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Youth and Savings in AssetsAfrica

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As youth transition to adulthood, their ability to save and accumulate assets becomes very important as they begin to accept financial responsibilities and plan for the future. In this paper, we investigated the effects of an asset building intervention on youth asset accumulation in Masindi, a rural area in Uganda. Two waves of data were collected on youth, between 15 and 35 years of age, for both the treatment and comparison groups. We used a Propensity Score Matching (PSM) technique and Difference-in-Difference model to estimate the effects of the asset building intervention. We find that the mean difference in financial assets ($763.17), total wealth ($897.75) and net-worth ($1,117.83) are statistically significant in favor of the youth in the treatment group. However, the mean difference in productive assets ($3.77) is not statistically significant. The results show that youth in rural Sub-Saharan Africa (SSA) are able to accumulate substantial assets that may well contribute to their well-being in the long-term.

Key words: *savings, youth, assets, Sub-Saharan Africa*

Savings for young people represent one of the most predictable determinants of their successful personal and economic development. Having access to some form of savings provides young people with the opportunity for a high quality education, health care, entrepreneurship, and other asset-building avenues. Savings mobilization for young people is considered low in developing countries, but creating and implementing policies to raise it is difficult. According to the U.S. Agency for International Development (USAID), in 2006, while some youth in Uganda had access to some credit, there was a huge unmet demand for savings and other financial services. Low savings might be a consequence merely of poor access to safe, flexible, convenient, and affordable savings products. In developing countries, young people typically rely on informal savings mechanisms, such as rotating savings and credit associations, and investment in physical goods, including livestock.

Part of the transition from childhood to adulthood is the increase in personal aspirations and financial responsibilities, which encourages young people to pay more attention to savings (Pettigrew et al, 2007). Young people desire to save, although they tend to postpone saving until they have higher-paying jobs or some stability in their lives (Pettigrew et al, 2007). However, in developing countries, where opportunities for structured and institutionalized saving are rare, perhaps young people could begin saving earlier than expected, since they have other savings' methods, such as livestock and physical goods. Access to such opportunities is vital to the success of youth engaging in healthy saving habits. Currently, very few empirical studies have investigated the outcomes of youth savings in safe and secure bank accounts where investments were used to purchase an asset or held within an account for future use. This paper investigates the effects of an asset building intervention on youth asset accumulation in Masindi, a rural area in Uganda.

In this paper, youth are identified as the population between 15 and 35 years of age. This age range for youth was determined after a thorough literature review found that there is no universally accepted definition for youth. Youth are often described using an age range, a stage in life, or as an attitude. Different countries have different age ranges with justification of that particular use of the range (Curtain, 2001). For example, while the United Nations and the African Union define youth as any person between 15 and 24 years of age (Curtain, 2001; African Union, 2006), other definitions

use a range that can vary from 8 to 40 years. The upper limit for most East African countries, Uganda being one of them, ranges from 35 years of age in Ethiopia and 40 years of age in the Democratic Republic of the Congo. Therefore, in this paper, the upper limit of 35 years of age, which is often used in national policies in SSA, is used (Blum, 2007). A lower limit of 15 years of age is also used because many studies in Uganda rely on this target (Kelly et. al, 2003; Mulder, Nunn, Kamali, & Kengeya-Kayondo, 1995).

The effects of savings on youth

There is evidence in literature of the effects of savings on young people. In a qualitative study of youth participation in savings programs, Scanlon and Adams (2009) found that young people who save have a positive view of themselves, plan for the future, have a sense of security in times of shock, and are also cautious about spending and consumption. This finding is consistent with other studies that show that personal savings has direct benefits for youth (Sherraden, et. al, 2007). Most studies on savings were conducted in developed countries because similar empirical studies are scarce in developing countries. Furthermore, the studies in developing countries tend to focus on household savings and assets, rather than youth savings. This paper contributes to the savings literature because it focuses on youth savings by the youth themselves.

