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April 30, 2012

Smoothing the Costs of Education: MicroSavings in Ugandan Primary Schools

Grant No. AID–0AA–G-00008

Second Progress Report: Milestone 2

In this report we will first provide data on the completion of activities, in accordance with the grant agreement's Schedule of Milestones, provide data on the project's indicators, and conclude with a brief narrative of activities completed.

1. Attendance Monitoring

a. Average number of visits for 136 participating schools: ***3 visits***
b. Attendance and supplies per school:

First Term 2012 Classroom Survey Results: Attendance and Enrollment (136 schools)

	total number of children present	teacher's estimate for total number of children enrolled	average number of children present per school	average enrollment estimate per school	average attendance ratio per school (#present/ #enrolled)
Visit 1	25,669	33,299	188.7	244.8	75.1
Visit 2	28,753	33,586	211.4	247	85.7
Visit 3	29,033	33,395	215.4	251.1	84.4

First Term 2012 Classroom Survey Results: School Supplies as Percentage of Children Present

	Of children present, percent with…			
	Uniform	Books	Math Set	Shoes
Visit 1	78.3	80	33	41
Visit 2	87.9	85.2	39.2	43.5
Visit 3	89.4	88.6	40.6	41.5

2. Expansion to new schools

	Total
Number of parent sensitization programs conducted	20
Number of parents reached	2,166
Number of signatories elected	80
Number of accounts opened at schools	20
Number of schools with savings activity	16

3. Savings collection

	Total (USH)	Per school (USH)
Amount of savings collected and deposited into accounts at **original schools** (70 schools)	5,987,050	77,754
Amount of savings collected and deposited into accounts at **new schools** (16 schools)	1,930,330	120,646

INDICATOR	1st Visit	2nd Visit	3rd Visit
Total number of children present in primary school classroom in the study's 136 schools	25,669	28,753	29.033
Total number of girls present in a primary school classroom in the study's 136 schools	3,331 out of 6,239	3,607 out of 6,954	3,665 out of 3,397
Total number of primary schools impacted by the "Super Savers Program"	106 schools		
Total amount of savings by school	92,062.56 Ush		
Number of children in study schools present in the classroom with the following scholastic materials: uniform, shoes, mathsets, exercise books	See "Attendance Monitoring"		
Number of children in baseline sample repeating grades	4,840 out of 18,549	5,560 out of 18,563	5,542 out of 18,482
Number of children in baseline sample staying in one school without transferring to different schools	9,735 out of 18,549	8,515 out of 18,563	8,431 out of 18,482
Number of accounts opened under "Super Savers Program"	101 accounts		
Number of dissemination events and number of attendants at dissemination events	NA		

Narrative

1. Attendance Monitoring

IPA's attendance monitors visited each of the study's 136 schools three times during the first scholastic term. In each visit, the monitors conducted attendance using the study's enrolment lists and conducted classroom surveys in the P5, P6 and P7 classrooms.

With the classroom surveys, the monitors counted the number of children present in the classroom, and the number of children with each of the following: a uniform, 6 or more exercise books, a math set, and shoes. IPA is currently analyzing this data. Provided in this report aresummary statistics from the monitors' visits.

2. Expansion to New Schools

At the beginning of this year, 29 schools were randomly selected from the control group to be offered a "light intervention" treatment. This new treatment group will test an improved version of the program, one that builds upon the team's three years of implementation experience and attempts to be asstreamlined and cost effective as possible. In this way, IPA is experimenting with the program's potential for scale.

The Super Savers Implementation Team visited each of these 29 schools and met with administrators and teachers to discuss the program'sstructure and purpose. Many schools were excited and eager to begin. After working in the area for three years, the Super Savers Program is now an established entity that schools and communities are willing to trust. This is a notable improvement over the first expansion of the program in 2010, when the program was relatively unknown and unfamiliar.

That being said, initiating the program in a school still presents a number of challenges. The first step is to hold a parent sensitization meeting. Some schools are reluctant to schedule meetings; others have headmasters whose frequent absences prevent activities from taking place and still others are preoccupied with different concerns and routinely cancel meetings. One school, for example, has been visited more than 5 times by Super Savers Program staff but has yet to approve a date for a meeting.

In spite of these challenges, the team has been successful in conducting meetings in 20 schools.In total, 2,166 parents attended the meetings, averaging 108 parents per school. Approximately 60% of the participants were female and 40% male. See below for a table detailing attendance per school. In many schools, Local Council leaders, School Management Committee members and Parent Teacher Association representatives were among those present.

The sensitization program has received extremely positive feedback. Both parents and teachers have been receptive to the ideas presented. The team will follow up with the remaining nine schools in the second school term. Super Savers Team Program Manager Isaac Mwesigwahascompiled and transcribed some of the comments and feedback of parents and teachers from the sensitization meetings. The following are excerpts from his report:

- *"So many of us never attended school, therefore we do not know what exactly our roles are in the schooling of a child."*
- *"We are not playing our roles because of ignorance. That is why this sensitization program is important. After this discussion, you have opened our eyes."*
- *"I think savings is part of the basic education a child has to receive."*
- *"The meeting was great! Personally I never got the chance to learn how to save when I was still young."*
- *"Spreading the rhythm of saving."*
- *"Saving is a sacrifice, we have been spending recklessly on items that are not necessary."*
- *"If you save, it helps you solve future problems especially for us low income earners."*

16 of the 20 schools that received the parent sensitization program started saving. The Super Savers Team has opened a bank account for each of these schools. As anticipated, there were often delays when account signatories did not have any of the identification required to open an account. The Program Officers coordinated with community members in order to obtain all required documents.

Program Officer prepares documents for account opening procedures

3. Savings Collection

The savings collection was completed over a period of 9 days, during the last two weeks of the school term, April 10th--20th, 2012. The biggest challenge of savings collection was the mobilization of stakeholders. Bank personnel needed to be trained on the program's procedures and prepared to leave the office. Schools needed to be informed so that the savings supplies could be accessible on the day of the collection. Account signatories and key holders also had to be informed so as to secure their presence and thereby enable the exercise to take place.

In general, this term's savings collection was very successful. Even with the addition of 16 new schools, the team was able to conduct their activities within two weeks. Savings were collected from all but 5 of the 91 schools saving this term. In instances where the school administrator or key holder was absent, savings will be kept at the school until the day of the payout, when all money will be distributed to individual pupils.

The schools in the new treatment group experienced a very successful start, saving over 1.9 million shillings. As previously mentioned, this was partially due to the fact that many school administrators and parents had heard of the program from neighboring schools. They embraced the program and were willing to cooperate and play a role in its implementation.

An account signatory oversees savings collection

Pupils look on as Super Savers and FINCA count savings

Super Savers Program Manager assists FINCA in counting savings while pupils arrange passbooks

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Smoothing the Costs of Education: MicroSavings in Ugandan Primary Schools

Grant No. AID–0AA–G-00008

Third Progress Report: Milestone 3

In this report we will first provide data on the completion of activities, in accordance with the grant agreement's Schedule of Milestones, then report data on the project's indicators, and conclude with a brief narrative of activities completed.This report refers to the period from May 1,2012 to August 30, 2012.

1. Attendance Monitoring

a. Average number of visits for 136 participating schools: ***3 visits***
b. Attendance and supplies per school:

First Term 2012 Classroom Survey Results: Attendance and Enrollment (136 schools: P5, P6 and P7 classrooms)

	total number of children present	teacher's estimate for total number of children enrolled	average number of children present per school	average enrollment estimate per school	average attendance ratio per school (#present/ #enrolled)
Visit 1	28,483	33,408	209	246	85%
Visit 2	28,922	33,851	214	249	83%
Visit 3	29,371	34,292	216	252	83%

First Term 2012 Classroom Survey Results: School Supplies as Percentage of Children Present

	Percent of children present with…			
	Uniform	Books	Math Set	Shoes
Visit 1 N=28,483	85	87	37	33
Visit 2 N=28,922	86	89	36	33
Visit 3 N=29,371	86	89	36	31

2. Expansion to new schools

In the previous milestone report, we described the expansion to new schools in detail, as 20 of the 29 new schools began saving last term. The Super Savers Team has since followed up with the remaining 9 schools and now 28 of the 29 new schools have successfully started the Super Savers Program. See narrative section.

