

# Can the poor be motivated to save?

Evidence from survey research and field experiments in the United States

Căzilia Loibl \*

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Co-authors of the here presented studies:

Michal Grinstein-Weiss, Assistant Professor, School of Social Work, University of North Carolina at Chapel Hill, and Min Zhan, Associate Professor, School of Social Work, University of Illinois at Urbana-Champaign

David Kraybill, Professor, and Sara DeMay, Former Graduate Research Assistant, Department of Agricultural, Environmental, and Development Economics, The Ohio State University

Emily Haisley, Postdoctoral Researcher, School of Management, Yale University and George Loewenstein, Professor, Department of Social and Decision Sciences, Carnegie Mellon University

## Abstract

Three studies are presented to explore the economic and psychological aspects of regular saving in low-income families in the United States. Administrative, survey, qualitative, and field experimental data provide empirical evidence of the effects of financial information and education on long-term behavior changes; the role of habit in achieving regular savings; and the role of behavioral interventions in helping people develop self-beneficial financial behaviors. The Individual Development Account (IDA) program, a federally funded savings program for the working poor in the U.S., provides the test bed for these research questions.

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\* Assistant Professor, The Ohio State University, Department of Consumer Sciences, 1787 Neil Avenue, Columbus, Ohio 43210, Phone: 614-292-4226, E-mail: loibl.3@osu.edu

## **1. Introduction**

This submission to the AED Economics Seminar presents three studies that explore the psychological and economic determinants of regular saving in low-income households. The three studies are based on administrative, survey, qualitative, and field experimental data that have been collected from participants in a federally funded savings program in the United States, the Individual Development Account (IDA) program. I am using these data to explore the following three research objectives:

- (1) To examine whether program participation affects financial decisions and savings behavior in the long term,
- (2) To validate the role of habit for regular savings and the question whether savings program participation succeeds in developing and strengthening savings habits, and
- (3) To test whether saving and program retention can be increased by exposing program participants to a new set of program features modeled after principles of behavioral economics.

## **2. The Individual Development Account (IDA) program**

The Individual Development Account (IDA) program is a federally funded response to the challenges of asset building among low-income families. IDAs are savings accounts for low-income individuals and families that provide incentives to save toward purchasing a home, financing higher education, or capitalizing a small business. An individual is saving in an IDA for an average of two years and the savings are matched using federal, state, and private funds.

IDAs typically employ a 2:1 match rate, which allows the account holder to withdraw \$3 for every \$1 deposited. American Dream Demonstrations have documented the exceptional effectiveness of IDAs, based on mandatory deposits, matched savings, intensive financial education, and regular one-on-one counseling (Mills et al. 2008). Since program inception in 1999, 52,531 low-income families have participated in the program, served by 1,034 organizations nationwide. Federal funding amounted to nearly \$150 million in this period – an amount matched by \$64 million in non-federal funds of state governments and community organizations (Office of Community Services 2008).

### **3. The effects of information and education: Examining long-term changes in behavior among savings program participants**

The first study of this series explores the long-term effectiveness of a multi-year behavioral intervention on low-income families' saving. Our goal was to answer the following question: Does the impact of a highly structured savings program, such as the IDA program, extend beyond a participant's graduation? In other words, how does program-based information and education affect savings behavior in the long-term?

Although the body of research examining the effectiveness of IDA programs is expanding, the research to date on IDAs has focused on short-term outcomes and program performance (see Schreiner and Sherraden 2007, for an overview). Key themes in the asset-building literature include assessing program structure and related federal regulation (Richards 2003; Rom 2005; Sherraden 2000; Shobe 2002), analyzing participants' characteristics (Mills et al. 2006; Rohe, Gorham, and Quercia 2005; Reutebuch 2001), and determining the program impact in various

family situations, depending on the number of children, marital status, racial differences, and urban-rural differences (Shobe and Boyd 2003; Shobe and Page-Adams 2001; Grinstein-Weiss, Wagner, and Ssewamala 2006; Grinstein-Weiss, Zhan, and Sherraden 2006; Grinstein-Weiss and Sherraden 2006; Grinstein-Weiss, Curley, and Charles 2007; Zhan and Grinstein-Weiss 2007).