Determinants of savings for youth

Savings for youth is determined by many factors. In developing countries, a person's gender, marital status, education (both financial and general), health, and parents' wealth determine whether a young person will be able to save or not, and how much they will be able to save. There is differential treatment of sons and daughters on college attendance. Families are influenced by cultural norms on educational investments made for sons and daughters (Tanye, 2008; Owusu-Ansah, 2003). In most cultures, families prefer investing in a boy's education because it is believed that the money a son earns from employment after graduation will remain in the family, whereas a girl's wealth will be given to her in-laws. Therefore, the perception is that educating boys ensures that the wealth remains in the family. Consequently, the returns from an education, such as income, which hopefully translates into savings, may not be the same for both young boys and girls because males and females are treated differently. In other words, the gender gap in education translates into income differentials between young men and women in the early stages of their careers, and this may affect the ability of young girls to save as much as or more than their male counterparts (Bobbitt-Zeher, 2004). Marital status also affects a young person's asset accumulation (Grinstein-Weiss, Zhan, & Sherraden, 2006; Wilmoth & Koso, 2002). Historically, marriage has been viewed as a source of financial security (Waite & Gallagher, 2000) and continues to be a determining factor for economic well-being, particularly for women. In developing countries, most young women, particularly in rural areas, marry early and in some cases where a substantial amount of dowry is paid, the woman may be given part of the dowry, and she may save that money. Also, due to the practice of joint assets and income in marriage, a spouse who marries an asset-rich person could benefit from their spouse's assets (Painter, 2008), and begin a journey of successful savings. However, the process of marrying could also be a drain on a young bride's savings. According to Suran et. al (2004), in South Asia, brides sometimes spend as much as three times their savings on dowries and six times their savings on lavish wedding celebrations. Therefore, asset effects of marriage would apply to young male and female couples.

Young people's interest and knowledge about savings and asset accumulation increase when they receive financial education from parents and schools (Beverly & Clancy, 2001, Friedman, 2005). Parents can teach young people to cultivate the habit of saving. The National Savings and Investment survey of UK in 2005 revealed that young people developed the habit of saving when their parents discussed financial matters at home with them at a young age. Rosen and Squire (2009) support this finding and add that through parental involvement, logistical support, and encouragement, young people can improve their savings. Some parents encourage their children to take over their businesses by exposing them to their financial matters (Sherraden, 1991). Formal financial training and schooling for young people instill a sense of responsibility for their financial affairs and future financial success (National Centre for Social Research, 2006). The effects of financial training and schooling usually manifest over a long period of time, marking a young person's transition to adulthood. For instance, in a study by Bernheim, Garrett and Maki (2001), findings showed that exposure to formal financial education at high school improves individual savings habits during adulthood. However, little is known about whether the positive relationship between financial education and savings hold for young people in Sub-Saharan Africa.

Project Setting

This study uses data from the Uganda pilot project, a longitudinal, quasi-experimental study testing an asset-building program modeled after IDA programs in the United States. Research participants are from one county, whereas the comparison group is from another county, approximately 20 miles away. The project was designed to carry out a multi-method, 3-year, phased research plan. The project was initiated by the Center for Social Development (CSD) and spanned from October 2003 to September 2006. International Care and Relief-Uganda (ICR) is CSD's implementing partner for the project. A brief description of the project site follows:

Intervention group

The intervention group is comprised of 200 people from six sub-counties in Masindi. The comparison group also consists of 200 people from six other sub-counties located approximately 20 miles from the intervention project site. Participants were selected based on economic need. More specifically, those chosen for the treatment group, including poorer people of the community, needed help to sustain themselves and/or their families economically. Local Parish Councils (LPCs) and ICR helped with the selection process. LPCs consist of local community leaders who know members of their communities very well and this knowledge was an invaluable resource to this project. Using the criterion of economic need, potential participants in the program were initially screened. The screening criterion was based on families and individuals who had struggled in the past to feed their households or send children to school and had solicited help from both the LPCs and ICR, From this list of potential participants, 200 people with the most needs were selected to participate in the project. At the time of enrollment, all research participants signed a letter of consent, indicating their commitment to participate in the research for a period of 5 years.

Comparison group

The comparison group was selected based on economic need as well. Again, through consultation with the LPCs and ICR, people were chosen to participate in the comparison group. The county where the comparison group resides has communities that benefit from other ICR development

projects. As part of these educational promotion projects, ICR and the communities worked together to build two schools in the area and partner with the government to hire teachers for the schools. The comparison group included participants from these development projects. Again, those selected for the comparison group were the community's neediest. This was done carefully so that participants in the comparison group were as similar as possible to those in the treatment group. Although the two counties from which the treatment and comparison groups were chosen are not in the same locality, the leaders of the community (local parish council) were part of this project from the beginning. All the participants from the comparison groups also signed consent letters to participate in the research for a period of five years. Enrollment was done during the 1st year of the program for both the intervention and comparison groups.

