School Banking as a Strategy for Strengthening Youth Economic Participation in Developing Countries: Lessons from YouthSave

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Abstract

Schools are the primary settings where both education and health services are delivered to youth in developing countries. A similar approach can be used for financial inclusion. Financial inclusion, in turn, can lead to positive youth development outcomes in education and health. But a critical first step is financial access. This study examines how schools can serve as the setting for financial education and financial services, increasing youth economic participation. Research in four developing countries finds an increase in youth savings account uptake when financial institutions provide opportunities at schools for youth to receive financial education, open savings accounts, and make deposits. Findings are that school banking can overcome some of the regulatory, geographic, and information barriers that limit youth access to safe and affordable savings services. Marginalized youth, including those who are low-income and females, participate as much as other youth. We conclude that schools can play an important role in increasing youth economic participation, a positive step toward economic strengthening and overall well-being. As a possible implication, school-based health programming might consider integrating school banking features, such as opening savings accounts, into future program design and implementation.

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Background

The first step in youth economic participation and strengthening is financial inclusion, which has become a focus in developing countries (Alliance for Financial Inclusion 2011; Ehrbeck 2015; United Nations Population Fund 2014). According to the Center for Financial Inclusion at Accion (2014), *financial inclusion* entails access to and participation in secure and affordable financial products and services.

In turn, financial inclusion and economic strengthening can affect child and youth development, including health, academic, and psychosocial outcomes (Child Protection in Crisis, Livelihoods and Economic Strengthening Task Force 2011). For example, studies from an experiment on a youth economic empowerment program in Uganda indicated that, relative to control group members, program participants had higher self-esteem and self-rated health, lower depression, and more positive HIV prevention attitudes (Curley et al. 2010; Ssewamala et al. 2009; Ssewamala and Ismayilova 2009; Ssewamala et al. 2010). Findings from a school banking experiment in Ghana showed its positive impact on education and health (Chowa et al. 2015), and a U.S. study of universal accounts at birth showed their positive impact on parents' expectations for their child's education as well as on positive socio-emotional outcomes for both mothers and their children (Beverly et al. 2016; Huang et al. 2014a, b; Huang et al. 2017).

Research has shown that barriers to financial inclusion include regulatory policy, geographic access, identity verification, financial product information, financial service fees, affordability of deposit services, and documentation required to open an account (Aggarwal and Klapper 2013; Demirgüç-Kunt and Klapper 2013; Karlan et al. 2014; Porter et al. 2007). For youth, additional challenges lie on the path to financial inclusion. Youth desire to participate but may face limited access, account fees, and bank bureaucracy, as well as lack of trust, transparency, and youth products (Child and Youth Finance International 2014). The regulatory environment is particularly challenging (Billimoria et al. 2013). In many countries, youth cannot open an account until age 18 and thus depend on parents or other adults to cosign and accompany them to the financial institution (FI) to conduct transactions. If a parent or guardian does not use mainstream banking or does not live near an FI, youth have fewer opportunities to participate (Sherraden 2013). Mobile banking is a growing area, but access for youth is limited by age restrictions and access to cell phones. Policies to automatically establish accounts from birth are growing in popularity but are primarily available in developed countries (Loke and Sherraden 2009).

The issue of financial inclusion is particularly challenging in developing countries because youth represent a majority of the population (United Nations Population Fund 2014). In this context, schools are often used for interventions because they can reach large segments of youth. School-based health programs, for example, are well-established at local, national, and international levels (Bundy et al. 2006; World Health Organization 2009). Models of school-based health education and services vary considerably, from strictly individual interventions to comprehensive models. For example, the Comprehensive School Health Program incorporates broad community engagement, and the Global School Health Initiative involves alliances with the World Bank, UNICEF, UNESCO, and the Education Development Center (World Health Organization 2009).