The recent evaluation of the Assets for Independence Act by Mills et al. (2008) is an exception because these researchers followed IDA program participants in a three-year longitudinal survey. Although informative, this study collected outcome data at only yearly intervals after account opening, while many survey respondents were still participating. In fact, none of the aforementioned literature to date examines the long-term benefits of IDA programs on household savings behavior among participants who have completed an IDA program, participants who left the program, and general low-income people who are not program participants.

In the present study, we collected responses from these three groups of low-income individuals by mail survey. The first group, we call it the treatment group, included individuals who had completed an IDA program in a large IDA network agency in the U.S. Midwest. The second group, we call it the dropout group, included individuals who had started that IDA program but decided to not finish it. The third group, we call it the comparison group, comprised individuals of the general population in the same locale who are not IDA program participants but reported incomes similar to those of the treatment and dropout groups and who lived in areas served by the IDA network agency.

The treatment and dropout group data were collected in spring 2007 using a survey instrument that was mailed to all 465 individuals who had participated in the partnering IDA program since its inception in 1999. A response rate of 52% resulted for program graduates ( $n=126$ ) and 28% for program dropouts ( $n=38$ ). The comparison group data were also collected

by mail, in spring 2008. Addresses of 2,200 individuals were purchased to collect data by mail survey; a response rate of 15% resulted ( $n=291$ ). Two procedures were implemented to prepare the survey data for analysis: correction of a non-response bias in the treatment and dropout group data, and correction of the demographic imbalance of these data with respect to the general population comparison data. The size of the final, matched sample was 300, including 113 treatment, 37 dropout, and 150 comparison group observations.

Study measures included eight financial measures (household savings, credit card debt, the use of checking, saving, investment accounts, credit cards, fixed-payment accounts and the mortgage), three program-related measures (treatment group membership, length of participation in IDA, time passed since program exit), two psychological measures of savings behavior (future orientation (Strathman et al. 1994), financial strain (Hilton and Devall 1997)), and nine demographic measures (gender, race, age, education, marital status, children under 18, employment status, household income, and location of residence).

Two sets of multivariate analysis were conducted to determine the predictors of household saving. First, an ordinary least-squares (OLS) regression analysis was conducted in order to investigate if program graduation can predict household savings in a multivariate analysis. We find that program graduation emerged as an important predictor of household savings for this sample of former program participants after adjusting for all other variables in the model. This result confirms the notion that successful program completion has a long-term effect on asset accumulation, one that extends beyond the time in program. Apart from this, different variables seem to be important for household savings. Program participants who were white, unmarried, had children living in their households, had a chance to open a savings or an investment account, expressed a greater orientation toward the future, and reported less exposure to financially

straining situations were also more likely to report higher household savings. A second OLS regression examined the predictors of household savings for the subsample of program graduates. We found five significant relationships. Marital status, the number of children of a family, ownership of savings and investment accounts, and reported lower levels of financial strain were associated with household savings of those who successfully completed the IDA program.

The second set of analyses expands the previous by including into the analysis a comparison group of observations from the general population. The comparison group was matched to the demographics of the program participants to represent the counterfactual outcomes for IDA participants. These counterfactual outcomes describe the situation that would have occurred for the members of the participant sample had they not become IDA program participants (Mills et al. 2008). Because IDA program savings are completely invested in an asset purchase, they do not affect the amount of household savings, the variable of interest in the present study. In the absence of a random assignment to experimental conditions, the matching of participants with non-participants allows us to correct biased selection and, thus, provides an empirical basis for measuring the effects of program participation (Guo, Barth, and Gibbons 2006; Mills et al. 2008). Two OLS regression analyses were conducted in order to investigate if program participation and graduation, respectively, are predictive of household savings when comparing the larger sample of program participants and non-participants. Examining the subsample of treatment and comparison group members, we find that program graduation had a significantly positive influence on household savings, after adjusting for all other variables in the model. Examining the subsample of dropout and comparison group members, the program-related effect disappeared. The findings suggest that successful IDA program completion may create financial

dispositions and behavior that provide long-term benefits above and beyond the demographic, financial, and psychological characteristics of an individual.