3. Savings collection

Total amount collected by FINCA	9,413,500 Ush
Number of schools saving	98 schools
Average amount saved per school	96,056 Ush
Average number of children saving per school	44 children
Average number of boys saving per school	20 boys
Average number of girls saving per school	24 girls

INDICATOR	1st Visit	2nd Visit	3rd Visit
Total number of children present in primary school study classroom in the study's 136 schools	6,791	7,011	6,877
Total number of girls present in a primary school classroom in the study's 136 schools	3,434	3,438	3,457
Total number of primary schools impacted by the "Super Savers Program"	114 schools		
Total amount of savings by school	Average 96,056 Ush		
Number of children in study schools present in the classroom with the following scholastic materials: uniform, shoes, mathsets, exercise books	See "Attendance Monitoring"		
Number of children in baseline sample repeating grades	6,022	5,408	5,418
Number of children in baseline sample staying in one school without transferring to different schools	8,318	7,712	7,769
Number of accounts opened under "Super Savers Program"	129 accounts		
Number of dissemination events and number of attendants at dissemination events	NA		

Narrative

1. Attendance Monitoring

IPA's attendance monitors visited each of the study's 136 schools three times during the second scholastic term. In each visit, the monitors conducted attendance using the study's enrolment lists and conducted classroom surveys in the P5, P6 and P7 classrooms.

With the classroom surveys, the monitors counted the number of children present in the classroom, and the number of children with each of the following: a uniform, 6 or more exercise books, a math set, and shoes. IPA is currently analyzing this data. Provided in this report aresummary statistics from the monitors' visits.

2. Expansion to New Schools

During the first term of 2012, the Super Savers implementation team reached out to the 29 schools of the new "light intervention" treatment group. The team was able to successfully start the program in 20 of these schools. In this second term, the team followed up with the remaining 9 schools of this treatment group.

Of these 9 schools, 8 agreed to participate in the Super Savers Program and one did not. Different members of the Super Savers Team visited this particular school six times during the first two terms of 2012. The headmaster of the school was often absent and other members of the administration were reluctant to make any decisions in his absence. Even after meeting with the headmaster, though, the school was unwilling to become involved in the program.

At an introductory meeting, parents discuss the program will looking at passbooks.

In total, of the 29 new schools in this treatment group, 28 agreed to participate. Accordingly, of the total 107 schools offered the Super Savers Program (excluding pilot schools) 105 agreed to participate, resulting in an impressive 98% take up rate. In general, we have found schools, their teachers and administration to be very receptive to the program.

Program Manager Isaac Mwesigwa talks with parents during a meeting

3. Savings Collection

The second term savings collection was completed over a period of 10 days, during the last two weeks of this term, July 23rd to August 3rd.Though the team was delayed by severe rain, the exercise was a success. This term a total of 105 schools saved. The Super Savers Team and FINCA were able to collect savings from 98 schools. Together, these schools saved 9,413,000 Ush, averaging 96,056 Ush per school. The other 7 schools faced challenges such as the absence of account signatories or key holders. In these schools, savings will remain in safety lock boxes until the pay out of savings.

Seven schools did not save this term. One of these schools is located on a remote island and has only a few students in upper primary. Due to transportation challenges, the Super Savers Team does not visit this school on a regular basis. Of the remaining 6 schools, only 1 is in the "regular" treatment group that receives weekly visits from the Super Savers Team. This might indicate that teachers in "scale back" or "light intervention" schools struggle to run the program without the weekly support of the Super Savers Team. However, this represents only 6 schools out of 67, illustrating that the majority of teachers are able and willing to take the program on and run it themselves with minimal support. We will further analyze differential take-up across treatment groups for the full impact analysis.

Mobilization of stakeholders remains the biggest challenge of the savings collection exercise. Account signatories in particular are hard to coordinate as they are often parents and other community members. These individuals are sometimes unable to be present at the school campus at the exact time when the bank and Super Savers Team are there. In some cases, teachers are transferred to other districts or community members move and are thus impossible to contact.

This term, the Super Savers Team worked to address this system challenge. Super Savers Team Program Officers identified schools for which one or more account

signatories were no longer relevant for the project. Program Officers collaborated with schools to identify suitable replacements and obtained all of the necessary documentation and authorization. The team is currently working with FINCA to amend schools' account documents with new account signatories.

A liaison teacher goes over the accounting with an assistant Pupils observe the savings collection from their classroom

4. Mobile Money Pilot

The final component of this year's research design is a "Mobile Money" pilot. While the other parts of the study are intended to test the program's potential for scale and sustainability in relation to day to day activities, we also felt it was important to experiment with the program's collection and distribution strategy. For this reason we planned to introduce and test a Mobile Money component to a subgroup of schools.

At the end of every term, the Super Savers Team visits each school with a FINCA bank teller in order to collect and deposit savings into the school's bank account. At the beginning of every school term, the team returns in order to withdraw each school's savings for distribution to individual pupils. These are time intensive and costly exercises. Looking ahead towards the long term sustainability of the program, the team is interested in experimenting with Mobile Money services as a way in which to decentralize and expedite the collection and distribution of savings.

Over the past three years, Mobile Money services have become more and more established in Uganda. However, they still remain far less developed than in neighboring Kenya, which has an extensive and trusted service. The team believed it was necessary to take time, fully investigate and think through Mobile Money services before introducing them to schools.

The Team's first step was to conduct a census of the various Mobile Money providers. Program Officers visited different companies, such as UTL, Warid, Airtel and MTN and banks, such as Opportunity, to discuss various mobile money services, their costs and potential benefits. MTN was selected to be the provider, for its services are the most popular and cheapest of those available. Most importantly, MTN has the best network coverage. A number of schools in the study are very remote with poor cell phone service. MTN is recognized as the best in relation to coverage.

After this initial investigation, the Super Savers Team devised a potential system to propose to schools. In 2008, the Super Savers Program began in the form of a pilot in eight schools, in order to determine the logistics of the program and its general potential. The Super Savers Team has continued to work with these schools over the past four years. They are not included in the study's data collection and thus present a perfect opportunity to try out various ideas such as Mobile Money.

Program Officers visited each of these eights schools to introduce the idea and schedule a general meeting for account signatories, parents and teachers in order to discuss a possible Mobile Money collection. These meetings were very useful in raising ideas and concerns as well as collecting general feedback.

All of the communities reported that they had experience using Mobile Money services. Communities associated with Buyengo, Kigalagala and Namasiga Schools, however, said that mobile money was not frequently used due to problems with the cell phone network. MTN was recognized as the main service provider.

Meeting participants first responded with some concerns. The greatest problems associated with Mobile Money services were network challenges and potential fraud by MTN insiders. Other frequently voiced concerns are as follows:

- Mobile Money agents can disappear with money
- Agents can easily transfer location
- Money is not secured between the school and the agent
- Who will cover the costs associated with Mobile Money transactions?
- Mobile Money agents are personal businesses and could close any time

Through discussions with schools, the Super Savers Team was able to develop a system that would offer security and each of the eight pilot schools agreed to participate in the Mobile Money pilot. The Super Savers Team purchased a SIM card and opened a Mobile Money Account for each school. The school community and the Super Savers Team identified a Mobile Money Agent to work with each school, and a contract was signed with that Agent stipulating the terms and conditions of the partnership.

On a day to day basis, schools continue to collect savings and deposit the money into their Super Savers Program lock boxes. With some schools, the Mobile Money Agent agreed to visit the school a couple times a week. In others, the Agent will collect money from schools once or twice a term. The Super Savers Term is to facilitate the Agent by reimbursing his or her transport costs to/from the school. This amount varies per school, between 2,000 and 8,000 Ush (0.82 – 3.27 USD.) The Super Savers Team keeps the PIN numbers to school's SIM cards. This ensures the security of the accounts. Schools were very adamant about this point. Having the SIM card kept at school and the PIN number kept by the Super Savers Team appears to be a good accountability system.

The Mobile Money Agent visits the school, and with the key holder and teachers collects savings from the lock boxes and deposits it onto the school's SIM card. At the beginning of the term, the Mobile Money Agent will return to the school with the Super Savers Team to withdraw the savings and return it to the school. In this way, the system is very similar to the Program's original design, using Mobile Money instead of a microfinance institution.

Each of the eight schools is now using the Mobile Money system, with constant monitoring from the Super Savers Team. They will continue with this system through the end of the year. In the final milestone report, we will evaluate the Mobile Money system and determine a way forward.

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Smoothing the Costs of Education: MicroSavings in Ugandan Primary Schools
Grant No. AID–0AA–G-00008

Milestone 4: Progress Report on Regional Dissemination

In this report we will discuss completion of the fourth milestone, as per the March 27, 2012 grant agreement's Schedule of Milestones. This report accordingly refers to the regional dissemination events that were conducted on October 15th, 17th and 18th and the work that went into preparing for them.

