Married=47% Married=22%
Divorced or Separated=28% Widowed=2%
Education
< High School Diploma=15% High School Diploma or GED=25%
Attended Some College=37% College Degree=23%
Employment
Employed Full-time=58% Employed Part-time=24%
Student=8% Unemployed=10%
Family
Family Type
One Adult w/Children=45% One Adult/No Children=15%
≥ 2 Adults w/Children=30% ≥ 2 Adults/No Children=9%
Dependency Ratio Mean=2.3, St. Dev.=1.24
Rural Residency=14%
Financial
Car Ownership=67% Home Ownership=17%
Business Ownership=11% Either Checking or Savings Account=77%
Never Used TANF=61%
Monthly Income Mean=$1,364, St. Dev.=7.01
Income to Poverty Ratio Mean=105, St. Dev.=.68
0-49=20% 50-74=13% 75-99=16% 100-124=14% 125-149=12%
150-174=9% 175-199=6% 200-327=8%
Net Worth Mean=$3,136, St. Dev.=194
N=2,211

variable indicating whether a program offered group mentoring programs to IDA participants in addition to financial education. Hypothesis: the more peer modeling and information sharing, the greater the saving performance.

Incentives are measured by match rates, ranging from 1:1 to 6:1. For example, a match rate of 2:1 indicates that for every dollar a participant saved, it was matched with two dollars from the IDA program. For the purpose of this study, dummy variables are created to examine the influence of each level of match rate. The variables are 1:1, 2:1, 3:1+. Hypothesis: the higher the match rate, the greater the saving performance.

Facilitation is measured by direct deposit, a dichotomous variable. Hypothesis: the more automatic the system (such as automatic deposit), the greater the saving performance.

Table 3. ADD institutional characteristics

Institutional Characteristics	Percentage
Access	
Number of deposit locations Mean=17, St. Dev.=21.56	
Information	
Peer mentoring groups	34%
Hours of financial education attended Mean=10, St. Dev.=7.57	
0 education hours	9%
1-6 education hours	15%
7-12 education hours	50%
13 or more education hours	24%
Incentives	
Match rate Mean=2, St. Dev.=.91	
1:1	27%
2:1	51%
3:1 and higher	21%
Facilitation	
Program offered direct deposit	80%
Expectations	
Monthly savings target Mean=$42.14, St. Dev.=20.47	
N	2,211

Expectations are measured by monthly savings target, a continuous variable that represents the ratio of total match cap

to the time cap. Hypothesis: the higher the monthly savings target, the greater the saving performance. For details on institutional variables, see Table 3.

Method

To address the research question guiding this paper, a hierarchical multivariate analysis is utilized. This analysis procedure examines the incremental changes of R^2, the percentage of variance in the dependent variable, in this case AMND, in a regression model due to the addition of individual variables or blocks of variables introduced in a specified hierarchy at certain points in the regression (Cohen & Cohen, 1983). Specifically, the measure of saving performance, AMND, is regressed on three blocks of independent variables. The first block (Model 1) consists of the individual participant characteristics and is entered into the model to determine the variance explained in AMND without the institutional variables added. The measurable institutional variables block is introduced in the second model (Model 2) to determine the individual influence of each of the institutional characteristics on saving performance as well as their unique contribution as a block to the incremental changes in the variance explained in AMND when controlling for participant characteristics. In the third block (Model 3), program dummies, which are unmeasured institutional characteristics, are entered to determine their unique contribution to variance explained in AMND. The specified hierarchy of this regression model is guided by the theoretical framework of this study.

Results

Multivariate Analysis: Individual Participant Characteristics and AMND

Gender, age, marital status, and dependency ratio are not significantly associated with saving performance (AMND) as well as never having been on TANF, business ownership, income and net worth (see Table 4 for complete regression results).

Three categories of *race/ethnicity* have a significant association with saving performance. Compared with Caucasians,

Table 4. Hierarchical regression analysis: Individual characteristics and Average Monthly Net Deposit (AMND)

Independent Variables	Model 1	
	b	se
Intercept	12.35**	3.80
Participant Characteristics: Demographics		
Female	-1.20	1.23
Age	1.54	0.50
Race/Ethnicity Caucasian (reference group)		
African American	-7.13**	1.12
Hispanic	2.78	1.76
Asian-American or Pacific Islander	14.57**	3.24
Native American	-6.82*	2.78
Other Ethnicity	2.93	2.76
Education Completed a Degree (reference group)		
No High School Diploma	-7.28**	1.62
High School Diploma or GED	-6.86**	1.35
Attended Some College	-5.13**	1.22
Employment Unemployed (reference group)		
Employed Full-time	1.36	1.61
Employed Part-time	2.87	1.70
Student	5.03*	2.15
Marital Married (reference group)		
Single - Never Married	-1.27	1.32
Divorced, Separated, or Widowed	0.02	1.39
Dependency Ratio	-0.49	0.42
Rural Residency	-4.16**	1.41
Participant Characteristics: Financial		
Asset Ownership		
Car	3.61**	1.07
Home	6.30**	1.46
Business	1.90	1.48
Checking or Savings Account	6.24**	1.16
Never on TANF	-0.12	1.02
Monthly Income	0.14	0.07
Net Worth	-2.08	1.39

