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“Taking the Bank to the Youth:”
Impacts on Saving and Asset
Building from the Ghana
YouthSave Experiment

YungSoo Lee
Incheon National University

Lissa Johnson, Michael Sherraden
Center for Social Development

David Ansong, Gina Chowa
University of North Carolina at Chapel Hill

Isaac Osei-Akoto
ISSER, University of Ghana

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Washington University in St. Louis

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Abstract

This working paper explores the experimental impact of in-school banking and financial marketing outreach on the savings performance of youth in schools across eight geographic regions in Ghana (i.e., “taking the bank to the youth”). The researchers found significant and sizable effects of the Ghana YouthSave experiment on savings performance. Youth in treatment schools performed better in terms of account opening, depositing, and savings than those in control schools. Between the two treatment conditions, in-school banking was more effective than marketing outreach in promoting account uptake and savings but the differences were marginally significant. Overall, the findings of the Ghana YouthSave experiment demonstrate that low-income youth and their families, in a resource-limited country, can be connected to formal financial services, and will save if access and opportunities are available to them. These findings support the increased efforts from financial institutions to offer financial services at schools.

Key Words: *Savings, Asset building, Financial inclusion, YouthSave, Experiment, Randomized control trial*

In Ghana, over half of the population is aged younger than 25 years; therefore, youth are a very important segment in that country’s national economic development (United Nations Statistical Division, 2014). Youth financial inclusion and asset building is receiving increasing national attention. A growing body of research suggests that building assets has positive effects on youth development and well-being (Chowa, 2010; Chowa, Ansong, & Masa, 2010; Elliott & Beverly, 2011a, 2011b; Williams Shanks, Kim, Loke, & Destin, 2010; Sherraden, 1991; Ssewamala, 2015). Promoting savings through formal bank accounts and financial services may be an effective way to secure asset building among low-income children and youth (Deshpande & Zimmerman, 2010). There is empirical evidence (Nam, Kim, Clancy, Zager, & Sherraden, 2011; Schreiner & Sherraden, 2007) that low-income youth can save and that accumulated assets in turn enhance youth outcomes through the asset-building programs and policies implemented in the United States and other industrialized countries.

However, many youth in less developed, resource-limited countries who save informally face multiple barriers to saving and building assets in formal financial institutions (FIs). Barriers to access include age restrictions, lack of identity documentation, product fees, limited geographic access, and lack of independence to operate an account (Aggarwal & Klapper, 2013; Child and Youth Finance International, 2014; Demirguc-Kunt & Klapper, 2012; Karlan, Ratan & Zinman, 2013; Porter, Blaufus, & Owusu Acheampong, 2007). For low-income youth, these barriers can be even more debilitating.

During the past several years, an increasing number of FIs in developing countries have developed savings products and services designed to increase youth participation in saving and asset building (Abeywickrema, 2009; Griffin, 2014; Masa, 2009). However, rigorous research that

assesses the impact of particular product features and services on account uptake and savings performance is still limited. As a part of the larger YouthSave initiative¹, the participating FI—HFC Bank—and researchers in Ghana designed an experiment to test the impact of youth savings product and associated outreach services to youth at schools.

This working paper explores the experimental impact of in-school banking and financial marketing outreach on the savings performance of youth in schools across eight geographic regions in Ghana (i.e., “taking the bank to the youth”). Results reflect the number of accounts opened, transaction activity, and asset accumulation from product rollout in May 2012 through November 2014. The effects of savings on developmental outcomes of youth account holders are explored elsewhere (Chowa et al., 2015).

Project Implementation

The Ghana context²

Table 1 presents country characteristics about Ghana that provide context for the YouthSave initiative. About half of the Ghana population lives in urban areas and branches of HFC are located primarily in these areas. Individuals who live in the rural areas may have greater difficulty accessing HFC services. Approximately 70% of Ghana’s population lives above the poverty line. Average years of schooling for those 25 or older is seven.