Intervention

The overall goal of the intervention was to assess whether a culturally tailored asset building intervention could enhance accumulation of savings and productive assets for poor people in Uganda. Treatment group participants were required to receive mandatory financial education. This training provided guidance on making deposits and withdrawals, reading bank statements, and understanding interest and fees. In addition, participants were given lessons in business planning and bookkeeping, as well as management of specific assets such as livestock rearing, poultry farming, and modern farming techniques. The aim was to provide participants with a skill set that would help them manage their individual assets. Because of the challenges that ICR experienced in the program with issues of HIV/AIDS, participants also received training in HIV/AIDS prevention and management.

After opening an account, participants deposited their money for a minimum of six months before they were eligible for a match. Participants generated money from selling food they cooked, including doughnuts, corn, sweet potatoes, and cassava. Restrictions were made on one-time deposits of lump sums to encourage more regular deposits over the participation period, which included a minimum of six months. The match cap, which is the maximum amount of money a participant can save, was 500,000 Ugandan Shillings (UGS), which translates to approximately US $285. This match was a one-time match to begin with; however, some participants reenrolled after graduation and received another match of 500,000 Ugandan Shillings. Participants who successfully reached their savings goals were matched at a ratio of 1:1, after which each purchased the desired asset.

To encourage sustainability and viability of the assets, participants were only allowed to purchase assets that would generate income. Acceptable livestock included chickens, goats, cows, and oxen. Other acceptable assets included transportation, such as bicycles or motorcycles, which were used to transport others for a fee; land for growing crops or building a home; materials to build commercial or personal houses; and items to start a small business, such as sewing machines or grinding mills. ICR, LPCs and selected representatives from communities in the intervention group helped develop the list of asset goals.

Data and Methodology

Instrument

Locally-trained interviewers collected data through face-to-face surveys of both the intervention and comparison groups. The questionnaire was administered twice to the same people during a 13-month interval; Wave 1 was in August 2005 and Wave 2 was in September 2006. The Wave 1 data was collected 13 months after the project began, so it cannot be treated as baseline data. The data for this particular study is from a subsample of 163 youth from between 15 and 35 years of age drawn from the 400 households that participated in the larger project. Out of the 163 sample for this study, 98 are in the treatment group and 65 in the comparison group.

The survey consists of over 100 items largely adopted from the American Dream Demonstration (ADD) study that measures wealth accumulation and wealth effects. SAS and STATA are used for analysis. Some of the information gathered in the survey includes demographics, future expectations, community participation, household relationships, financial situation, accumulated assets, and savings habits.

Data Analysis

Two methods of analysis are used: Propensity Score Matching (PSM), and Difference-in-Differences (DiD). Due to the possible differences between the treatment and comparison groups which may affect the impact of the intervention, PSM is used to mitigate these differences. Although some measures were taken to select similar people on social and economic characteristics, being a quasi-experimental design, selection bias cannot be completely eliminated. Therefore, the choice of combining PSM and DiD would mitigate existing selection bias and aid in isolating the treatment effects of the intervention. In every quasi-experimental research design, there is an amount of selection bias that raises fundamental methodological questions that need to be addressed by the researcher. One of these questions is whether it is possible to separate the effect of the treatment on the treated individuals from the effects that resulted from prior factors that might have had an influence on the outcome being measured. For example, in this study, how do we know that the outcome is a direct result of the asset-building intervention and not a result of the person's gender, age, prior wealth, education, and health, all factors that have been previously established in the literature for having an association with asset accumulation? Therefore, in quasi-experiments, a counterfactual is introduced, in this case, individuals in a comparison group who do not receive treatment to estimate the outcomes without treatment. However, the problem still remains that the individuals selected in the treatment group may have a higher probability of accumulating assets. One way to address this selection bias is to match treatment and comparison cases on relevant pre-treatment characteristics so that the outcome differences between the two groups can be attributed to the intervention.