1. Names and titles of total participants

The IPA and Super Savers Teams hosted three regional dissemination events in October:

- **Monday, October 15th**: 156 representatives from Municipality, Budondo, Mafubira, Kakira and Busedde Schools came together in Jinja Town.
- **Wednesday, October 17th**: 115 representatives from schools in Buwenge, Butagaya and Buyengo came to Buwenge Town.
- **Thursday, October 18th**: 127 representatives came from Waibuga, Bulamagi and Baitambogwe schools to meet in Iganga Town.

A total of 398 participants, accordingly, were present and accounted for, including teachers, headmasters, parents, PTA members, SMC members, local government officials and local education officers. Please see Appendix A for a complete list of registered participants, the schools they represented and their positions. As some participants arrived late and did not register, the total number of participants was slightly larger than our lists indicate.

At each meeting the following Super Savers Team, IPA and PEDN members were present:

Sarah Kabay *Senior Project Associate, IPA*
Vivienne Tibaberwa, *Research Assistant, IPA*
Simon Tumusiime, *Research Assistant, IPA*
Irene Mutumba, *Executive Director, PEDN*
Isaac Mwesigwa, *Program Manager, SST*
Sulaimon Magumba Khanon, *Head Program Officer, SST*

Andrew Bogere, *Program Officer, SST*
Myria Mutesi Lugwire, *Program Officer, SST*
Daniel Festo Yatesa, *Program Officer, SST*
Michael Baseera, *Program Officer SST*

2. Agenda of activities and content of presentations

Please see attached agenda in Appendix B.

Summary of Presentation Content

IPA Introduction: Sarah Kabay. Ms. Kabay introduced herself, Innovations for Poverty Action and IPA Uganda. She described the history of the Super Savers Program, how it was conceived, the organizations involved, the intervention pilot, research design and implementation. She introduced randomized control trials and impact assessment, briefly explaining the concepts of treatment and control.

PEDN Introduction: Irene Mutumba. Ms. Mutumba introduced herself and her organization. She discussed her background as a teacher, why she felt compelled to start the Private Education Development Network and the current state of Ugandan education. She urged teachers to be creative and entrepreneurial in their work. She thanked participants for all their effort and for their attendance at the event.

Super Savers Program and Team Introduction: Isaac Mwesigwa. Mr. Mwesigwa gave a brief overview of the Super Savers Program and Team. He reviewed the fundamental operations and schedule of the intervention, the different actors involved and its goals and objectives.

IPA Research Team Presentations: Simon Tumusiime, Vivienne Tibaberwa. Mr. Tumusiime and Ms. Tibaberwa walked participants through all of IPA's research activities, from defining the sample frame to the end-line data collection exercise. For each exercise they explained what kind of information IPA was interested in collecting and why. For instance, when discussing the pupils' survey instrument, they mentioned a couple questions, explained why that information was important and gave the response statistics. They also explained the research design and the randomization process.

Super Savers Program Full Presentation: Isaac Mwesigwa. Mr. Mwesigwa and Ms. Lugwire discussed at length the operations of the Super Savers Program and some of the successes and challenges of its implementation. Examples of a few discussed successes: program operating in 113 schools, 432 account signatories elected, parent sensitization program conducted in 105 schools and positive feedback from all stakeholders. Examples of some of the challenges discussed: distrust in program due to previous experience with fraudulent organizations, poor parent-teacher relationship, lack of teacher motivation and the transferring of teachers and account signatories.

IPA Big Picture Presentation: Sarah Kabay. With this presentation Ms. Kabay more thoroughly explained the randomized design of the impact assessment and how that was reflected in the different experiences of different schools. Ms. Kabay returned to the topic of IPA and how as an organization it seeks to find solutions to problems facing the world's poor. She encouraged participants to think about the program's theory of change and the issues it was intended to address. Might there be other, more

cost effective ways to improve Ugandan schools and savings behavior? Are there other issues that are more important? Ms. Kabay concluded by introducing the topics for group discussions.

3. Notes from conclusion and summary of discussions

Project Officers and Research Assistants reported that teachers had been looking forward to dissemination throughout the year. The team also received very positive feedback during each of the events.

Turnout was extremely high. Of the total 144 invited schools, 140 were represented. Three quarters of the schools sent three or more representatives. In addition to teachers, some schools sent representatives from School Management and the PTA, as well as parents and local government officials. At the first event in Jinja Town, the Jinja District School Inspector attended and gave a speech. A representative from FINCA was also present and fielded questions from the audience.

Participants were very excited to be involved. They were engaged and attentive throughout the presentations and truly active during the group discussions in the afternoon. IPA and the SST collaboratively chose the three discussion topics: transferring/repeating, parent sensitization and the Super Savers Program. Participants felt that these were relevant and timely topics for discussion. The greatest challenge was time keeping as members were willing to discuss each topic at great length.

The following quotations about the event have been copied from participant feedback forms:

> *"It has helped us to know what we wouldn't know about the weakness in our education system."*
>
> *"It brings many stakeholders on board and clearing of doubt or misconception."*
>
> *"It has given us a clear view of what is going on in many schools in the region."*
>
> *"Dissemination events are important because we find challenges and get their solutions, we share ideas from different places, we share experiences, it creates a friendly atmosphere."*
>
> *"It was very educative to all participants."*
>
> *"It makes us aware of what takes place in our schools."*

The dissemination events were also a great experience for the SST and IPA researchers. Designing presentations, selecting discussion topics and preparing to field questions required that each member think critically about the program, IPA's research methods and the greater goals of the project.

August 30, 2013

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Smoothing the Costs of Education: MicroSavings in Ugandan Primary Schools

Grant No. AID–0AA–G-00008

Milestone 5: Final Progress Report on Attendance Monitoring, Savings Collection, and National Dissemination

In this report we will discuss completion of the final milestone, as per the March 27, 2012 grant agreement's Schedule of Milestones, and the March 11, 2013 no-cost modification.

1. Attendance Monitoring

a. Average number of visits for 136 participating schools: ***7 visits***
b. Attendance and supplies per school:

Third Term 2012 Classroom Survey Results: Attendance and Enrollment (136 schools)

	total number of children present	teacher's estimate for total number of children enrolled	average number of children present per school	average enrollment estimate per school	average attendance ratio per school (#present/ #enrolled)
Visit 1	25,669	33,299	189	245	75%
Visit 2	28,753	33,402	211	246	84%
Visit 3	29,033	32,970	213	242	88%
Visit 4	28,463	33,376	212	249	83%
Visit 5	28,922	33,851	213	249	83%
Visit 6	29,371	34,292	216	252	83%
Visit 7	27,896	33,389	205	246	81%

Third Term 2012 Classroom Survey Results: School Supplies as Percentage of Children Present

	Of children present, percent with…			
	Uniform	**Books**	**Math Set**	**Shoes**
Visit 1	83%	80%	33%	41%
Visit 2	88%	85%	39%	44%
Visit 3	89%	89%	41%	41%
Visit 4	90%	89%	40%	40%
Visit 5	90%	91%	38%	40%
Visit 6	90%	90%	38%	38%
Visit 7	91%	90%	40%	40%

2. Savings Collection

	Total (USH)	Per school (USH)
Amount of savings collected and deposited into accounts at **original schools** (78 schools)	14,004,200	179,541
Amount of savings collected and deposited into accounts at **new schools** (29 schools)	5,750,445	198,291

3. National Dissemination

On July 9th, IPA conducted a national dissemination event in Kampala to share the results and research findings of the study, *Smoothing the Costs of Education: MicroSavings in Ugandan Primary Schools*. The event was focused on national stakeholders: researchers and practitioners working within the Ugandan context. The majority of the report will concern this event.