Table 1. Ghana Country Characteristics*

	Values
Population (millions) (2012)	25.5
Urban population (percentage of total) (2012)	52.6
Median age (2010)	20.5
GDP per capita (2005, PPP USD)	1,652
GNI per capita (2005, PPP USD)	1,684
% living on USD 1.25/day or less (2002–2011)	28.6
% living at or below national poverty line (2002–2012)	28.5
Gender inequality index (2012)	.565
Primary school dropout rate (2002–2011)	27.8
Expected years of schooling, children (2011)	11.4
Mean years of schooling (persons 25 years and older) (2010)	7.0
% with account at a formal financial institution**	29.4
% with account at a formal financial institution (income, bottom 40%)**	15.4
Human Development Index rank (2012)	0.558

GDP, gross domestic product; *GNI*, gross national income; *PPP*, purchasing power parity; *USD*, U.S. dollar

*Data from United Nations Development Programme, 2013, unless otherwise noted.

**Data from Demircuc-Kunt & Klapper, 2012.

¹ Created in partnership with The MasterCard Foundation, YouthSave investigates the potential of savings accounts as a tool for youth development and financial inclusion in developing countries by co-designing tailored, sustainable savings products with local FIs and assessing their performance and development outcomes with local researchers. The project is an initiative of the YouthSave Consortium led by Save the Children (SC) in partnership with the Center for Social Development (CSD) at Washington University in St. Louis, the New America Foundation, and the Consultative Group to Assist the Poor (CGAP).

² Information from this section appears in the supplementary report *Youth Savings Patterns and Performance in Ghana* (Johnson et al., 2015).

In terms of financial access in Ghana, only about 30% of the population aged 15 years or older have an account at a formal FI. Youth, aged younger than 18 years cannot independently open or manage an account. Instead, they must have a parent or other trusted adult assist in opening an account. YouthSave was designed to investigate pathways to financial inclusion for youth aged between 12 and 18, and particularly for lower-income youth. Through support from Save the Children, HFC conducted market research to design a more inclusive, accessible, and youth-friendly financial product and associated services (Deshpande, 2012).

HFC and the *Enidaso* account

The YouthSave account that HFC offers in Ghana is called *Enidaso*, which means “hope” in the Twi language. HFC actively marketed the *Enidaso* product in 25 of the original 26 branches over the course of the project. For other newly opened branches, HFC allowed walk-in customers to open the *Enidaso* account but did not include them in this study.

The product targets youth aged between 12 and 18 years with marketing outreach focus on low-income youth. The account requires a minimum opening balance of GHS 2 (USD 1.04) and an operating balance of at least GHS 5 (USD 2.60). Savings earn interest (1% to 2.5%) after the account has at least GHS 20 (USD 10.42). Withdrawals from the account are restricted for the first three months, and only monthly withdrawals can be made thereafter. However, the three-month restriction was waived for the youth who reside in boarding schools because they generally need consistent access to their funds. A parent or trusted adult of the youth must be the primary signatory for account opening and withdrawal of funds. The youth can deposit into these accounts by themselves, but cannot withdraw from the account without the adult guardian. To protect and empower youth account holders, adults also cannot take withdrawals without the signature of the youth.

HFC issues *Enidaso* clients a view-only ATM card upon request for a one-time fee of GHS 2.50 (USD 1.26). This ATM card enables them to check their balance and account statement but does not allow withdrawals from the ATM. HFC also provides savings booklets to account holders for a fee of GHS 3.50 (USD 1.76). Statements are provided every six months for free and on demand for a fee of GHS 2 (USD 1.01) per statement.³

Methods

Research questions and hypotheses

A main objective of this working paper is to examine the impact of the Ghana experiment on savings performance. To this end, this research has two main hypotheses: (1) youth in treatment schools perform better in terms of account opening, depositing, and savings compared to those in control schools; and (2) between the two treatment conditions, youth in schools receiving in-school banking services perform better in terms of account opening, depositing, and net savings (i.e., asset building in the accounts), compared to those in schools receiving only marketing outreach services.

³ On July 2015, the National Gold Award and Head of State Award Scheme awarded the *Enidaso* account the national honor of *Best Bank for Young People in Ghana*.

Design, procedures, and data

The Ghana YouthSave experiment used a randomized controlled design to test whether the access of a savings account influences youth economic and developmental outcomes. A true experiment creates a treatment group that is not systematically different from a control group in terms of both observed and unobserved factors. Therefore, any differences between the treatment and control group can be attributed to the intervention (Orr, 1999). The Ghana experiment also employed a cluster randomized design in which random assignment was conducted at a school level. This was administratively more feasible—and more ethical—than treating youth differently within the same school. Furthermore, school-level interventions reduced the risk of experimental contamination; that is, diffusion of treatment might have occurred if youth in the treatment group and control group, along with school teachers and staff involved in the intervention, were in the same school (Chowa et al., 2015). School-level interventions also enhanced youth compliance.