Rosenbaum and Rubin (1983) suggest using a matching procedure based on a balancing score known as the propensity score, i.e. the probability of participating in a program given observed characteristics X. Matching involves pairing treatment and comparison cases that are similar on a given number of observable characteristics. PSM is used when the number of observable variables or characteristics being used to match the cases from the treatment and comparison are more than two. Propensity score matching methods provide a natural weighting scheme that yields unbiased

estimates of the treatment scheme. The weights are formed as the inverse of the predicted probability that an individual would make the choice to participate in the treatment. The resulting predicted probabilities are used to create weights that are used in subsequent analyses.

DiD is a method used to compare observed outcomes for two groups for 2 time periods. The treatment group is exposed to an intervention in the 2nd period but not in the 1st period. The comparison group is not exposed to the intervention during either period. The sampling units in both groups are observed in each time period, and the average gain in the comparison group is subtracted from the average gain in the treatment group. This removes the biases that may exist in the 2nd period comparisons between the treatment and comparison group that could be the result of permanent differences between those groups, or of trends taking place in their environment over a period of time.

The combination of these two methods (PSM and DiD) is commonly used to analyze causal effects of treatment from observational data and for reducing selection bias in non-randomized field experimental research. Caliendo and Kopeinig (2008) suggest steps in implementing a method that combines PSM and DiD.

A logistic regression model is used in this study to estimate the probability of participation versus non-participation. The dependent variable is a binary variable: treatment = 1 and comparison = 0, and the independent variables in the model are age, gender, education level, employment type, marital status, prior wealth, and number of children in the household.

Treatment effects are only estimated over the common support region. For each participant, comparisons are identified who match on propensity score (common support set). Heckman, Ichimura, and Todd (2003) report that violating the common support condition is a major source of treatment effects bias as conventionally measured. Therefore, an important step is to check for the overlap of the region of common support between the treatment and comparison group. To determine the common support region in this study, trimming is conducted using 5% and 10%. This excludes treated cases in this propensity score range, producing more reliable results.

Propensity score matching and difference-in-differences are used to calculate the treatment effects. DiD mitigates the remaining bias after PSM and improves precision even further. DiD calculates the before-and-after differences for the participants, and the before-and-after differences for multiple non-participants using local linear weights. These differences (between the differences for the participants and the differences for the non-participants) are compared to analyze the treatment effects. Confidence intervals are directly observed from the actual distribution of the parameter estimates around the mean. According to Guo, Barth, & Gibbons (2005), bootstrapping is the only available method in software packages that can offer an alternative to testing whether or not the group difference is statistically significant.[1] Bootstrapping in this case is used to estimate the standard error of the sample mean difference between treated and non-treated cases.

Sensitivity analysis was conducted by testing the sensitivity of estimated treatment effects using common support. Sensitivity analysis is done because it is not possible to estimate the magnitude of

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[1] Local linear estimation provides weighted average outcomes of non-treated cases. Asymptotic distributions of these weighted averages are complicated. Currently there is no procedure available in any software package that offers parametric tests to discern whether or not group difference is statistically significant (Guo, Barth, & Gibbons, 2005).

selection bias with non-experimental data. Therefore, in this study, the problem is addressed by Lechner-bounds for significance levels and confidence intervals (Aakvik, 2001; Rosenbaum, 2002).

Main variables

Productive assets are measured using the value of the assets owned. This was done by assigning an average value of the particular asset and multiplying this value by the number of assets owned in that particular category. For example, if a respondent had 3 cows and the value of a cow was 40, 000 Ugandan Shillings across-the-board, then the number of cows was multiplied by 40,000.Responses to the asset values may not have been reliable due to lack of knowledge of the price of these assets. Hence, assigning an average value provided by the Ugandan market analyzers mitigated some of these measurement challenges.

Financial assets were the aggregate value of all the money in the bank. This was an easier variable to measure as respondents were asked how much money they had in the bank, in their household, and with friends and relatives, using three different questions.

Total wealth was measured by aggregating productive assets and financial assets.

Net worth was measured by subtracting total debt from total assets.