Taken together, our data show that IDA program participants who successfully complete the program continue to accumulate higher savings as compared to participants who drop out of the program and the general population sample. These findings provide support for the view that IDA programs may affect the financial dispositions and behaviors necessary to reach long-term savings goals. The eight key characteristics of the IDA program, access, information, incentives, facilitation, expectations, selection, time, and demographics, appear to create a supportive environment that permits saving during and after program graduation. While the present study cannot answer the question of why program graduation is predictive of household savings, it presents evidence of its long-term effectiveness.

Co-authors:

Michal Grinstein-Weiss, Assistant Professor, School of Social Work, University of North Carolina at Chapel Hill, and Min Zhan, Associate Professor, School of Social Work, University of Illinois at Urbana-Champaign

#### **4. Financial literacy, cognitive ability, and financial decisions: Validating the role of habit in low-income asset building**

The second study in this series inquires about the relationship between habit and saving. Habit is a mental construct that deserves attention as it may influence the effectiveness of financial literacy education and people's financial decisions.

The many public calls for consumers to establishing a habit of saving indicate that it is a desired behavior, but, obviously, a difficult one to achieve. Savings habits are frequently practiced behaviors, done without a particular sense of awareness, with the goal of freeing up funds for saving or debt reduction. Automatically packing lunch for work, browsing supermarket shelves for discounted products, calling friends after 9 p.m. are thrifty behaviors that should be habitual for many. Using the self-reported habit index (Verplanken and Orbell 2003) and applying it to saving for the first time, survey data were collected to (1) validate the role of habit for regular saving; (2) test whether participation in a savings program forms savings habits; and (3) examine the role of habit on the perception of financial strain.

The treatment group consisted of current participants in the IDA program of a statewide program network in the U.S. Midwest. They received a paper survey, which was distributed to them by their case managers. A response rate of 52% resulted ( $n=94$ ). The comparison group comprised low-income individuals of the general population who lived in counties served by the network, but who were not savings program participants. Addresses of 2,200 individuals were purchased to collect data by mail survey; a response rate of 15% resulted ( $n=291$ ). Nearest-neighbor matching without replacement was used to pair comparison group with treatment group observations to account for demographic differences ( $N=128$ ).

Data analysis started with validating the discriminant validity of the habit concept for saving. To this end, savings deposits were regressed on attitude, subjective norm, perceived control and intention, past deposit frequency, and habit. Habit emerged as a significant predictor of savings deposits, confirming its role as an independent factor in explaining saving.

To examine the influence of program participation on habit formation, the length of participation was divided into six-month intervals. Compared to non-participants, the savings habit

of program participants increased over time, peaked at 19-24 months, and then flattened. There was no difference in savings habit between non-participants and new enrollees, thus supporting successful habit formation during savings program participation.

While habit tends to be associated with overt behavior, the habit literature notes its influence on mental processes (Verplanken 2006; Verplanken et al. 2007). Results of hierarchical regression analysis support the independent role of habit for reducing the perception of financial strain above the influence of household income and savings. This analysis parallels findings on the influence of mental habits on self-esteem (Hilton and Devall 1997).

Study findings document the role of habit for regular saving and the success of targeted educational and behavioral interventions on developing savings habits. Admittedly, the idea that long-term savings may be achieved by habitualizing behavior is controversial in the behavioral economics literature, which favors commitment devices that reduce the behavioral component to a minimum. Examples include auto-enrollment condition in retirement plans (Madrian and Shea 2001), payroll deduction in combination with dollar-cost averaging, the use of life-cycle investment funds, automatic schedules of slow retirement contribution rate increases (Thaler and Benartzi 2004), employer-sponsored matched savings (Choi et al. 2006). In contrast, our analysis focuses on the financial behaviors in every day life, and they seem ideal candidates for habits. Many of these decisions tend to occur frequently (pack a brown back lunch, brew your own coffee, park at a cheaper lot), tend to affect small amounts of money in the “peanuts” range (Prelec and Loewenstein 1991; Markowitz 1952), and are targeted toward the greater goal of freeing up funds for saving or debt reduction. These savings habits may funnel funding toward the institutionalized commitment mechanisms (the checking account balance that is invested

automatically) or develop independently of it, but both help achieve the greater goal of asset building for the short-term emergency as well as the old age.

Co-authors:

David Kraybill, Professor, and Sara DeMay, Former Graduate Research Assistant, Department of Agricultural, Environmental, and Development Economics, The Ohio State University

## **5. Behavioral aspects of household saving decisions: Testing strategies to increase saving and retention in IDA programs**

The final study in this series suggests an experimental approach that actively changes the conditions of saving in the IDA program.