Regarding the sampling frame and selection, the research team selected public junior high schools to participate in the Ghana experiment from the 54 districts of HFC's operational areas. Public schools were targeted because the experiment was aimed at low-income youth. The District Education Offices provided a list of 581 public schools in the HFC operational areas from which the research team randomly selected 100 schools. The research team then randomly assigned 50 schools to the treatment and 50 to the control group. Within 50 treatment schools, 25 were randomly assigned to receive marketing outreach, and the remaining 25 were assigned to receive in-school banking. In this analysis, all youth in each of the treatment and control schools are counted as participants in the experiment (i.e., the relevant data on youth are in the school-based sampling frame, and therefore are included in the analysis.)

One treatment condition was in-school banking. Such interventions included visits from the bank staff to introduce the *Enidaso* account to youth and collaborate with students to conduct on-site bank transactions. There were no restrictions on the number of visits. School teachers acted as liaisons between bank staff, school administrators, and students.

The other treatment condition was marketing outreach. During marketing, bank staff could open accounts and take initial deposits on site only during the initial visit. Youth in schools that received this treatment condition could make additional transactions (deposits or withdrawals) only by visiting the bank (for more detail on the Ghana experiment, see Chowa et al., 2015).

Between September 2013 and August 2014, the number of bank staff visits to in-school banking schools ranged from an average of 5.90 to 7.32. Bank staff visits to schools receiving only marketing outreach ranged from 2.4 to 3.26. The number of bank staff dedicated to the experiment schools was 11 in September 2013 and declined to 7 in August 2014 (Chowa et al., 2015).

The research team obtained data on savings performance such as account opening, depositing, and savings from the Savings Demand Assessment (SDA). The SDA collected data on all transactions for those who opened *Enidaso* accounts. This data also included a school attachment for each account holder, which could link the experimental design (i.e., all children in treatment and control schools) to the savings outcome measures (for more detail on SDA see Johnson et al., 2015).

The analyses presented in this report are based on intent-to-treat analysis reasoning. The research team obtained data on school populations for each of the treatment and control schools (using best estimates where accurate counts were not readily available). All youth in treatment and control schools are included in the analysis, regardless of their account holding status, compliance to the treatment, deviation from the experimental protocol, school attendance, or any other factor. Thus, the intent-to-treat approach is able to accurately estimate the impact of the Ghana experiment on savings performance across the full footprint of schools from which the sample was drawn (Armijo-Olivo, Warren, & Magee, 2009).

Measures

The researchers used three savings measures to test the impact of the Ghana experiment: (1) account opening, (2) average monthly number of deposits, and (3) average monthly net savings.

Account opening was dichotomously measured (0 = no; 1 = yes). *Average monthly number of deposits* were calculated by the total cumulative numbers of deposits divided by the number of months an account has been open. *Average monthly net savings* were calculated by total net savings divided by the number of months an account has been open (Schreiner et al., 2001).

Given that youth in the study sample had different lengths of account holding, the research team used monthly average measures of deposit frequencies and net savings to account for the variance. The team measured the original savings outcomes in Ghanaian national currencies and converted the amounts into comparable U.S. dollar (USD) amounts using purchasing power parity (PPP)⁴ factors.

Statistical procedures

Because the Ghana YouthSave experiment employed a randomized controlled design, simple comparisons in proportions (for dichotomous measures) or means (for continuous measures) between the treatment and control groups provide unbiased estimates for the impact of the experiment (Orr, 1999). The research team conducted chi-square tests to compare the proportions of account opening and a series of t-tests to compare depositing and savings between the treatment and control schools. With clear directional hypotheses reinforced by prior research, the team conducted a series of the two by two chi-square tests and t-tests with one-tailed significance tests.⁵

As previously discussed, the Ghana YouthSave experiment employed a cluster randomized design wherein a random assignment was conducted at a school level. Therefore, students were clustered within schools, and those within same schools might not have been independent of each other. These potential dependences may violate statistical assumptions, leading to underestimation of standard errors (Raudenbush & Bryk, 2002). To take this into consideration, the researchers used cluster-adjusted chi-square tests and t-tests (Herrin, 2002).