A comprehensive model for school-based health education and services includes planned school- and curriculum-based health education; health services; student skill development; school environments that promote healthy living; and involvement of school staff, students, families, and the community at large (Centers for Disease Control and Prevention 2015; Deschesnes et al. 2003; World Health Organization 2017; World Health Organization 2009). Findings from research on these programs highlight their cost-effective approaches to reaching large numbers of youth, approaches facilitated by support from teachers, administrators, and parents (Brooker et al. 2001; Bundy et al. 2006; Deschesnes et al. 2003; Hoelscher et al. 2004). A systematic review of sexual and reproductive health interventions, for example, cites the importance of skill-based activities for students, opportunities for repeated exposure to the intervention, and educating teachers, parents, and the community (Paul-Ebhohimhen et al. 2008).

Research on the implementation and outcomes of comprehensive school-based health programs can inform the development of school-based banking as a model for facilitating youth financial inclusion. In fact, school banking includes components that parallel the elements of a comprehensive school-based health program. We define *school banking* as access to opportunities at school to (1) learn how to manage resources through financial education and (2) build skills by using financial services. Components include financial education, partnerships with FIs and other youth-serving organizations, and opportunities to open a savings account and make deposits into that account (Chowa et al. 2012; U.S. Department of the Treasury 2017). At a minimum, school banking offers information about safe and affordable savings products and the opportunity to open a savings account at school. School banking is distinct from other types of programs that offer only school-based financial education programs.

In developing countries, support continues to grow for government policies that support youth financial education in schools as a national development goal, but such policies generally do not include access to financial services in schools (Alliance for Financial Inclusion 2015). One potential national policy model is Bangladesh's School Banking Program, introduced in 2010 by the Central Bank of Bangladesh. The School Banking Program's savings accounts are available to students aged 6 to 18 if a parent or legal guardian serves as cosignatory. Participating FI branches may periodically offer financial services at schools but are more likely to establish "school banking counters" at the FI location. As of 2014, Bangladesh banks had opened 850,303 school banking accounts (Mondal et al. 2015).

Studies on school banking are positive but few and may assess outcomes with self-reported data rather than data from FIs (Berry et al. 2015; Wiedrich et al., 2014). Even less common are studies on demographics or particular product features that affect participation in school banking, especially in developing countries. The YouthSave Initiative tested savings accounts as a tool for youth development and financial inclusion, particularly for low-income youth, in four developing countries (YouthSave Consortium 2015). This paper uses data from FIs participating in YouthSave to assess whether the involvement of FIs in savings account opening and depository services at schools is a strategy that can increase youth financial inclusion and that achieve inclusion across income levels and gender. We also assess how alignment with the regulatory environment and fit with the educational mission of schools facilitate school banking implementation. We draw on lessons from school-based health programs to discuss the sustainability and scalability of school banking.

The Intervention

YouthSave was implemented in four countries: Colombia, Ghana, Kenya, and Nepal. In each country, Save the Children (SC) selected and worked with an in-country FI to develop a youth savings product tailored to low-income youth aged 12 to 18 (Johnson et al. 2015; YouthSave Consortium 2015). The initiative was generally implemented countrywide, including in both rural and urban areas. However, the geographic location of activity was based in part on the institutional presence of SC and the FIs, and in part on the density of the low-income population (Deshpande 2015; Johnson et al. 2015). Kenya and Nepal's FIs operate countrywide. The FI in Colombia operates primarily in urban and semiurban areas, and the one in Ghana operated in eight of ten country regions during the study period (upper east and upper west were excluded).

Table 1 summarizes financial product features by country. Key differences were documented in account ownership, withdrawal rules, and interest rates. In all countries, youth could make deposits on their own, but youth in Colombia could also make withdrawals because the banking law allowed sole ownership from age 7. In Nepal, youth were allowed sole ownership at 16; in Ghana and Kenya, youth could not own accounts until age 18. Ghana also had the most restrictive rules on withdrawals, allowing only one per month after an account had been open for 3 months. Nepal had the highest interest rate at 4.5%.