Smoothing the Costs of Education: MicroSavings in Ugandan Primary Schools was also featured as part of a larger dissemination event, run by IPA's Global Financial Inclusion Initiative. This event, the "Evidence on Innovations in Savings and Payments – Conference and Workshop " catered to a broad, international audience focused on financial services for the poor. Lead researcher Dean Karlan presented on this study and together with Irene Mutumba, of implementation partner the Private Education Development Network, fielded questions from the audience. Further discussion of this event will be included in the conclusion of this report.

a. Names and titles of total participants

The national dissemination event was a small, focused discussion for organizations specifically working with youth savings and education in Uganda. About 20 different organizations were represented, most especially the Private Education Development Network, our implementation partner. A full list of attendants can be found in Appendix A. In addition, those present from IPA were as follows:

Jeff Alumai, *Country Director IPA Uganda*
Christoph Hartmann, *Research Manager IPA Uganda*
Sarah Kabay, *Senior Project Associate, Smoothing the Costs of Education*
Emily Cupito, *Senior Project Coordinator, Global Financial Inclusion Initiative*
Amber Davis, *Project Coordinator, Global Financial Inclusion Initiative*
Simon Tumusiimwe, *Research Assistant, Smoothing the Costs of Education*

b. Agenda of activities and content of presentations

Please see the attached agenda in Appendix B. What follows is a summary of the presentation content.

IPA Introduction: Jeff Alumai

As many participants were unfamiliar with the work of IPA, Country Director Jeff Alumai provided a brief introduction to the organization and its work around the world and particularly in Uganda.

Introduction to Rigorous Impact Assessment: Christoph Hartmann

IPA Uganda Research Manager Christoph Hartmann gave a summary lecture on the importance and theory behind randomized controlled trials (RCTs). Mr. Hartmann walked participants through the basic principles of impact assessment, illustrating the shortcomings of other evaluation methods, and giving a basic introduction to such concepts as randomization, treatment, and control.

Introduction to the Private Education Development Network: Irene Mutumba

The Executive Director of PEDN, Irene Mutumba presented on her organization, its history, and other programs and activities. She then discussed the organization's experience partnering with IPA on this project and as implementers of a primary school based savings program.

Project Summary: Sarah Kabay

In this presentation, Senior Project Associate Sarah Kabay discussed the entire scope of the project, moving from the needs assessment that inspired it to the data analysis and conclusions being drafted by the study's Principal Investigators. This presentation summarized some of the major research findings and lessons learned from the project.

Discussion of the Intervention: Isaac Mwesigwa

Super Savers Program manager Isaac Mwesigwa gave a presentation on the implementation of the intervention, the Super Savers Program. He discussed some of the successes and challenges encountered by the implementation team and generally the experience of the program over its four year history.

Feedback from Stakeholders: Stephen Kanhiriri and Charles Kidde

IPA sponsored the participation of two representatives from the study region and its participating schools. School Management Committee Chairman Stephen Kanhiriri of St Andrew's Nakabango Primary School and Deputy Head Teacher Charles Kidde of Walukuba East Primary School each discussed their experiences implementing the program, the response it received from the communities they represented and their opinions on the general situation of primary schools in Uganda.

Discussion of Local Context and Interpretation of Results: Sarah Kabay

As a follow up to the summary presentation in the morning, this presentation offered more in-depth and context specific discussion of the intervention and research. For example, Ms. Kabay presented the extremely high rates of transferring and repeating of the study population. She discussed why this was a challenge for the research design and encouraged participants to think about why it might be occurring and how it might be affecting primary education in general. Ms. Kabay also discussed how the positive results of this study were unique to a specific combination of two treatment variants, and that not all schools with the Super Savers Program experienced a significant positive impact. The conclusion of this presentation, to think about the intervention and research within a greater context of primary and financial education and the way forward, led into the following presentation.

Greater Research Context: Emily Cupito

As a representative of the Global Financial Inclusion Initiative, Ms. Cupito presented on larger initiatives within IPA, and how various studies and projects can combine to advance a specific research agenda. She discussed some of the work IPA has been promoting following the conclusion of primary research. How can replication studies, communication, and scale serve to channel research into action? She encouraged participants to think about the way forward and how this particular study could contribute to a broader research discourse.

Discussion Groups: All Participants

Following the presentations, all participants were divided into discussion groups. IPA staff had a list of questions to elicit responses and feedback to the information presented during the event. Participants had the opportunity to engage directly with the information, share their own experiences and brainstorm ways in which to act on these research findings. The event concluded with a brief presentation from each group about the major themes they discussed.

c. Notes from conclusion and summary of discussions

IPA received extremely positive feedback during and after the event. Depending on their background and work, participants drew different conclusions. A Ugandan researcher working at a local university, for example, was impressed by the importance of rigorous methodology. He concluded "*Not all innovations may result in the assumed impact, so there is need to evaluate the expected impact of the intervention.*" Many practitioners working with youth and savings were interested in the primary school setting, and the specifics of running a savings intervention in schools.

In general, participants found two topics to be the most interesting, and most deserving of follow up research:

1. **The importance of the parent outreach program:** How did the parent outreach program interact with the savings program? What should be the role of parents and community outreach in primary education programming?
2. **The cash and voucher comparison:** Was the voucher program too constricting? Was the school setting enough to encourage investment in education? How does this relate to other commitment savings literature?

Although some participants were very enthusiastic about possible expansion of the program, many agreed that the best way to follow this research would be to conduct a replication study. If the Super Savers Program were to be implemented in another region of Uganda, for example, would it result in the same impact?

Throughout the presentation it was evident that this information was relevant and important to the participants. As one expressed, "*We need more events like this*." The national dissemination was a great opportunity to start sharing the findings from this study. Once the academic working paper is finalized, we will follow up with participants and further encourage the dissemination of this study and its research findings.

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Smoothing the Costs of Education: MicroSavings in Ugandan Primary Schools

Grant No. AID–0AA–G-00008

Final Impact Assessment Report

1. Executive Summary

Key Objectives & Results

The implementation of the Super Savers Program had three primary goals: 1) to implement a valuable program, suited to the needs of Ugandan government primary schools and the populations they serve; 2) to provide a structure and training which will enable primary school pupils and their families to save; and 3) to thus encourage, incentivize and financially enable children to remain in school.

The research and evaluation aspect of the project had four primary goals: 1) to determine the effects of the Super Savers Program using the most technically rigorous methodology; 2) to collect the most accurate data possible to reflect the actual situation of primary schools and their pupils; 3) to develop a better understanding of the current status of Universal Primary Education policy in the 136 schools included in the study; and 4) to identify specific and concrete concerns related to the improvement of Universal Primary Education in Uganda and suggest a direction or initiatives which could lead to that improvement.

Analysis of the impact of the Super Savers program suggest that a softer nudge was more effective in increased student savings and test scores, while a harder savings commitment did not generate positive returns. A meeting with parents also showed increases in savings spent on school supplies and on youth test scores. This suggests that financial constraints may play an important role in students' academic performance and that understanding the role of families' financial decision-making processes may be an important element in understanding the overall production process of education.

Next Steps

On a practical level, several issues around market development are important to explore. The program costs were high relative to the savings generated. However, if the program generated long term savings behavior change, then between the continued savings and the improvement in educational outcomes, the program would surpass typical cost benefit calculations. To bring the costs down, implementation via mobile banking may hold promise. This would then obviate the need for physical transfer of cash to a bank, and would lower the risk of theft from keeping cash in a (albeit locked) box at the school. However, if the group nature of the intervention (i.e., the public and communal training) was an important element for take-up (through mimicking of peers, or learning from peers) and adherence (through monitoring and potential for social recognition), then a mobile banking implementation may lose that visual classroom element. Although these peer mechanisms were not emphasized in the training and implementation of the program, the fact that the savings were done publicly may have had such an effect.

2. Background

Project Background and Timeline

In 2008, IPA collaborated with Nike Project and Micro Insurance Agency to conduct a series of focus group discussions in order to identify and learn about the challenges facing adolescents and potential ways to address these concerns. When asked to rank their challenges, all groups consistently ranked education first. IPA began a partnership with the Private Education Development Network and FINCA Uganda to pilot a primary school savings scheme. For the 2009 scholastic year, IPA, PEDN and FINCA Uganda piloted what was branded the "Super Savers Program" in eight Jinja District government primary schools. The program was met with great interest and enthusiasm from all stakeholders.

The experience of the pilot confirmed the potential of the program, and it was then scaled to complete a rigorous study of impact assessment through a randomized control trial including 136 schools. A baseline survey was completed in September-October 2009, and program implementation began immediately after. Monitoring visits were performed at least once per term between the beginning of 2010 and the middle of 2011. In fall of 2011, an endline survey and exam were implemented. The USAID grant contributed to ongoing program implementation of the scaled Super Savers program in treated schools and monitoring visits.

Project Context

Uganda's primary school enrolment rates have increased dramatically as a result of the country's policy of Universal Primary Education (UPE) in the late 1990s, but 70% of children drop out before completing Primary 7. The majority of drop outs and their families cite financial concerns as the main reason for discontinuing their education. Though UPE policy has done much to decrease the fees associated with attending primary school, many costs still remain, amounting to a significant financial obstacle for poor families.