⁴ The research team used purchasing power parity (PPP) conversion rates for 2011 drawn from the International Monetary Fund (IMF) World Economic Outlook (WEO) database.

⁵ The research team additionally conducted two-tailed significance tests and one-way ANOVA with post-hoc tests, but these did not substantially change the findings at the $p < .05$ standard, though p -values slightly increased across tests.

Findings

Table 2 and Figure 1 present account opening status by treatment condition. Among 7,207 students in market outreach schools, 825 students (11.4%) opened *Enidaso* accounts. For those in schools that received in-school banking services, 1,160 students (21.1%) opened accounts. Among 9,760 students who attended control schools, 25 students (0.3%) opened accounts.

Chi-square tests documented significant differences in proportions of account opening between each of the treatment groups and the control group ($p < .001$). There is also a statistically significant difference between the two treatment conditions, marketing outreach and in-school banking ($p < .0001$). Alternative chi-square tests adjusting for clustering effects found that results hold except that the difference between in-school banking and marketing outreach group becomes nonsignificant ($p = 0.13$).

Table 2. Account Opening by Treatment Condition

Account Opening	In-school Banking	Marketing Outreach	Control	Total
Yes	1,160 (21.1%)	825 (11.4%)	25 (0.3%)	2,010
No	4,341 (78.9%)	6,382 (88.6%)	9,735 (99.7%)	20,458
Total	5,501	7,207	9,760	22,468

Figure 1. Proportion of Account Opening by Treatment Condition

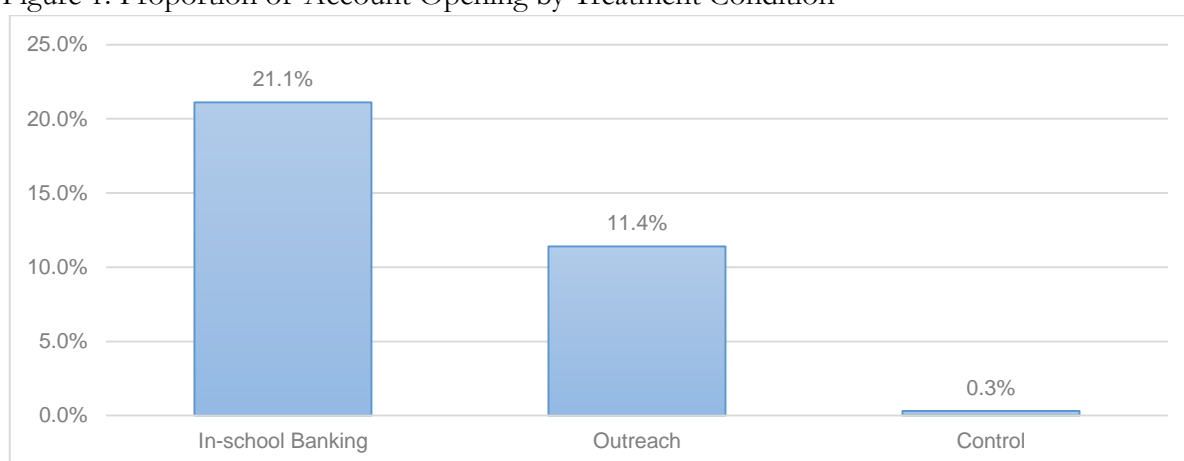


Table 3 and Figure 2 present results for average monthly numbers of deposits by treatment and control condition. Students in schools that received in-school banking services performed best (0.05 deposits per month), followed by those in schools receiving marketing outreach services (0.03), and those in control schools (0.0006), which did not receive any services.

A series of t-tests indicated statistically significant differences between in-school banking and control ($p < .001$), between marketing outreach and control ($p < .001$), and between in-school banking and marketing outreach ($p < .001$). Alternative tests using cluster-robust standard errors showed that findings hold between each of the treatment schools and control schools, though the difference between in-school banking and marketing outreach becomes no longer significant ($p = 0.11$).