The FIs worked with SC on a plan to conduct marketing and outreach through mass media; bank fairs; and visits to primarily public elementary, junior and senior high schools, and youth clubs.[1] Through their various branches, FI representatives collaborated with SC, youth-serving community agencies, and schools to provide financial education and services. These efforts predominantly targeted schools in low-income communities (YouthSave Consortium 2015). To augment financial service outreach and increase financial literacy, SC led financial education workshops for youth groups and at schools. Workshops in Colombia and Nepal were one-time visits lasting 3 to 4 h. In Kenya, SC conducted multiple sessions for a total of 15 h. Table 2 shows the number of SC-led financial education workshops in each country.

The extent of FI involvement with schools differed across countries and also across branches within a country. After receiving approval from participating schools, the FI visited the schools to provide information about the new youth product and open accounts. As shown in Table 2, every country's participating FI visited schools to open accounts, although not every branch did so. In Colombia, the FI began to visit schools 2 years after the YouthSave product was released, having learned from other participating FIs that youth could be more easily reached at schools. In Kenya, FI school visits represented a strategy primarily to market and open YouthSave accounts. In Ghana and Nepal, FIs were heavily involved in providing financial education, account opening, and periodic deposit services at schools. These differences in features are reflected in account uptake and savings results.

Methods

This study empirically investigated whether financial education and outreach activities at schools were associated with account uptake and savings performance in the four countries. In Colombia, Kenya, and Nepal, researchers examined differences in branch-level outreach activities and tested their

[1] Although we did not collect data on whether participating schools were public or private, it is likely that the majority were public schools because the FIs targeted their outreach to these schools and to low-income youth. In addition, the majority of students in primary, junior high, and secondary level attend schools that are publicly funded: over 75% in Ghana and Kenya and over 80% in Nepal and Colombia (World Bank 2017; UNESCO 2011; Organization for Economic Cooperation and Development 2014).

Table 1 Financial product feature summary

	Colombia	Ghana	Kenya	Nepal
Target age group	7–17	12–18	12–18	10–22
Owner	Self	Custodial with trusted adult until age 18	Custodial with trusted adult until age 18	Parent/guardian until age 16
Deposit access	Self	Self	Self	Self
Withdrawal access	Self	Adult presence	Adult presence	Parent/guardian signature
Withdrawal restrictions	None as of July 2013	No withdrawals on the first 3 months (subsequently removed for boarding school students); 1 per month thereafter	None	None
Withdrawal fee	Yes	No	Yes	On account closure
Interest rate	0.25–1% depending on accumulation	1–2.5% depending on accumulation	0.75–2.5% depending on accumulation	4.5%
In-kind incentive	Special kit with bracelet, card, and piggy bank	Piggy bank, t-shirt, or pen	Money wallet, savings diary, and debit card	Minors receive piggy bank. Majors can receive a visa debit card with first year issuance charge waived
Other features	Quarterly account statements	ATM card to view balance; semi-annual account statements	Debit card for all deposits, and withdrawals from bank teller	Customer ID

Adapted from *Youth Savings Patterns and Performance in Colombia*, *Ghana*, *Kenya*, *and Nepal* (YouthSave Research Report No. 15–01, p. 34), by Johnson et al. 2015, St. Louis, MO: Washington University, Center for Social Development. Copyright 2015 by Washington University. Adapted with permission

associations with branch-level account uptake and savings performance. Some branches did not participate in outreach at all. Those that did visit schools provided information about the YouthSave savings accounts and offered to open accounts. Some of the branches in Nepal also periodically visited schools to take deposits. In Ghana, all of the FI branches participated in outreach activities and thus the researchers tested differences by school. Researchers additionally examined whether this strategy facilitated access across income level and gender, aligned with the regulatory environment, and fit with a school's educational mission. To this end, researchers explored account uptake and savings by gender, poverty status, account ownership (via signature authorization on account), and youth savings goals.