Compounding this situation is Uganda's lack of what is referred to as a "culture of savings." More than 60% of Ugandans are "unbanked" and the country's 10% domestic savings rate is extremely low, even for Sub-Saharan Africa. Many people admit to rarely saving money; the task of paying for school fees and scholastic materials comes as a serious challenge shared by almost all Ugandans. Many parents do not know exactly how much it costs to send a child to school and only pay for fees or materials when money is available or when harassed by headmasters. As a result, these payments are extremely inconsistent and often lead to a child's immediate and eventually prolonged absence from school. Children routinely transfer between schools, repeat grades and eventually drop out as a result of their inability to meet these costs.

3. Program Design & Implementation

The Super Savers program was implemented using a randomized design in order to rigorously evaluate the effects of the program. Primary schools in the Busoga Sub-region of Uganda were randomly selected into one of four treatment groups, or a control group. Each of the four treatment variations included the same core components: a savings account administered through the school, and a program to support and encourage use of the accounts. During an introductory meeting, the implementation team described the program to a joint meeting of the Parent Teacher Associate, the School Management Committee, and other interested parents. If they all voted to participate, we provided each school with metal lock boxes. A designated teacher assisted by student-elected representatives from each class then managed the program. The implementation team conducted weekly visits to each school to encourage saving and to assist with accounting procedures. Interested students received a passbook in which their individual savings were recorded, and the designated teacher and the implementation team maintained an official register. Depending on a school's preference, students then deposited money into the lockboxes on a daily or weekly basis.

To provide security and transparency, two padlocks secured each box. Parents elected a representative to keep the key to one lock, while the bank held the other. At the end of each trimester, the two key holders opened the box. The bank representative provided a deposit slip and deposited the funds into the school's account, which had been designed jointly by IPA and FINCA Uganda, and was modeled on a traditional group savings account. IPA provided the 5,000 UGX minimum deposit and worked with the school's elected signatories to obtain the required documentation. After the break between trimesters, the implementation team and bank representatives returned to the school for the payout of the funds. Two representatives signed a withdrawal slip to confirm the withdrawal. The designated teacher, student representatives and our team then distributed the money according to the savings register. At the same time, the implementation team organized a small market at each school where students could purchase school supplies or school services such as practice exams or tutoring sessions.

On top of the core components above, the four treatment variations worked in a 2x2 design: "Cash" or "Voucher" for the withdrawals, and "Parent Outreach" or "No Parent Outreach." For the cash treatment arm, students received in cash their savings from one trimester at the beginning of the next trimester. They could then spend the funds at their discretion—at the markets provided on the disbursement day (thus "making it easy" to spend on school supplies) or elsewhere. The voucher treatment arm, on the

other hand, employed a stronger commitment—students had to buy educational products or services at the market on the disbursement day. In both variants, children could also re-deposit their savings for the next trimester.

The suggested theory of change first for the pilot, an later for the scaled program, is that greater savings would allow students to purchase more school supplies, and thus, by allowing them to be better equipped for classes, enable them to learn better at school. The second aspect of the program, the parent sensitization meetings, were designed to increase parents' interest in and support of their children's education and to increase the salience of the issue. We address challenges of program implementation in Section 5.

Table 1: Demographic Characteristics of Sample at Baseline Survey

	Number of Observations	Any Treatment Mean (std dev)	Control Mean (std dev)
Classroom Survey: % of students in attendance	811	0.09 (0.01)	0.10 (0.01)
Classroom Survey: Supplies Index	813	0.03 (0.05)	0.01 (0.05)
Normalized Test Score: Grammar	4,710	0.08 (0.02)	0.00 (0.02)
Normalized Test Score: Reading	4,713	0.00 (0.02)	0.00 (0.02)
Normalized Test Score: Math	4,715	0.00 (0.02)	0.00 (0.02)
Normalized Test Score: Total	4,716	0.03 (0.02)	0.00 (0.02)
Student Survey: Attendance Code (lower = more attendance)	4,716	1.43 (0.02)	1.42 (0.02)
Student Survey: Days missed per school term	3,886	1.63 (0.02)	1.64 (0.02)
Student Survey: Prefer 500 UGX today to 800 UGX tomorrow	4,702	0.65 (0.01)	0.64 (0.01)
Student Survey: Prefer 500 UGX today to 800 UGX next week	4,699	0.29 (0.01)	0.24 (0.01)
Student Survey: Child receives pocket money from family	4,678	0.75 (0.01)	0.74 (0.01)
Student Survey: Amount received in pocket money (UGX)	4,698	204.20 (5.13)	214.45 (6.65)

4. Evaluation Design

We selected 136 primary schools from the Jinja, Iganga, Mayuge, and Luuka districts of the Busoga Region because they predominantly comprised poor rural and peri-urban schools. We then administered

a baseline survey and test during the final trimester of 2009. Finally, we randomly assigned schools to receive either the cash treatment, voucher treatment, or no treatment, stratifying by the total normalized score on the baseline exam and by geographic regions call sub-counties. Each treatment group comprised 39 schools, and the remaining 58 schools became the control group.

Following the first randomization, school outreach began. It took two trimesters to recruit the majority of schools, but by the beginning of the third trimester of 2010, 95 percent of the treatment schools had agreed to participate. In total, 77 schools joined and one school refused to participate. The school that refused to participate did, however, permit data collection. In what follows, we classify the school as if it had accepted the program.

In 2011, we conducted a second randomization for the parent sensitization program. To isolate the effect of the program while still treating all of the schools, we assigned schools either to the Parent Outreach group who received the intervention in the first trimester of 2011 or to the No Parent Outreach group who received the intervention too late to affect student behavior – immediately before the endline survey in second trimester. Half of the schools in each treatment were assigned to each group. We stratified assignment by the schools' initial treatment group and sub-county, and checked for balance using the demeaned savings rates from 2010. Finally, we conducted the endline survey and exam during the beginning of the third trimester of 2011.

The study utilizes two samples of students, as well as data at both the classroom and student level. First, we conduct classroom level surveys that include all students present in class at baseline and then all students present in class at endline. Second, we created a representative, longitudinal sample of students identified prior to the randomization. The first sample provides information on all students attending school. However, if the intervention had affected attendance or enrollment, it would have been subject to selection biases, both on entry and exit. The second sample provides information on a smaller subset of students that were tracked regardless of whether or not they continued to be enrolled in the original schools.

The classroom-level data included all classes in grades five, six, and seven. Enumerators counted the number of children present, enrolled, and possessing notebooks, math set, uniform, or shoes. We conducted these monitoring visits prior to the randomization as part of the baseline and at least once a trimester after the randomization.

The student-level data was created by selecting 4,716 students who then completed a baseline survey and aptitude test prior to the randomization. To identify the students for the longitudinal sample, we compiled a list of all students of the correct ages and grades who were on the teachers' rosters in September of 2009. Teachers then classified each student using a five-point scale to rate frequency of attendance. In particular, this allowed us to identify students on the rosters who did not attend school. From the set of attending children, we randomly selected 35 students from each school in grades four and five, except for two schools in which we included all students because fewer than 35 students had enrolled.

The baseline survey completed by the students in the longitudinal sample was a 40 minute survey that included questions about their education history, experiences with saving, time preferences, and demographic information. Students also completed an hour-long, 35-question exam covering math, grammar, and reading comprehension. Students in each grade took separate exams based on the national curriculum for their grade.

Students completed an endline survey about two years after the base line survey. The 40 minute survey included questions about saving behavior, possession of resources like those in the class-level survey, such as uniforms, books, math sets, and shoes. It also included a 60 minute exam in the same three subjects as the baseline exam. The grade level of the endline exam was based on the students' grade at baseline. We tracked students regardless of their enrollment status. We found 3,838 of the original respondents.

Finally, we verified the presence of each student in the longitudinal sample during each class-level monitoring visit. This provided an objective measure of students' attendance rates as well as whether students were still enrolled in school in the appropriate grade.

There was a very high rate of switching schools by students which made it extremely difficult to locate them and take accurate attendance records, however enumerators were able to track down the vast majority of students so it should not have seriously compromised the data quality.

Results from the evaluation show that the weaker commitment generated increased savings in the program accounts and, when combined with a parent outreach program, higher expenditures on educational supplies. It also increases scores on an exam covering language and math skills. We find no effect for the fully-committed account, and we find no effect for either account on attendance, enrollment, or non-cognitive skills.