Table 3. Average Monthly Number of Deposits by Treatment Condition

	In-school Banking (<i>n</i> = 5,501)	Marketing Outreach (<i>n</i> = 7,207)	Control (<i>n</i> = 9,760)
	Mean (SD)	Mean (SD)	Mean (SD)
Average Monthly Number of Deposits	0.05 (0.16)	0.03 (0.12)	0.0006 (0.02)

Figure 2. Average Monthly Number of Deposits by Treatment Condition

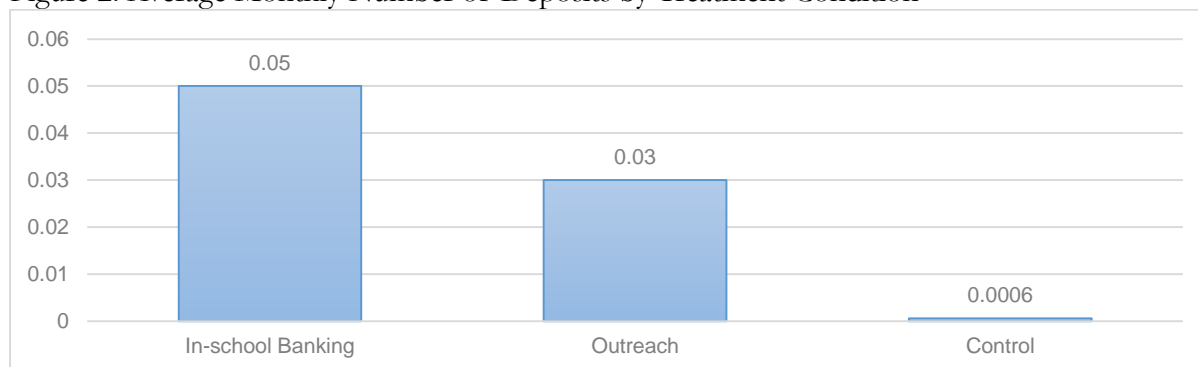


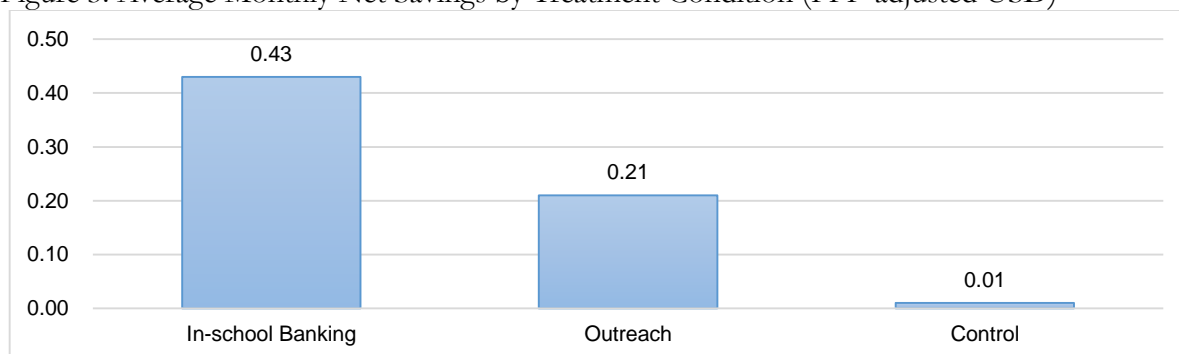
Table 4 and Figure 3 show that, for average monthly net savings, impacts were similar to those for account opening and depositing. Average monthly net savings were highest in the in-school banking schools (0.43), followed by the marketing outreach schools (0.21), and lowest among students in control schools (0.01).

Conventional t-tests showed statistically significant differences between in-school banking and control, and between marketing outreach and control ($p < .001$). The difference between in-school banking and marketing outreach is also statistically significant ($p < .01$) although alternative tests using cluster-robust standard errors find that the difference between marketing outreach and in-school banking becomes less significant ($p = .06$).

Table 4. Average Monthly Net Savings by Treatment Condition (PPP-adjusted USD)

	In-school Banking (<i>n</i> = 5,501)	Marketing Outreach (<i>n</i> = 7,207)	Control (<i>n</i> = 9,760)
	Mean (SD)	Mean (SD)	Mean (SD)
Average Monthly Net Savings	0.43 (7.14)	0.21 (2.34)	0.01 (0.54)

Figure 3. Average Monthly Net Savings by Treatment Condition (PPP-adjusted USD)



Discussion

The researchers found significant and sizable effects of the YouthSave Ghana experiment on savings performance. Youth in treatment schools performed far better in terms of account opening, depositing, and savings than those in control schools.