Data

The research team collected and restructured three different data sets for the analyses: (1) demographic and other information on youth accountholders; (2) transaction records (e.g., deposits, withdrawals, interest, fees, taxes) of youth

Table 2 Financial education and outreach by country

	Colombia	Ghana	Kenya	Nepal
SC youth financial workshops/clubs	323	0	339	384
School and youth club account-opening locations	14[a]	216	23	22
School and youth club deposit locations	0	153	19	22
FI branches that participate in youth financial education	0	13	0	32
FI branches that open accounts at schools	12	24	80[c]	32
FI branches that take periodic deposits at schools[b]	0	21	39[c]	18

Adapted from *Youth Savings Patterns and Performance in Colombia*, *Ghana*, *Kenya*, *and Nepal* (YouthSave Research Report No. 15–01, p. 101), by Johnson et al., St. Louis, MO: Washington University, Center for Social Development. Copyright 2015 by Washington University. Adapted with permission

[a] School assemblies beginning July 2013

[b] Does not include initial deposit to open account

[c] Reflects data from 80 of 100 branches

SC Save the Children, *FI* financial institution

accountholders from the FI in each country; and (3) information on FI financial education and outreach activities.

To collect demographic information, researchers and partner FIs created a short questionnaire that was administered once to youth accountholders and guardians when they first opened their accounts. The questionnaire asked for sociodemographic information on youth and households as well as for information on experience with formal financial savings, how the youth learned about the opportunity, and the reason for opening the account. Care was taken to keep questions similar across countries, but some response categories varied because of programmatic and cultural differences. With permission from youth and cosignatory, the researchers collected transaction records for each youth accountholder from FIs every 6 months. Researchers cleaned and restructured the data for analysis. Researchers also collected data from SC and FIs on financial education and outreach activities conducted by FIs during the 2-year study period. Prior to implementing the study, researchers obtained approval to collect and report on the data from the institutional review board at the university of the principal investigator in the USA and from review boards of coinvestigators in each of the four countries.

Measures

To conduct branch- and school-level analyses examining whether financial education and outreach activities were associated with account uptake and savings performance in the four countries, the following measures were used.

The main dependent variables were *account uptake* (i.e., the number of accounts opened for each branch or school) and *average monthly net savings* (AMNS). The research team obtained the AMNS for each accountholder by calculating the total net savings (total net savings = deposit + interest − withdrawal − service fees and taxes) and dividing that by the number of months accounts had been open. For branch- or school-level measures, the researchers then calculated average AMNS for each branch or school. The research team originally measured AMNS using national currency for each country before converting it to comparable U.S. dollars using the purchasing power parity (PPP) conversion rates for 2011 (International Monetary Fund 2012).

Because the financial education and outreach activities differed across countries, researchers measured these independent variables differently across countries. For Colombia, branches were categorized into two groups: (1) branches participating in school visits and (2) branches not participating in school visits. For Nepal, branches were also categorized into two groups: (1) branches with intervention activities and (2) branches with no activities. For Kenya, all participating branches conducted school visits. Researchers therefore created branch-level categorical variables for the number of visits made to open accounts (*1 to 10 visits* and *11 or more visits*). Because all FI branches in Ghana participated in outreach, we conducted a school-level analysis with a three-level categorical variable: *schools with financial education, account opening, and deposit collection*; *schools with only account opening services*; and *schools with no services*.

Individual-level analysis examined account uptake and savings performance by gender, estimated poverty rate, account ownership, and savings goals. Gender was measured dichotomously: male and female. The poverty rate measure was adapted from developing country poverty-scoring-card techniques in which household characteristics are used to assess likelihood that per capita household expenditure is below a given poverty line (Schreiner 2011; Schreiner 2012; Schreiner 2013; Schreiner and Woller 2010). Household characteristics captured in the questionnaire are paired with national survey data on household expenditure in each country. We present the percentage of youth accountholders who live on less than USD 2.50 per day (accounting for differences across country). This creates interval data that are comparable across countries and more reliable than the collected household income data (Johnson et al. 2015).