When combined with a parent sensitization program, we find that families spend their savings on educational expenses (school supplies). This does not, however, alter school participation—we find no effects on enrollment or attendance—but does improve students' scores on a basic math and language test.

5. Findings

Together these results suggest that a less restrictive savings product for youth may prove to be more effective by making up in appeal what it lacks in forcefulness. The lessons learned imply that funders and policy makers should seriously consider the how the exact design of their product will affect the incentives of potential users before offering it, particularly in groups like children who have less well formed or sophisticated savings attitudes. A willingness to provide a product with a looser commitment may in fact yield better results than one with more stringent usage requirements. These results are not strictly generalizable, but they do fall into and add to a growing body of literature showing the effectiveness of looser commitments for behavioral changes. Policy makers or funders planning a similar program with other youth should think seriously about the level of commitment required by their product, with these results in mind.

In addition to the results of the impact evaluation described above, we also learned from the implementation of the program. The Super Savers implementation team was one of the greatest strengths of this project. With regular meetings and discussion, the team routinely identified and addressed various concerns and challenges. The team developed strong relationships with program stakeholders. Feedback from school administrators, teachers, parents, and children was critical to the program's success. Our lessons from implementation are some of the project's most important contributions, and we hope to expand upon them in the future.

First and foremost among our lessons learned was the importance of teachers: The program was most successful when teachers were invested and engaged. However, this finding was also one of the program's greatest challenges. Ugandan primary school teachers are in a difficult situation: Schools are often under-staffed, poorly resourced, and poorly supported. Salaries are particularly contentious, as the Ugandan government has promised to raise the minimum teachers' salary but has yet to deliver on that promise. Many teachers earn less than 130 USD per month, the value of which continues to decrease due to Uganda's high rates of inflation. Teachers often pursue other income generating activities, and are absent from school as a result. In our endline survey, 62% of children reported that their teacher was absent for at least one of the five days in the previous week. In addition, there were three nationwide teachers' strikes during program implementation. Entering into this situation and requesting that teachers volunteer their time to run another program on top of all of their other responsibilities was a sensitive issue.

We employed a number of different strategies to motivate and engage teachers, the most successful of which was incorporating the teachers into the program. Many teachers requested their own savings accounts, as they wanted to save for their own children's educational expenses. We provided teachers with savings boxes and passbooks and encouraged them to conduct their savings activities independently. When it was requested, we also assisted in opening accounts at the bank, though most teachers preferred to save using the lock box alone.

The parent outreach program also had a very strong and powerful effect upon teachers' attitudes. Many teachers struggle in their dealings with parents, and can be at odds with the community. The parent outreach program supported teachers in their work by getting buy-in from parents in the community. This community support was extremely important to teachers, and we received many requests to conduct parent meetings on a termly or yearly basis. Finally, the local dissemination events were a significant contributor to teacher motivation. Teachers responded very positively to the events and the discussions raised.

More broadly, we presented the program in such a way as to make it clear to teachers how it could benefit their school and their work, and, likewise, teachers supported the program when they saw how it could make a difference. The program eases some of the burden placed upon teachers to raise fees and require children to have scholastic materials. Though directed at children, the program was also intended to improve school and classroom functioning. When teachers were aware of this goal and its effect on their work, they were more inspired to assist in program activities.

Though we came to recognize the primacy of teachers, we also recognized the importance of involving other stakeholders. Child elected leaders were extremely helpful in managing day to day program activities, especially in older classes. School management committees, parent teacher associations, and school administrators all had the potential to be effective champions of the program. Our work in sensitization and community outreach was extremely important in this regard.

We felt it was important for the bank account to be owned by the community, and therefore select account signatories from the community. However, it was extremely tedious and inefficient to have the program rely upon the involvement of people not located on the school campus. Procuring documentation to open the account, requiring account signatories to be present at the school to authorize transactions, and constantly recruiting support from the community was very hard on the implementation team, and account signatories became a challenge to community participation. This speaks to a greater concern in primary education, in that parents have become estranged from schools while expecting the government to assume all responsibility for education.

When we discussed the issue of parental involvement with the District Education Office, the lead officer agreed with our concerns. He was very supportive of our work in parent sensitization and attended some of the program meetings. While the program aimed to address the issue of parental involvement, it is a larger problem that cannot be addressed by our program alone. Official communication from the government and education ministry would be required to depoliticize the payment of school fees, recognize the role of parents in primary education, and generally acknowledge the importance of this discussion.

In spite of the challenges of operating out of schools, the school environment was a necessary and successful setting for the Super Savers program. People in the program area can be extremely distrustful of formal financial institutions. Parents can also be very critical of teachers, thinking they use extra school payments for personal expenses. Therefore combining an independent NGO with the school institution was a good way to gain credibility for both parties in the program context.

Finally, we believe the slow introduction of the program was critical, by building support and capacity in tandem. If the program is to be scaled, we recommend a similar introduction.

6. Cost-effectiveness & Competitive Landscape

In many places, youth savings programs are still a relatively novel intervention. As the Super Savers program became more established, we received many requests to extend the program to public schools outside of our sample, as well as to private schools and other NGOs. There is definitely a demand for such services, but a significant amount of work is needed to determine the best options for various contexts, and the effectiveness of youth savings programs.

In the Super Savers program area, there were no similar school-based programs. The closest alternatives are “junior” or “guardian” accounts, offered by banks or microfinance organizations to help guardians raise money for schools fees, or to help introduce children to banks. However, such services only

nominally operate in relation to children. For practical purposes, these accounts operate much like other accounts, as they require a signatory who is over 18 years old, and demand no involvement from youth.

Additionally, almost all financial services are located in district towns, and, to a lesser extent, in major trading centers. In contrast, the majority of our sample was located in rural areas. In terms of access, the program was extremely successful in making school the site of banking for children otherwise excluded from accessing financial services due to age or location restrictions.

Throughout the world, many organizations and institutions are now working to provide more opportunities for young people to experience formal financial institutions and develop healthy financial behavior. Often, unlike the Super Savers program, these primary school interventions and savings programs for youth are curriculum-based. Aflatoun/Child Savings International is a major actor in this space. In Uganda, the Aflatoun program holds a two-day teacher training for a term-long supplemental educational program that focuses on children's rights and responsibilities, including savings, environmental rights, disability awareness, and education. Program officers then follow up in the schools on a weekly basis for one term, and help run savings collection and payout. The program is implemented in a different part of the country with a different student population.

Super Savers was envisioned as experiential learning, so that children would learn *by* saving as opposed to learning *about* saving. The theory of change depends on establishing an infrastructure to enable children and their families to save for education. Specifically, we looked at how working through schools could be an effective entry point to forming children's habits. Curriculum interventions have other goals, sometimes including an experiential component and other times not.

Two of our key staff participated in a working group with the Bank of Uganda to determine ways to incorporate financial education into Ugandan schools. The National Curriculum Development Center is now working on incorporating financial education into Uganda's national curriculum. We believe this is an extremely positive development. Introducing young people to financial terms, concept, and ideas throughout their education could alone be a powerful intervention, though there is very little rigorous evidence on the effect of financial education on young people.

Curriculum and financial education interventions are also critically different from the Super Savers program because the immediate goal of the Super Savers program was to make education more affordable, and therefore to test the link between finances and education. In finding significant impacts on the presence of scholastic materials in the classroom and test scores, the evaluation has revealed an important connection that needs further exploration, and that may not be addressed in curriculum-based programs.

The lack of a body of evidence about the effectiveness of financial education and youth savings programs makes it difficult to compare cost effectiveness towards meeting program goals across programs. An unofficial cost estimate for Aflatoun-Uganda put the expense at about $830 per school. The full Super Savers program is estimated at $175 per school, and the lighter version implemented in 2012 trims costs to $85 per school. However, because we do not have impact estimates for Aflatoun-Uganda, it is difficult to compare the impact-per-dollar of the two programs.

Loose Knots:
Strong versus Weak Commitments to Save for Education in Uganda*

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Abstract:
Commitment devices offer an opportunity to restrict future choices. However, if severe restrictions deter participation, weaker restrictions may be a more effective means of changing behavior. We test this using a school-based commitment savings device for educational expenses in Uganda. We compare an account fully-committed to educational expenses to an account in which savings are available for cash withdrawal but intended for educational expenses. The weaker commitment generates increased savings in the program accounts and when combined with a parent outreach program, higher expenditures on educational supplies. It also increases scores on an exam covering language and math skills by 0.11 standard deviations. We find no effect for the fully-committed account, and we find no effect for either account on attendance, enrollment, or non-cognitive skills.