Covariates: Gender, age, marital status, education, and prior wealth were included in the analysis as covariates. These variables may affect people's savings and therefore, they were included to isolate the main effects of the intervention (see earlier discussion and Grinstein-Weiss, Zhan, & Sherraden, 2006; Wilmoth & Koso, 2002; Bobbitt-Zeher, 2004; Tanye, 2008; Owusu-Ansah, 2003). Gender is a nominal variable that identifies the gender of a respondent. Age is a continuous variable and measures a respondent's age in years. Marital status is measured at a nominal level with 3 categories: single never married,[2] married, and single married before. Education is an ordinal variable and measures the educational attainment of a respondent; however, this variable is changed into a continuous variable by assigning the number of years equivalent to the level of education. Prior wealth is measured as all the financial and tangible productive assets that the respondent has at Wave 1 collection point.

Results

Descriptive statistics

Descriptive statistics in Table 1 provide the demographic and socio-economic characteristics of youth in AssetsAfrica before Wave 1 data was collected. The table includes gender, age, level of education, type of work, marital status, and accumulated wealth prior to Wave 1 data collection. Overall, there were more males in the sample. For the intervention group there were more people (46.9%) between 26 and 30 years, while in the comparison group, more than half (53.9) of the respondents were between 31 and 35 years of age. There were more married youth in the sample. The highest level of educational attainment was high school. Farming was the most common work

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[2] During the piloting exercise, this category was changed to clarify the categories of marital status. Respondents commented that the category single was not clear in that context because people who are not married whatsoever are considered single. Therefore, to qualify singleness, the never married category was added to the single category.

represented among sample participants, corroborating 2003 statistics from the Uganda Bureau of Statistics. Most of the youth had accumulated wealth within the range of $0 to $200 U.S. dollars prior to Wave 1 data collection.

Table 1: Descriptive statistics for youth in the AssetsAfrica at Wave 1

Variables	Intervention Group n (%)	Comparison Group n (%)	Totals Number n (%)
Gender			
Male	55 (56.1)	47 (72.3)	102 (62.6)
Female	43 (43.9)	18 (27.7)	61 (37.4)
Age			
15 – 20	1 (1)	3 (4.8)	4 (2.5)
21 – 25	23 (23.5)	8 (12.7)	31(19.3)
26 – 30	46 (46.9)	18 (28.6)	64 (39.8)
31 - 35	28 (28.6)	34 (53.9)	62 (38.5)
Marital Status			
Single Never Married	15 (15.9)	6 (1.6)	21 (13.4)
Married	69 (73.4)	52 (82.5)	121 (77.1)
Single Married Before	10 (10.6)	5 (7.9)	15 (9.6)
Education level			
Elementary	7 (7.1)	14 (21.5)	21 (12.8)
High School	44 (44.9)	31(47.7)	75 (46.0)
College	28 (28.6)	18 (27.7)	46 (28.2)
University	19 (19.4)	2 (3.1)	21 (21.9)
Employment Status			
Trading	12 (12.5)	3 (4.9)	15 (9.6)
Farming	66 (68.8)	54 (88.5)	120 (76.4)
Teaching	16 (16.7)	4 (6.6)	20 (12.7)
Service	2(2.1)	0	2 (1.3)
Prior Wealth (In US$)			
0 – 200	42 (42.9)	52 (8.0)	94 (57.7)
201 - 400	10 (10.2)	7 (10.8)	17(10.4)
401 – 600	9 (9.2)	1 (1.5)	10 (6.1)
601 – 800	8 (8.2)	1 (1.5)	9 (5.5)
801 – 1000	29 (29.6)	4 (6.2)	33 (20.2)

NB: Figures do not include missing values. N=163

Propensity Score Matching (PSM) and Difference-in-Differences (DiD) results

As discussed earlier, the first step in this procedure was to match cases in the intervention with similar cases in the comparison group, based on covariates that would influence asset accumulation success. The covariates used to match cases in this study were based on prior discussion of determinants for asset ownership, namely gender, age, marital status, education, and prior wealth.