Researchers also collected data on program variables. Data on account ownership status were used to assess alignment with the regulatory environment. Data on youth savings goals were used to assess fit with the school's educational mission. The account ownership variable captures information on the signature authority for the account. We use three categories: (1) parent or relative (cosignatory), (2) nonrelative (cosignatory), and (3) self. Responses used to construct the youth savings-goal variable were recoded into five categories: (1) own education, (2) emergencies/day-to-day expenses, (3) relative's education, (4) business or job-related training, and (5) other.

Data Analysis

Researchers ran descriptive statistics to assess account uptake by gender, estimated poverty rate, account ownership, and savings goals. Ordinary least squares regression was used to examine whether these characteristics were associated with savings performance. To further control for unobserved heterogeneity across branches within each country, branch-level fixed effects were included in the regression model.

Researchers were able to conduct branch-level analyses in Colombia, Kenya, and Nepal because the FIs implemented financial education and outreach activities at the branch level. In Ghana, financial education and outreach activities were implemented at the school level and thus researchers conducted school-level analyses. Because the dependent variables were measured continuously (e.g., number of accounts opened for each branch, AMNS for each branch) and the independent variables were measured categorically, a series of one-way analyses of variance were conducted. Where there

was variation, researchers tested patterns associated with type and level of services.

Results

Account Participation

Between 2012 and 2014, 2755 accounts were opened in Colombia, 5829 were opened in Nepal, 10,866 were opened in Ghana, and 49,797 were opened in Kenya. At the time of data collection in 2014, the average length since accounts had been opened was 8 months in Ghana, 11 months in Kenya, and 13 months in Colombia and Nepal. Table 3 presents information on account uptake by gender, poverty status, account cosignatory, and savings goal.

Gender and Poverty Status

The percentage of accounts opened by gender was nearly equal in Colombia, and the ratio was about 60% boys to 40% girls in both Kenya and Nepal. In Ghana, 54% of the accounts were opened by girls.

To determine the number of low-income youth who opened YouthSave accounts, researchers estimated the percentages of YouthSave accountholders who lived in households in which the total, average, per-member expenditures were less than USD 2.50 per day. The percentages of low-income YouthSave accountholders were about 10, 41, 50, and 67% in Colombia, Ghana, Kenya, and Nepal, respectively. Across the four countries, 48% of accountholders—almost half of the YouthSave accountholder population—lived in low-income households.

Alignment with the Regulatory Environment

The age at which a person can legally own and operate an account is 18 in Ghana and Kenya, 16 in Nepal, and 7 in Colombia. In Colombia, all YouthSave accountholders owned their own accounts. In Nepal, likely because of the younger legal age to own an account, 41% of the YouthSave accountholders signed as owner on the account (see Table 3). In Ghana and Kenya, youth under age 18 must have a custodian for accounts, but the person can be either a legal guardian or "trusted" adult designated by the youth (often a teacher). In Ghana, 56% and in Kenya 47% of YouthSave accounts were opened with the cosignature of a nonrelative (trusted adult). The younger age in Colombia and Nepal, and the option of having a trusted adult as cosignatory, facilitated the opportunity for the youth to open an account at school.

Fit with School's Educational Mission

When asked what they were saving for when they opened the account, YouthSave accountholders in Ghana, Nepal, and Kenya most frequently cited education (80, 62, and 31%, respectively).[2] These results suggest that a savings program based in a school setting positively influences youth to adopt the goal of saving for education.

Savings Performance

Between 2012 and 2014, YouthSave accountholders accumulated total net savings of USD 1.88 million (PPP-converted). Because all of the YouthSave account products were new, it is likely that this money would not have otherwise been saved in a formal FI. The average balance per account during this timeframe varied by country: USD 262 in Colombia, USD 114 in Nepal, USD 33 in Ghana, and USD 9 in Kenya (PPP-converted).

As Table 4 shows, there was no statistically significant difference in savings by gender in Ghana, Kenya, or Colombia. In Nepal, however, girls saved significantly more than boys ($b = -0.31$, $p < .001$). Average savings differed by poverty rate to a statistically significant degree only in Ghana, where poorer youth saved less ($b = -0.007$, $p < .01$). Having an account cosignatory was significantly associated with savings in Ghana and Kenya ($b = 0.59$, $p < .001$ for Ghana; $b = 0.10$, $p < .001$ for Kenya). Savings by Ghanian and Kenyan youth were higher if a parent was the account cosignatory than if another relative or a nonrelative served in this role. Savings did not differ significantly by savings goal.