While research shows that IDAs promote the long-term financial well-being and stability of participants (Mills et al. 2008; Mills et al. 2006; Loibl et al. 2009), yet, for all their merit, IDAs have fallen short of their promise. Despite a 200% return on investment and the financial education IDA participants receive, the dropout rate is alarmingly high (48%), and keeping participants motivated during the entire IDA program has proven to be extremely difficult (Schreiner and Sherraden 2007).

Drawing on insights from the behavioral economics literature, we have designed modifications to the current IDA program protocols that, we predict, will promote asset building by making it *psychologically* easier to save. Behavioral economics draws on psychology and economics to construct theories of human behavior that relax the strict rationality assumptions of conventional economics. While retaining the general idea that behavior is purposeful, behavioral

economics recognizes, and attempts to make sense of why people do not always act in their best interests. In each of the following field experiments, a control group of IDA participants will be compared to an experimental group of IDA participants that will follow new procedures.

*Increasing the frequency of deposits.* People tend to underweight small dollar amounts, an effect termed the “peanuts effect” (Markowitz 1952; Prelec and Loewenstein 1991; Weber and Chapman 2005): ten dollars saved each week for four weeks hurt less than finding 40 dollars to save at the end of the month. Thus, IDA deposits will be viewed as less of a loss to current consumption when deposits are small and frequent. An additional benefit of having more frequent deposits is that it imposes more deadlines to save. In our first field experiment, therefore, we plan to test the impact of randomly assigning a subsample of IDA participants who would otherwise save on a monthly or quarterly basis to experimental conditions in which they save on a weekly or bi-weekly basis.

*Increasing saver accountability.* In our second field experiment, we plan to implement a system in which savers will report each time they make a deposit through an automated phone service, which will also remind savers when deposits are due and deliver motivational messages. Through the same phone service, they will report when they miss a deposit and leave a voicemail explaining why. This simple procedure provides frequent feedback and increases the accountability on all four of the dimensions outlined in the psychology literature (Lerner and Tetlock 1999): 1) the expectation of being observed, 2) identifiability, 3) the expectation that performance will be assessed by another, and 4) the expectation that one will have to give reasons for actions.

*Introducing a Lottery-Based Savings Match.* It is a classic insight in behavioral economics: people systematically overweight small probabilities when making decisions under uncer-

tainty, as described by prospect theory (Gonzalez and Wu 1999; Kahneman and Tversky 1979). Lottery ticket buyers overweigh the small probability of a sudden large increase in wealth; insurance buyers outweigh the chance of a sudden decrease in wealth. By extension, lottery-linked incentives to save will be overvalued, producing a greater “bang for the buck” compared to guaranteed savings incentives. In our third field experiment, we plan to test this insight for the IDA program. In the lottery group, a portion of the match that savers would normally receive will be replaced with a lottery-linked incentive plan. Our prediction that lottery-based savings matches will increase motivation to save is supported by the popularity of lottery-linked savings accounts and bonds outside the U.S. (Guillén and Tschoegl 2002; Ashraf et al. 2003). Lottery-based incentives also introduce an element of fun, entertainment, and suspense to enliven the routine of saving.

This is a new research project and we are currently starting data collection. Preliminary findings are available. The potential applications of this research are numerous. Based on rigorous scientific research methods, we will provide policy makers with information that can be used to encourage low-income saving and investment. The policy contribution is meaningful in a wider context as the IDA program is part of a broader policy movement aimed at tying monetary incentives to specific virtuous behaviors in the short term, in order to develop self-beneficial habits and promote people’s long-term well-being.

Co-authors:

Emily Haisley, Postdoctoral Researcher, School of Management, Yale University and George Loewenstein, Professor, Department of Social and Decision Sciences, Carnegie Mellon University

## 6. Conclusion

This set of three studies contributes insight into the economic and psychological aspects of saving in low-income families. While sample sizes are small and the number of measures limited compared to national data collection efforts, the current studies are unique in analyzing behavior change as low-income individuals pass through a savings program intervention. As the IDA program incorporates institutional, incentive-based, and financial literacy elements, it provides an ideal context for exploring their relative importance for saving.

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