*p≤ .05 **p≤ .01
b = unstandardized coefficient, se = standard error

Table 5. Hierarchical regression analysis: Individual and institutional characteristics and Average Monthly Net Deposit (AMND)

Independent Variables	Model 2	
	b	se
Intercept	-10.62*	5.00
Participant Characteristics: Demographics		
Female	-1.09	1.16
Age	0.08	1.15
Race/Ethnicity Caucasian (reference group)		
African American	-3.33**	1.12
Hispanic	4.51	1.68
Asian-American or Pacific Islander	14.08**	3.03
Native American	-6.78*	2.59
Other Ethnicity	5.08	2.59
Education Completed a Degree (reference group)		
No High School Diploma	-4.45**	1.52
High School Diploma or GED	-4.65**	1.27
Attended Some College	-4.00**	1.14
Employment Unemployed (reference group)		
Employed Full-time	-0.78	1.54
Employed Part-time	0.78	1.60
Student	5.99*	2.01
Marital Married (reference group)		
Single - Never Married	-0.86	1.24
Divorced, Separated, or Widowed	0.30	1.30
Dependency Ratio	-0.66	0.39
Rural Residency	-5.11**	1.43
Participant Characteristics: Financial		
Asset Ownership		
Car	2.27*	1.01
Home	7.22**	1.41
Business	0.79	1.41
Checking or Savings Account	3.40**	1.10
Never on TANF	0.44	.96
Monthly Income	0.14	0.07
Net Worth	0.00	0.00

*p≤ .05 **p≤ .01
b = unstandardized coefficient, se = standard error

Table 5. Hierarchical regression analysis: Individual and institutional characteristics and Average Monthly Net Deposit (AMND), [continued from previous page]

Independent Variables	Model 2	
	b	se
Institutional Characteristics		
Number of deposit locations (access)	0.03	0.03
Peer mentoring groups (information)	8.19**	1.16
Financial education (information)		
0 education hours	-0.15	3.28
1-6 education hours	1.23*	0.56
7-12 education hours	1.76**	0.26
13 or more education hours	0.01	0.09
Match rate (incentives) 1:1 (reference group)		
2:1	-1.67	1.18
3:1 and higher	-2.06	1.63
Direct deposit (facilitation)	0.64	1.40
Monthly savings target (expectations)	0.25**	0.03
R^2	0.28	
N	2,211	

*p≤ .05 **p≤ .01
b = unstandardized coefficient, se = standard error

AMND is $3.33 lower for African Americans (b= -3.33, p≤ 0.01) and $6.78 lower for Native Americans (b= -6.78, p≤ 0.05); whereas AMND for Asians is $14.08 higher (b= 14.08, p≤ 0.01).

Education is significantly related to saving performance. Compared to those participants who have a college degree (2-year, 4-year, or unspecified), all other categories are linked with a statistically significant lower AMND. For example, participants without a high school diploma save $4.45 less than participants with a college degree (b= -4.45, p≤ 0.01), participants with a high school diploma or GED save $4.65 less than participants with a college degree (b= -4.65, p≤ 0.01), and participants with some college save $4.00 less than participants with a college degree (b= -4.00, p≤ 0.01).

For *employment*, students are linked with a $5.99 increase in AMND compared to participants who are unemployed

(b= 5.99, p≤ 0.05). There are no significant differences on saving performance between unemployed participants (the reference group) and those employed full time, or those employed part-time.

Rural residency has a significant relationship with saving performance. AMND is $5.11 less for participants residing in rural areas compared to participants living in urban areas (b= -5.11, p≤ 0.01).

Car ownership is significantly linked to saving performance. Compared to participants who are not car owners, car owners have a $2.27 higher AMND (b= 2.27, p≤ 0.05).

Home ownership is associated with higher saving performance. Homeowners show a $7.22 higher AMND than participants who do not own their own homes (b= 7.22, p≤ 0.01).

Having either a *checking or savings account* or both is significantly related to saving performance. Participants with either a checking account, savings account or both are associated with over $3 higher in AMND (b=3.40, p≤ 0.01) than participants who had neither account.