Access to School Banking, Account Uptake, and Savings

As Table 5 indicates, across all four countries, findings showed that account uptake was significantly higher for FI branches that offered financial services at schools than for branches that did not. For YouthSave Colombia, a branch-level analysis assessed whether branch outreach to open accounts at schools was associated with account uptake. Branches that visited schools opened significantly more accounts than branches that did not.

In Ghana,[3] a school-level analysis assessed whether school participation was associated with account uptake. Students in

[2] The question was not among those posed to accountholders in Colombia.

[3] In Ghana, a randomized, controlled experiment was conducted to examine the effect of in-school banking (financial education, account opening, and deposit collection) and outreach activities (marketing and account opening) on account uptake and savings based on individual-level data. Findings based on school-level analysis are presented here for the purpose of comparison with other countries. Findings from the Ghana YouthSave in-school banking experiment showed that the intervention was positively and statistical significantly associated with both account uptake and savings (Lee et al. 2017).

Table 3 Account uptake by gender, cosignature, savings goals, and poverty status

Variable	Colombia *n* (%)	Ghana *n* (%)	Kenya *n* (%)	Nepal *n* (%)
	2755	10,866	49,797	5829
Gender				
Male	1379 (50.1)	4968 (45.7)	29,336 (58.9)	3420 (58.7)
Female	1376 (49.9)	5898 (54.3)	20,461 (41.1)	2409 (41.3)
Account cosignatory				
Parent or guardian	–	2984 (27.5)	19,831 (39.8)	2955 (50.7)
Relative		1773 (16.3)	5451 (10.9)	151 (2.6)
Nonrelative	–	6109 (56.2)	23,567 (47.3)	306 (5.2)
Self	–	0 (0.0)	0 (0.0)	2417 (41.5)
Missing		0 (0.0)	948 (2.0)	0 (0.0)
Savings goals				
Own education	–	8572 (78.9)	15,679 (31.5)	3619 (62.1)
Emergencies/day-to-day expenses	–	1659 (15.3)	23,007 (46.2)	1917 (32.9)
Relative's education	–	113 (1.0)	1115 (2.2)	37 (0.6)
Business or job-related training	–	284 (0.2)	4602 (9.2)	157 (2.7)
Other	–	170 (2.6)	4835 (9.7)	99 (1.7)
Missing		68 (0.6)	559 (1.1)	0 (0.0)
Estimated poverty rates (less than USD 2.50 per day)	9.7%	40.8%	49.6%	67.2%

schools receiving outreach services opened more accounts than schools receiving no services.

For YouthSave Kenya, all bank branches participated but at different levels. The analysis divides branches between those that visited schools up to 10 times and those that visited schools 11 times or more. More visits, whether the intention of the FI visit was to open accounts or to collect deposits on established accounts, were associated with significantly more opened accounts. The presence of the FI increased the opportunity and motivated students to open accounts.

For YouthSave Nepal, 32 of 50 bank branches participated in some level of financial education, account opening, deposit collection, or outreach at schools. When comparing branches that participated in any level of financial services, results show that the number of accounts opened is significantly higher in branches that offered financial education and outreach services than in those that did not.