Table 2 presents the estimated average treatment wealth effects for the treated group. As shown in the second column of Table 2, there was an increase of $10 in the mean for productive assets for the intervention group from Wave 1 to Wave 2. However, for the same period, the mean for productive assets for the comparison group decreased by $10. Hence, the unadjusted mean difference between the intervention and comparison groups is $20, meaning that the average change for productive assets for the intervention group is $20 more than that of the comparison group. To correct for selection bias in the intervention, the DiD estimation considered the distance between a treated case and a comparison case on the propensity scores in calculating the treatment effects of the treated. However, only the adjusted mean difference is reported as it takes care of the bias that exists before matching. Therefore, for the productive assets, the point estimate of the difference-in-difference is $3, which falls into a 95% bootstrap confidence interval bounded by -92.53 and 49.77. This means that 95% of the time, the difference in the productive assets between the intervention group and the comparison group will fall between -92.53 and 49.77, indicating that the difference is not significant. On the other hand, there are significant differences on adjusted mean for financial assets ($763.17), total wealth ($897.75), and net worth ($1,117.83), and each fall into a 95% bootstrap confidence interval bounded by 533.5 and 942.10; 490.96 and 1,276.65, and 754.33 and 1,539.31 respectively. The key to these confidence intervals is that they do not include the null hypothesis value of 0, making these significant, unlike the productive assets point estimate confidence interval.

The sensitivity analysis as discussed earlier was done to check if the overlap of the treatment and comparison group in the matching was stable. Bandwidth specifications and trimming were used to test the sensitivity (check prior discussion in research methods). The results for all the wealth variables are quite stable. Looking at the different estimates presented as the adjustments were conducted on the bandwidth, shows consistency in the estimate result. From observing the estimates as the trimming is changed to test the robustness of the matching procedure, the results shows that there is good overlap, therefore the DiD estimates can be reliable. For productive assets, financial assets, total wealth, and net worth, all the analyses show a 95% bootstrap confidence interval bounded by nonzero difference in differences estimates.

Table 2. Difference-in-Differences results for youth wealth outcomes

Treatment & Comparison	Outcome Measures: Household Wealth in US$			
	Productive Assets	Financial Assets	Total Wealth	Net-worth
Mean Difference between Time 1 and 2				
Participants in the Asset-building Intervention (n=95)	10.27	781.17	981.34	1225.42
Comparison Group who did not receive any Intervention (n=65)	-10.36	36.33	83.58	137.50
Unadjusted Mean Difference	20.63	744.84	897.75	1087.91
Adjusted Mean Difference DID Point Estimate (Bias Corrected 95% Confidence interval)	3.77 (-92.53 ↔ 49.77)	763.17 (533.54 ↔ 942.10)	897.75 (490.96 ↔1276.65)	1117.83 (754.33 ↔1539.31)

Discussion

Wealth effects of the asset-building intervention

The intervention in this study is aimed at building assets for households in Uganda. The impact analysis for this paper targets the wealth effects of the intervention on a sub sample of youth, from 15 and 35 years of age, in particular. The results show a statistically significant difference on financial assets, total wealth, and net-worth between the youth in the intervention group and those in the comparison group. The difference on productive assets is not statistically significant. Overall, the youth in the intervention accumulate more wealth. As mentioned in prior discussion, the program offered substantial support to the intervention group by providing training in various aspects of savings, and support from fellow participants. This training and support added to their asset building success. Perhaps given the same training and support, young people in the comparison group could have accumulated assets equal to those of the treatment group. However, if the wealth effects displayed by the results are significantly independent of the support rendered to the treatment group, then the program yielded important wealth effects that could be seen as a substantial contribution to the economic well-being of youth in SSA.

As discussed earlier, savings is important for young people. An individual's savings can determine whether they have the ability to pursue a higher education or start a small business. Because this intervention specifically targeted asset purchase, the question still remains why the productive assets effect of the intervention was not statistically significant. Perhaps, one explanation is that most participants had not graduated from the program and therefore, held their assets in financial accounts, such as a bank account. This may explain the difference between the financial assets effects ($763) and the productive assets effects ($3). Perhaps, if there were a 3rd wave of data collected, the productive assets effects would be closer to the financial effects. Wave 3 data would provide an opportunity to examine a trajectory of participants' asset-purchasing behavior. As financial assets are translated into tangible assets in the long term, there would be a balance between the productive assets effects and the financial assets effects.