Multivariate Analysis: Institutional Characteristics and AMND

The institutional characteristics access, incentives and facilitation were not significantly related to savings outcomes in this study. Table 5 presents the detailed regression results for the institutional characteristics.

The findings support both hypotheses related to *information*: (1) the more peer modeling and information sharing, the greater the saving performance; and (2) the greater the number of financial education hours attended, the greater the saving performance. Specifically, participants who are in programs that offer peer mentoring groups, AMND is $8.19 higher than for participants in programs that do not have peer mentoring groups (b= 8.19, p≤ 0.01). These findings are consistent with Ssewamala and Sherraden (2004) and with the survey of rural IDA programs (Grinstein-Weiss & Curley, 2003).

Moreover, the amount of financial education hours attended by participants is significantly associated with saving performance in two categories. Having attended between 1 and 6 hours of financial education and having attended between 7 and 12 hours of financial education is significantly associated

with AMND. Specifically, for each additional hour attended between 1 and 6, AMND increases by $1.23 (b= 1.23, p≤ 0.05). For each additional hour between 7 and 12, AMND increases by $1.76 (b= 1.76, p≤ 0.01). On the other hand, having 13 or more hours of financial education is not significantly linked to saving performance. These findings support earlier research on financial education in ADD (Schreiner et al., 2001; Schreiner, Clancy, & Sherraden, 2002; Ssewamala & Sherraden, 2004).

The findings also support the hypothesis that the higher the monthly savings target (expectation), the greater the saving performance. Specifically, for every additional $1 in monthly savings target, AMND increases by $0.25 (b= 0.25, p≤ 0.01).

Table 6. Hierarchical regression results: Influence of institutional characteristics on Average Monthly Net Deposit (AMND)

Model	R^2	Adjusted R^2	$R^2\Delta$
Model 1: *Individual characteristics* Gender, age, race, education, employment, marital status, dependency ratio, residency, asset ownership, banking experience, TANF use, monthly income, net worth	0.16	0.15	
Model 2: *Individual characteristics + institutional characteristics* Number of deposit locations, peer mentoring groups, financial education attended, match rate, direct deposit offered, monthly savings target	0.28	0.27	0.12**
Model 3: *Individual characteristics + institutional characteristics + program dummies* ADVOCAP, Alternative Federal Credit Union, Bay Area IDA Collaborative, Central Vermont Community Action Council, Community Action Project of Tulsa, OK, Foundation Communities, Heart of America Family Services, Mercy Corps, MACED, Near Eastside IDA Program, Shorebank Corporation, Women's Self-Employment Project	0.31	0.29	0.03**
N		2,211	

**p≤ .01

Estimated "Block" Contributions to the Explained Variance in AMND

As indicated in Table 6, when only the block of participant

characteristics are entered into the first model (Model 1), the variance explained in AMND is 16 percent (R^2=0.16). After the institutional characteristic block is introduced (Model 2), the variance explained increases to 28 percent (R^2=0.28), indicating a change in R^2 of 0.12 or 12 percent. The change is statistically significant ($p \leq 0.01$). Furthermore, when program dummies (unmeasured program characteristics) are added, R^2 significantly increases by another 3 percent. This change is also statistically significant ($p \leq 0.01$). The total variance explained by all three blocks of independent variables in Model 3 is 31 percent (R^2=0.31).

Limitations

Institutional designs of the IDA programs were not randomly assigned which meant that programs could select their own design plan, based in part on how they perceived participants' behavior. Also, participants were not randomly chosen to participate. Most of the IDA programs targeted certain populations; therefore, the results do not reflect the overall low-income population. Sherraden, et al., (2000) used data from the ninth wave of the 1993 Survey of Income and Program Participation (SIPP) from the United States Census Bureau to compare the ADD population to the general low-income population in the U.S. Compared to the U.S. population ADD participants are more likely to be single, female, employed, and African American as well as more educated.

In addition, a lack of control or comparison group for this data set limits confidence in the results. One of the possible problems is endogeneity bias. For example in this study, monthly savings target (independent variable) is a predictor of AMND (dependent variable); when savings targets increase AMND increase too. However, some of the programs might have assumed certain participants could save more so they gave them higher targets (Sherraden et al., 2000). Thus, participants who save more would have higher targets, while participants who save less would have lower targets, but the relationship would be misleading (Schreiner et al., 2001). Other variables may also be affected by this bias.

Discussion

Several individual participant characteristics are related to savings performance. African Americans and Native Americans show significantly lower AMNDs compared to their Caucasian counterparts. This finding may partly be a reflection of the institutional discrimination based on race or other differences. In any case, although some racial groups are saving less than others, the main idea here is that all racial groups are saving and would even probably do better given more institutional opportunities. Thus, enforcing inclusive policies like the community reinvestment act (12 U.S.C. 2901, implemented by regulations 12 CFR parts 25; 228; 345, and 563e) may be helpful in ensuring that racial minorities have more access to institutional forms of saving and asset accumulation.