Table 4 Savings by gender and poverty status (branch-level fixed effects model)

	Colombia EST (SE)	Ghana EST (SE)	Kenya EST (SE)	Nepal EST (SE)
Male	0.12 (0.23)	− 0.01 (0.05)	− 0.0003 (0.01)	− 0.31 (0.08)***
Estimated poverty rate	0.01 (0.02)	− 0.007(0.002)**	− 0.001 (0.001)	− 0.006 (0.005)
Cosignatory (others)				
Parents	–	0.59 (0.07)***	0.10 (0.01)***	− 0.28 (0.17)†
Savings goal (emergency)				
Business	–	0.04 (0.17)	− 0.03 (0.02)	0.15 (0.28)
Education	–	0.03 (0.08)	0.01 (0.01)	0.07 (0.10)
Day-to-day expense	–	− 0.17 (0.19)	− 0.02 (0.02)	− 0.16 (0.22)
Other	–	0.32 (0.19)†	0.05 (0.02)	0.08 (0.27)

Branch-level fixed effects are added to the model (i.e., the analysis controls for unobserved characteristics associated with the branches). A square root transformation was used with the dependent variable due to non-normal distributions. For Colombia, age and school enrollment were added to the model as control variables (not reported in the table). For Ghana, Kenya, and Nepal, a variety of youth and household characteristics were added to the model as control variables (not reported in the table)

EST parameter estimates, *SE* standard error, *HOH* head of household

†$p < .10$; *$p < .05$; **$p < .01$; ***$p < .001$

Table 5 Access to school banking and account uptake (branch- or school-level analysis)

Intervention	Account uptake Mean (SD)	Significance test for differences
Colombia		
Branches participating in school visits ($n = 11$)	35.00 (36.72)	$p < .05$
Branches not participating in school visits ($n = 210$)	11.29 (31.72)	
Ghana		
Schools with all services ($n = 24$)	37.88 (31.42)	
Schools with account opening services ($n = 25$)	20.28 (20.75)	$p < .001$
Schools with no services ($n = 36$)	0.72 (2.26)	
Kenya		
Branch number of school visits 11 or more ($n = 39$)	684.18 (469.12)	$p < .001$
Branch number of school visits 1–10 ($n = 32$)	297.56 (269.58)	
Nepal		
Branch participation in school visits ($n = 32$)	141.53 (85.02)	$p < .01$
Branch non-participation in school visits ($n = 18$)	72.22 (48.42)	

For Ghana, post hoc tests indicated that account uptake was significantly different between "schools with all services" and "schools with no services" ($p < .001$). It also differed significantly between "schools with account opening services" and "schools with no services" ($p < .001$)

Across all four countries, findings showed that savings were not significantly different between FI branches that offered financial services at schools and those that did not (findings are not presented but available upon request). A possible reason is that subsequent deposits or withdrawals occurred at other FI locations, including ATMs, thus potentially obscuring the relationship between savings results and the branch affiliated with the opening of an account.

Discussion

This study shows that schools can be valuable partners in expanding the economic participation of youth in developing countries. Schools offer a safe, efficient way for youth to gain financial knowledge and access to financial services in a setting where FIs can reach large numbers of youth. Facilitating saving at school reinforces the importance of saving to pay for future schooling. Findings across these countries showed a significant increase in accounts opened if FIs offered financial services at schools. This study also found that FI outreach targeting schools composed of predominantly female or low-income students creates greater opportunities for all youth to open accounts and save. In terms of account opening, such targeting resulted in nearly equal representation by gender and poverty level.

How can school banking be scalable and sustainable? Comprehensive school-based health programs offer instructive lessons for implementation.

Comprehensive school-based health models include both health education and accompanying services. Similarly, school banking offers financial education, the practical experience of applying knowledge in operating a savings account and a way to save for future education. Though the study could not assess statistical correlation, the number of youth who identified education as a savings goal suggests that FI outreach at schools played an important role in the choice of that goal. Especially in Ghana and Kenya, where school is free until senior high school, families routinely decide whether the value of schooling is worth the cost. School banking reinforces the importance of saving for continued education.

Similar to findings from school-based health programs, findings from this study and the YouthSave qualitative study suggest that involvement of teachers and other school administrators is critical (Zou et al. 2015). In Ghana and Kenya, the central banks provide regulatory support for school banking by allowing a trusted adult (often a teacher or administrator) to serve as custodian for the youth in opening and withdrawing from the account. In countries like Columbia and Nepal, where the age requirement of account ownership is lower (7 and 16, respectively), more accounts can be owned and operated by the youth themselves. Lowering the age that youth can open and operate a savings account, as allowed by the Reserve Bank of India guidelines in 2014, is also a policy option to consider ("Minors over 10 years," 2014).