JEL Codes: D12, D91, I21, O12
Key Words: Commitment Savings, Micro-Savings, Educational Resources, School Participation

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"Make it easy" – Richard Thaler, co-author of *Nudge: Improving Decisions about Health, Wealth, and Happiness* (Clement 2013)

Section I. Introduction

Commitment devices offer individuals an opportunity to restrict future choices. Self-aware individuals may prefer such restrictions in order to resist future temptations, or to deflect future claims on assets from family or extended social networks. Indeed, prior research has found demand for commitment savings accounts that restrict access to one's money in order to help with self-control issues (Ashraf, Karlan, and Yin 2006; Brune, Lasse et al. 2013; Dupas and Robinson 2013; Gine et al. 2013), and other research has found demand for commitment devices in other domains.

We primarily tackle two questions: How critical is the ability to change one's mind in the decision to engage in a commitment savings account? And, do commitment devices to save merely get unwound through offsetting behavior, and thus not change actual expenditures?

The specifics of what one means by "commitment" on a commitment savings account can vary in critical ways, and accordingly have large differential impacts on whether an account is opened, how much one deposits, when one withdraws, and perhaps most importantly, how ultimate consumption and investment choices differ. We focus here on one key dimension: whether the funds deposited are locked in for a specific "good" expenditure, or if individuals have freedom to spend withdrawals as they wish, but the "good" item is made easily available.[1]

The tradeoff is clear: a strong commitment device may be more effective in enforcing the behavior of the future self, but the current self may be less likely to participate in the contract at all. An individual may want to commit in some, but not all, future states of the world, since emergencies do happen. The challenge is finding a contract where a third party has the right level of discretion on whether to enforce. If an individual cannot trust any third parties with that discretion, a self-enforcing commitment contract may work instead. In such a contract, the increased price of vice is derived from psychic costs, i.e., disappointment with oneself and one's lack of adherence to a plan. This is akin to a model put forward by Benabou and Tirole (2004) on how personal rules can shift later behavior, and also could be construed as a test of whether "mental accounting" can be an policy instrument that induces behavior change (Shefrin and Thaler 1992).

Our second question examines whether commitment devices get unwound through offsetting behavior (Karlan, Ratan, and Zinman 2013). For example, more money saved in a commitment account may come at the expense of lower savings elsewhere, or worse, higher borrowing at

[1] Clearly in a perfect market, specifically one with zero transaction costs, this would make no difference: any items purchased with the locked-in commitment account could simply be sold in exchange for the most desirable item for the same value. In our market, supplies and services associated with primary education in Uganda, there are significant enough transaction costs to make such an exchange quite costly, and thus the original expenditure sticky.

higher interest rates. By examining how actual expenditures change, rather than merely observing whether savings increases, we are able to make stronger statements about welfare outcomes, similar to Ashraf et al (2010) with respect to household durable goods purchases and Dupas and Robinson (2013) with respect to health investments.

We examine these questions in the context of a school-based commitment savings account in Uganda. Specifically, we test whether a strong versus weak savings commitment device helps children and their families save more, spend more on educational expenses, and achieve higher test scores.

The savings program, Supersavers, helps families save for school related expenses and generates random variation in the level of school supplies across students. Thus we also have two economics of education motivations: First, we gain a better understanding of the education production process (Kremer and Holla 2009), building on a growing body of evidence demonstrating the effects of basic school supplies – notebooks, uniforms, workbooks, etc. – on student performance (Das et al. 2013; Hidalgo et al. 2013) and parental involvement (Avvisati et al. 2013). Second, the results build on existing evidence of the importance of savings constraints for educational expenses (Barrera-Osorio et al. 2011).[2]

Our setup is as follows: working with a local nonprofit organization Private Education Development Network (PEDN) in the Busoga sub-region of the Eastern region of Uganda, and Innovations for Poverty Action (IPA), we randomly assigned 136 primary schools to one of three groups: a strong commitment savings account (funds could be withdrawn no earlier than the end of the term, and had to be spent on educational items), a weak commitment savings account (funds could be withdrawn no earlier than the end of the term, but were available in cash, to be spent as individuals wished)[3], or control. For both treatments, students could deposit cash into an account. At the end of each trimester they were able to use their cash or vouchers to purchase school supplies at a fair. This thus becomes a test between a stricter commitment device and a weaker "make it easy" nudge of individuals towards a specific behavior (Thaler and Sunstein 2009). Although the accounts were framed as their accounts, we cannot rule out that some of the funds were parent's funds.[4] We developed a brief teacher training component, and also coordinated the transfer of money from a savings box held at the school to a local bank for safekeeping. One year into the implementation, we implemented one sub-treatment in half of the treatment schools, a parental involvement workshop.

[2] It is interesting to note that, while we find that relaxing savings constraints improves educational outcomes, we find improvements in academic performance rather than participation. This contradicts the results of Barrera-Osorio et al. (2011) which finds that distributing funds at the time that families have to pay enrollment expenses improves enrollment rates. The difference may, in part, be due to the fact that unlike Uganda, Colombian schools still charged official fees for enrollment.

[3] The weak commitment treatment arm is thus most similar to the SEED account in Ashraf et al (2006), i.e., a commitment merely to not withdraw funds until a certain future point in time.

4 As we show below, both the children and other family members contribute to the accounts, raising the possibility that multiple household mechanisms are involved.

The first stage is critical and revealing: students deposit significantly more money into the soft commitment savings account than the hard commitment savings account. And, for those with the parental outreach sub-treatment, the additional money deposited into the account leads to higher investment in school supplies, which then in turn leads to higher test scores. We find a 0.11 standard deviation (se=0.04) improvement in overall scores; this includes effects on each of the covered subjects: grammar (0.15 standard deviations, se=0.05), reading (0.11 standard deviations, se=0.05), and math (0.00 standard deviation, se=0.04). The implication for the school production function is simple: for a student to learn basic skills, having a pen, paper and workbook matters. Furthermore, the treatment effect on educational outcomes is sizable, as large as many direct educational interventions, and consistent with other estimates of the effects of such supplies (Das et al. 2013) We find no effect on student participation (either attendance or enrollment) or on a set of non-cognitive outcomes.

The remainder of the paper proceeds as follows: We provide an overview of the Ugandan education system and the individual treatments in Section II. Section III contains the research design and a description of the data. We assess the internal validity in Section IV and present the main results in Section V. Finally, we conclude in Section VI.

Section II. Background

A. Ugandan Primary Education System

Uganda abolished most primary school fees in 1997.[5] In the same year, the gross primary enrollment rate[6] ballooned from 87 percent in the early 1990s, to 123 percent in 1997. Between 1997 and 1996, 2.3 million children enrolled in primary school, increasing total enrollment to 5.7 million (*Uganda Hits Universal Primary Education Target* 2000).

Unfortunately, while most children now enroll in primary school, the majority of them fail to graduate. In 2008, for example, the gross enrollment rate[7] in lower secondary was 33 percent–11 percentage points below the average for Sub-Saharan Africa (UNESCO 2013). The transition from primary to secondary is a challenge, as in many countries. However, the majority of Ugandan students simply fail to complete primary school. As of 2010, only 32 percent of students entering primary school completed the seventh grade (*Opportunities Lost: The Impact of Grade Repetition and Early School Leaving* 2012).

[5] Initially, up to four children per family could attend school without paying tuition fees. However, previously the government abolished tuition fees for all children (Murphy, Bertoncino, and Wang 2002).

[6] The gross primary school enrollment ratio is the ratio of the number of enrolled primary school children, regardless of age, to the total number of primary school-aged children in the population.

[7] The gross enrollment rate for lower secondary school is the ratio of the number of children enrolled in lower secondary school regardless of age relative to the total number of children in the population who are of age to attend secondary school.

While the poor quality of primary education is a likely factor (Piper 2010),[8] students still face financial barriers. Students no longer pay enrollment fees, but they face other expenses. Many schools require uniforms, and families are responsible for providing food and school supplies, such as paper, writing instruments, and workbooks. With the approval of the parent-teacher association and school management committee, schools can also charge fees for ancillary services such as supplementary lessons, practice exams and feeding programs. Official policy prohibits preventing a child from enrolling due to an inability to pay, but the majority of dropouts cite financial concerns. In the baseline survey described below, families paid an average of 5,790 UGX (2.30 USD) to send a child to school for a year, 0.5 percent of Uganda's per capita income in 2010 (UN data 2013).