Education is also important in savings performance. The higher the participant's education level, the higher the AMND. This relationship may exist because either more education increases financial sophistication or that increased education as a form of human capital demonstrates future orientation. In the employment category, students have a higher AMND compared to those participants who are unemployed. One explanation for this occurrence could be that students may use part of their grant money or student loans to deposit into their IDAs in lump sums. There may also be some unobserved characteristics related to students that predispose them more to saving than other groups of people. For example, students may be more focused toward the future and more savvy about saving.

Rural residents have a significantly lower AMND than urban residents. Grinstein-Weiss and Curley (2003) report two main challenges that may influence saving outcomes in rural areas. First, the lack of infrastructure in many rural areas leaves participants with fewer resources and options to maintain and manage their IDA accounts compared to urban participants. Second, distance is an issue. For participants who live outside of town, attending financial education classes is sometimes a problem because they either lack transportation or do not have enough time to get from work to class. Moreover, the transaction costs involved in depositing may be higher for rural participants.

Finally, the findings in this study indicate that owning certain forms of assets (homes, cars, and checking and/or savings accounts) may be predictive of saving performance in IDAs. As Sherraden (1991) observes, owning assets may "create a cognitive and emotional orientation towards the future and stimulate the development of other assets" (p. 181). Under these assumptions, the initial possession of assets helps provide a foundation that may encourage greater asset accumulation in the future. It may also be that ownership of other assets is a proxy for successful financial functioning that is long-standing.

Even more important, however, results indicate that institutions do have an effect on the savings performance of low-income households, particularly through information and expectations. An additional hour of financial education between 7 and 12 hours is linked with a $1.76 increase. For example, attending 9 hours of financial education is linked with a $3.52 increase in AMND. This is a fairly large effect considering the average AMND for this data set is $18.44. Again, the increase in AMND for those participants in programs with peer mentoring groups ($8.19) is a substantial increase. The significant relationship with financial education and peer mentoring groups is an indication that providing financial information, peer encouragement, support, and sharing the challenges and experiences of the saving process with other participants may be useful. Thus, programs should design programs accordingly. For example, to maximize the benefits for participants and minimize their own costs, programs could provide a combination of formal financial education up to approximately 12 hours and establish peer mentoring programs. With this alternative, participants could receive factual financial information from the classes and emotional support and encouragement from the peer mentoring programs. Providing more assistance and knowledge about options and returns on investments might also increase contribution rates with higher matches.

The positive association of the monthly savings target with AMND is a large effect. For every $1 increase in the monthly target, AMND increases by $0.25. If the monthly saving target is increased by $10, AMND increases by $2.50. These results support institutional theory which suggest that higher match

caps may be associated with higher saving performance because participants mentally convert match caps into goals (Schreiner et al., 2001). Using this knowledge, program administrators may want to emphasize specific objectives and guidelines. Policymakers and program administrators should concentrate on the right mixture of conventions to help shape and support participants saving, not mandate it.

The hierarchical regression reveals that institutions make a measurable and significant contribution in explaining the variance in R^2. The 12 percent increase between Model 1 and Model 2 supports the institutional theory of saving that suggests when institutional mechanisms are offered to low-income households, savings increase. This finding is corroborated by the significant outcomes of the individual information and expectation construct measures. Furthermore, the increase in variance explained in the 3rd model provides evidence that unobserved program variables are related to saving outcomes, which are most likely aspects of the IDA programs. These variables might include strong leadership, staff commitment, staff skill, and other factors.

Although the explained variance is only 16 percent for institutional effects, these results provide evidence that institutions play a role in low-income saving. The results are important because institutional arrangements can be affected by policy, however, more research needs to be conducted to better specify the institutional model and to identify both the appropriate mix and the unobserved institutional characteristics that might affect saving and have yet to be measured.

Conclusion

Evidence from ADD indicates that the poor can save. Sufficient evidence exists to support the creation of institutional mechanisms to encourage the poor to save. Results from this study can help policymakers understand the role of institutions, and create more successful programs to promote saving and asset accumulation among populations that generally do not have access to institutionalized saving mechanisms.

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Endnotes

1. A spline takes one variable and divides it into separate parts with the sum of all the new segments equaling the total number in the original variable. In the case of financial education, if a person has had 11 hours of financial education, the 1-6 spline would show 6 hours of financial education, the 7-12 spline would show 5 hours and the 13-18 spline and 19 or more spline would show 0 hours of financial education. Furthermore, the sum of the means of each spline equal the mean of the original variable.