Partnerships among regulatory agencies, FIs, and schools require approval from government ministries, central banks, and local school officials. In this study, FIs were able to coordinate services with many but not all schools. Establishing national standards and international initiatives to integrate financial education and services in school curricula will be important milestones on the path to cost-effective expansion of school banking.

For this study, the FIs sent branch representatives to visit the schools and offer financial services. Visits were more costly in areas where FIs did not have a nearby branch. One possible approach to reducing costs is to leverage schools as a primary point of entry for opening a savings account. That is, when a child initially signs up for school (usually in kindergarten or first grade), he or she automatically receives a savings account. For youth in both emerging and developed countries, this strategy can facilitate financial inclusion for all, providing a universal educational platform for building and applying financial knowledge. Alternatively, insights from established school-based health programs might be leveraged. That is, savings accounts might be opened and deposits made when immunizations and other health interventions occur. Future research should undertake randomized, controlled trials to test such interventions across multiple years for the purpose of examining long-term economic and health outcomes.

Solving the account-opening barrier opens the door to greater economic strengthening opportunities. Once an account is open, ongoing financial services could be offered at the school, in the community, or online. The school could be a point of sale similar to retail outlets and post offices, or serve as an ATM location. Advancement of technology will no doubt increase the cost-effectiveness of youth financial participation via mobile payment systems, Internet banking, and ATM transactions. Text message deposit reminders can facilitate the saving process for youth while reducing the outreach costs of FIs (Johnson et al. 2015; Rodriguez and Saavedra 2016).

As the primary institution that interacts with youth over time, schools are a natural forum for financial education and the practical application of financial knowledge through youth savings services. School banking is a strategy with the potential to contribute to multiple, positive youth development outcomes, and it overlaps with health outcomes in school-based health programs. This study offers further evidence that school banking is worth serious consideration as a component in national strategies to advance youth financial inclusion and economic strengthening. Until national policies establish savings accounts at birth for every child, implementers of future economic participation interventions for youth should consider automatically opening savings accounts for young people at the time they enroll for school. Designs for school-based health initiatives might also incorporate school banking. For example, children might be given the opportunity to open a savings account when they receive a checkup or screening at school.

Limitations

Save the Children and local nongovernmental organizations conducted youth financial education workshops at youth clubs and schools. These efforts were independent of FI participation and were not tracked as part of this research. Though accounts were opened only in the presence of representatives from the FIs, these financial education activities were designed to motivate youth to open accounts and thus could potentially upwardly bias branch results on youth account uptake.

The research team did not collect information on the youth who did not consent to participate in the study, so the potential for sample bias cannot be assessed. However, consent was high in every country but Kenya. Researchers obtained accountholder data from 100% in Colombia, 95% in Nepal, 89% in Ghana, and 64% in Kenya.

Differences in account uptake and savings among countries reflect a variety of country-level factors and differences in product features. Though the research team controls for many of these differences in analysis, the reader is advised to consider context when comparing results across countries. In addition, within-country product rollout and outreach activities varied by branch. Analyses of account uptake by branch may not fully reflect differences in start-up dates, levels of mass marketing, and branch management support.

This study affords a unique opportunity to track outcomes of financial services offered at schools, but it is not possible to assess full causality because there was no control condition to serve as a sound counterfactual. However, YouthSave's experiment in Ghana provides such an assessment for a subset of the sample (Lee et al. 2017).

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Compliance with Ethical Standards

Informed Consent All procedures involving human participants were conducted in accordance with the ethical standards of the institution and/or national research committees, the 1964 Helsinki declaration, and its later amendments, or with comparable ethical standards. Informed consent was obtained from the youth and guardian (if the youth was a minor) for collection of identifiable data.

Conflict of Interest The authors declare that they have no conflict of interest.

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