The financial assets effects, on the other hand, are higher, which may mean that young people in the intervention group have more savings than the comparison group. Because the program design involves possession of a bank account during the intervention and a commitment to make regular deposits into the account, and without frequent withdrawals, the financial asset effects may display the most significant effects of the intervention. A caveat to this conjecture is that young people with accounts, unlike their counterparts in the comparison group, may have had an easier recollection of how much they had in their accounts. This data was compared with the account monitoring software MISIDA for verification. Unlike the intervention group, the comparison group did not have a similar structure of bank accounts readily available. Therefore, information about the comparison group's financial assets was obtained from self-report and memory recall, which could not be verified in any way. This may have introduced an imbalance in the comparison of the financial assets between the two groups, as some may not have had an accurate recollection of the amount of money they had with relatives and friends, or with an informal savings group. Moreover, the study did not control for the effects that prior ICR development projects may have had on the comparison group. It is possible that the support some people in the comparison group may have received prior to the ICR project influenced their savings and asset accumulation efforts. One of the strengths of PSM and DiD is the ability to isolate the effects of the intervention on the treated

participants. This is done by matching participants from the treatment and comparison groups who share similar factors that may influence their propensity to excel in the treatment. Therefore, the possible influence of other interventions on the comparison group is mitigated by using PSM and DiD.

The net-worth effects display a substantial difference of $1,117.83 between the intervention and comparison groups. When this figure (net-worth effects) is compared to the other effects, it is significantly higher. Perhaps an interpretation of the net-worth effects could assist in setting the stage for the implications of such effects. Essentially, the net-worth effects are better termed as the change in net-worth over time because they measure the change in net-worth over a period of time. For instance, if a young person had debt of $140 at Wave 1, and she paid off this debt and accumulated savings of $150, her net-worth would be $290 at the point when the net-worth is measured. Therefore, the more debt paid together with savings accumulated, the more net-worth the person has. Thus, the interpretation of net-worth effects in this study may be that participating in the program has an effect on young peoples' debt repayment over and above the improvement in their savings' behavior. This means that the intervention may increase economic stability for young people in SSA because they would have the needed assets to run their households daily and the necessary collateral to accumulate more assets to sustain themselves and if applicable, their families in the long term. Additionally, this economic stability may provide the possibility for young people and/or their families to plan for the future because the assets would be the basis for such planning. In times of crisis or disaster, these young people and their families would use their assets to cushion the effects of the disaster or crisis.

In SSA, apart from the informal ways of accumulating assets, poor people's access to institutionalized asset-building instruments is very limited. For this reason, young people continue to use informal ways of accumulating assets. Through these means, they accumulate assets, but in small amounts that do not enhance their well-being in the long term. Accumulating meaningful assets may reduce the vulnerability of young people in SSA, particularly those who live in rural areas. The results from this study show that youth in rural SSA are able to accumulate substantial assets that may well contribute to their well-being long term.

Unlike informal asset instruments that the poor use in SSA, institutionalized asset-building instruments can provide safety and higher returns for young people. Although not very accessible to poor people (who most of the time do not have information about such opportunities and may lack the skills to navigate the system), these instruments can be made simpler to be more inclusive of the poor. Such instruments could enhance young people's savings which they could draw in times of economic shocks.

The development accounts in this intervention are a good example of an asset building instrument that successfully provides safety and accessibility for poor people in a developing country. This asset-building intervention may provide a model of an asset-building instrument that is safe, simple, accessible, institutionalized, and provides high returns.

Conclusion

There is a huge unmet demand for saving among youth in developing countries. However, only about a quarter of households in developing countries have any form of financial savings with

formal banking institutions. The personal savings rate in SSA is among the lowest in the world (World Bank, 2006). Asset accumulation instruments, such as savings products that are aimed at the younger generation in SSA, may contribute to the larger picture of economic growth for the subcontinent.

Having access to financial services is a fundamental tool to build productive capacity of households, to smooth expenditure when cash inflows are erratic, including during seasonality of crops or to protect against emergencies such as natural disasters or a death in a family.

One of the main constraints among dispersed or low income populations in accessing asset building or other financial services is the operational cost involved in expanding service areas with less developed infrastructure. One way to achieve universal access may be to adopt systems that employ a low-value, high-volume transactional environment such as branchless banking or mobile banking using cell phones and the internet. This banking system should allow people to pay into or cash out of their transactional and savings accounts and interact remotely in a trusted way using IT technology. By expanding and reducing the costs of IT, the future seems promising.

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