In-school banking schools had 21.1% account opening, and marketing outreach schools had 11.4%. Control schools had just 0.3%. Differences are statistically significant. Thus, in this robust experimental research, the research team concludes that the YouthSave intervention increases account holding from near zero to a range of 11% to 21% of the junior high public school population in Ghana. This is a meaningful increase. When 11% to 21% of junior high youth are “banked” (compared to 0.3% for controls), this represents a substantial increase in financial inclusion. The researchers anticipate that these youth will be more financially capable going forward, and perhaps their future school attendance and development will also improve.

The number of monthly deposits averaged 0.05 for in-school banking schools, 0.03 for marketing outreach schools, and 0.0006 for control schools. Differences are highly significant here as well. What is the practical importance of these results? Based on the Ghana YouthSave experiment, the research team concludes that, across full school populations, the treatment intervention increased depositing into *Emidaso* accounts by 50 to 80 times compared to the control group. Among the 11.4% of youth who opened accounts in marketing outreach schools, deposits averaged 0.26 per month, or about three times per year. Among the 21.1% of youth who opened accounts in the in-school banking schools, deposits averaged 0.24 per month, also about three times per year, but for a larger proportion of youth. For low-income youth in a developing country, making deposits several times a year is a positive step toward financial inclusion, with repeated meaningful interactions with a formal financial provider.

Average monthly net savings per student across the full school population were USD 0.43 for in-school banking, USD 0.21 for marketing outreach, and USD 0.01 for control schools. These differences again are highly significant. For observers from developed countries, the amount of savings may seem small. However, it is important to recall that these figures are based on the total school populations, while 21.1% and 11.4% of students actually opened accounts at in-school banking schools and marketing outreach schools, respectively. The amounts are greater for the students who saved. For example, students who attended in-school banking schools and opened accounts had average monthly net savings of USD 2.06. On an annual basis, this would be about USD 25, and over four years of schooling, this would accumulate to USD 100. Given the average yearly household expenditure on secondary schooling of about USD 200 per child (UNESCO, 2011), this savings amount represents a meaningful start on the costs of secondary schooling. Based on this asset building alone, one-fifth of children across the full school population are saving in amounts that have the potential to alter their educational trajectory. If students were building similar accounts across all the primary school years, it is likely that the impact would be greater still. The SDA shows that younger children have greater average monthly net savings than older children (Johnson et al. 2015), so it makes sense to start school-based savings early.

Overall, the findings of the Ghana YouthSave experiment demonstrate that low-income youth and their families, in a resource-limited country, can be connected to formal financial services, will save if access and opportunities are available to them, and that the savings patterns and

amounts represent meaningful youth development. Therefore, “taking the bank to the youth” is an effective strategy for financial inclusion and youth development. More specifically, in-school banking is more effective than marketing outreach in promoting account uptake and savings although the differences could be marginal. This supports the increased efforts by FIs to offer financial services at schools.

Why should FIs promote youth saving? Though FIs might not gain much immediate profit from these practices, the youth and their families could become a new segment for business over the long run. In short, the “business case” for youth saving is likely to be more extended than the usual standard in commercial banking, yet creative FIs may find a way to realize this long-term potential.

Moreover, considering positive impacts of asset building among youth, governments, and international development organizations may also support savings accounts for youth. As finance moves into the information age, savings accounts can be especially effective and efficient. When electronic transfers reduce transaction costs to near zero, sustainable financial services can reach many more people.

In addition, financial services of the information age provide a secure way to deliver public or philanthropic support through direct deposits rather than through intermediary agencies, greatly reducing the potential for inefficiency and corruption. In the process, these additional resources could more quickly build a positive business case for commercial financial providers. Going forward, using information technology is likely to be a more effective—and far more efficient—strategy for “taking the bank to the youth.” The potential to vastly expand financial inclusion is great, and only in the early stages of being realized.

Overall, these rigorous research results on account holding, depositing, and net savings in *Enidaso* accounts in Ghana are quite positive. This study provides strong evidence that a meaningful proportion of low-income youth in developing countries can be included in formal financial services, and save and accumulate assets for their future development. There is always more to learn, and more research will be needed—especially in using information technology to facilitate saving, and in testing distribution of philanthropic support and public benefits directly to financial accounts, including those of young people. YouthSave has made an impressive start. The next step in this promising applied research agenda lies ahead.

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Contact

Center for Social Development
Washington University in St. Louis
One Brookings Drive
Campus Box 1196
St. Louis, MO 63119
csd@wustl.edu