Confusion and suspicion create additional complications. As we discovered through qualitative interviews and feedback from parents, politicians try to drum up support by claiming school fees are illegal. The terms "universal" and "free" education are sometimes used interchangeably. Many parents do not understand the official financing rules. Some believe that the government should provide for all school related expenses. Finally, rumors of corruption can make even knowledgeable parents reluctant to pay.

B. Description of the Intervention

To facilitate families' and children's saving for school, we evaluated four variations of a school-based savings program. The intervention had two primary objectives. First, it sought to facilitate and encourage the practice of children saving for education, and through saving, improve overall academic performance and support students' continued enrollment. The program targeted students in grades 5, 6, and 7, the last three years of primary school, in order to target students at high risk for dropping out of school.[9] At baseline, the mean student age was 12 (sd dev = 1.52).

We developed and implemented the programs in partnership with the Private Education Development Network (PEDN). PEDN is a Ugandan non-profit organization focusing on youth financial and entrepreneurial education. PEDN comprises five full and part time employees, often supplemented by project specific staff hired as needed. For the savings programs, IPA worked with PEDN to hire a local implementation team of about 10 people.[10]

Each of the four treatment variations included the same core components: a savings account administered through the school, and a program to support and encourage use of the accounts. During an introductory meeting, the implementation team described the program to a joint

[8] The dramatic increases in enrollment have strained existing resources. In the average school in 2005, three children had to share the same textbook and 94 children crammed into a single classroom (Independent Evaluation Group (IEG) 2007).

[9] Uganda follows a 7+2+2 grade structure. Students attend primary school for seven years followed by two years each of lower and then upper secondary school.

[10] This includes only those individuals hired to implement the described programs. It does not include the research staff who conducted the surveys and monitoring visits described below.

meeting of the Parent Teacher Associate, the School Management Committee, and other interested parents. If they all voted to participate, we provided each school with metal lock boxes. A designated teacher assisted by student-elected[11] representatives from each class then managed the program. The implementation team conducted weekly visits to each school to encourage saving and to assist with accounting procedures. Interested students received a passbook in which their individual savings were recorded, and the designated teacher and the implementation team maintained an official register. Depending on a school's preference, students then deposited money into the lockboxes on a daily or weekly basis.

To provide security and transparency, two padlocks secured each box. Parents elected a representative to keep the key to one lock, while the bank held the other. At the end of each trimester,[12] the two key holders opened the box. The bank representative provided a deposit slip and deposited the funds into the school's account.[13] The accounts did not earn interest. Inflation varied but averaged around 10% in this time period, thus the accounts had a negative real interest rate. After the break between trimesters, the implementation team and bank representatives returned to the school for the payout of the funds. Two representatives signed a withdrawal slip to confirm the withdrawal. The designated teacher, student representatives and our team then distributed the money according to the savings register. At the same time, the implementation team organized a small market at each school where students could purchase school supplies or school services such as practice exams or tutoring sessions.[14]

On top of the core components above, there were four treatment variations, a 2x2 design: "cash" or "voucher" for the withdrawals, and "Parent Outreach" or "No Parent Outreach". For the cash treatment arm, students received, in cash, their savings from one trimester at the beginning of the next trimester. They could then spend the funds at their discretion—at the markets provided on the disbursement day (thus "making it easy" to spend on school supplies) or elsewhere. The voucher treatment arm, on the other hand, employed a stronger commitment — students had to buy educational products or services at the market, on the disbursement day.[15] In both variants, children could also re-deposit their savings for the next trimester.

[11] The Ugandan educational system classifies children enrolled in primary school as "pupils" and those in secondary school as "students". In this article, we refer to all enrolled children as students.

[12] The academic year starts in February and follows a trimester system. Schools run for 12 weeks at a time. Students receive a three week break after the first and second terms, and schools are closed in December, January and February.

[13] Working with the bank, FINCA Uganda, we designed an account for the intervention modeled on a traditional group savings account. We also provided the minimum 5,000 UGX deposit and worked with the school's elected signatories to obtain the documentation required to open the accounts.

[14] Students were allowed to rollover vouchers to future terms, and upon completion of the final year (P7), were allowed to withdraw any remaining balance in cash.

[15] Early in the intervention there was concern that the teachers and community members mobilized to manage the supplies fair were marking up prices to take advantage of the situation. To avoid this, the supplies markets were taken over as part of the intervention. In collaboration with a wholesale distributer, prices were set to match typical alternative prices available to students, and the fairs were organized by the implementing NGOs directly. Managing the fairs as part of the intervention also ensured the essentials supplies were there. This does have implications for

The Parent Outreach component provided a means of addressing misconceptions about school fees and Universal Primary Education Policy. The implementation team hosted a meeting for sixth and seventh grade parents. The meetings began by identifying the various stakeholders in primary education, their roles and responsibilities. PEDN then discussed the various ways in which parents could support their children's education. In particular, PEDN explained that in addition to providing a student learning experience, the savings program provided an opportunity for the household. It could be a tool to help families finance their children's education. A snack and soda were provided to encourage attendance.

Section III. Design of the Evaluation

A. Research Design

Figure 1 depicts the timeline and steps in the randomized trial and data collection. We selected 136 primary schools from the Jinja, Iganga, Mayuge, and Luuka districts of the Busoga Region because they predominantly comprised poor rural and peri-urban schools. We then administered a baseline survey and test during the final trimester of 2009. Finally, we randomly assigned schools to receive either the cash treatment, voucher treatment, or no treatment, stratifying by the total normalized score on the baseline exam and by geographic regions call sub-counties.[16] Each treatment group comprised 39 schools, and the remaining 58 schools became the control group.

Following the first randomization, school outreach began. It took two trimesters to recruit the majority of schools, but by the beginning of the third trimester of 2010, 95 percent of the treatment schools had agreed to participate.[17] In total, 77 schools joined and one school refused to participate. The school that refused to participate did, however, permit data collection. In what follows, we classify the school as if it had accepted the program.

In 2011, we conducted a second randomization for the parent sensitization program. To isolate the effect of the program while still treating all of the schools, we assigned schools either to the Parent Outreach group who received the intervention in the first trimester of 2011 or to the No Parent Outreach group who received the intervention too late to affect student behavior – immediately before the endline survey in second trimester. Half of the schools in each treatment were assigned to each group. We stratified assignment by the schools' initial treatment group and sub-county, and checked for balance using the demeaned savings rates from 2010.

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scale-up attempts, i.e., whether through explicit management or alternative approach, one likely needs to have a competitive market for supplies available for the students.

[16] In 2010, Uganda included four major jurisdictions called "regions." Spread across the four regions, were 111 "districts." Each district was divided into urban areas known as "municipalities" or rural areas called "counties." Counties were further sub-divided into sub-counties. Depending on the population, a district could have as few as three or as many as thirty or more sub-counties.

[17] When they were not canceled, meetings had to be held with school administrators, the school management committee, and the parent-teacher association for each school. Many were initially reluctant to hold additional meetings.

Finally, we conducted the endline survey and exam during the beginning of the third trimester of 2011.[18]

B. Description of the Datasets

We utilize two samples of students, as well as data at both the classroom and student level. First, we conduct classroom level surveys that include all students present in class at baseline and then all students present in class at endline. Second, we created a representative, longitudinal sample of students identified prior to the randomization. The first sample provides information on all students attending school. However, if the intervention had affected attendance or enrollment, it would have been subject to selection biases, both on entry and exit. The second sample provides information on a smaller subset of students that were tracked regardless of whether or not they continued to be enrolled in the original schools.

The classroom-level data included all classes in grades five, six, and seven. Enumerators counted the number of children present, enrolled and possessing notebooks, math set, uniform, or shoes.[19,20] We conducted these monitoring visits prior to the randomization as part of the baseline and at least once a trimester after the randomization.

The student-level data was created by selecting 4,716 students who then completed a baseline survey and aptitude test prior to the randomization. To identify the students for the longitudinal sample, we compiled a list of all students of the correct ages and grades who were on the teachers' rosters in September of 2009.[21] Teachers then classified each student using a five-point scale to rate frequency of attendance. In particular, this allowed us to identify students on the rosters who did not attend school. From the set of attending children, we randomly selected 35 students from each school in grades four and five, except for two schools in which we included all students because fewer than 35 students had enrolled.

The baseline survey completed by the students in the longitudinal sample was a 40 minute survey that included questions about their education history, experiences with saving, time preferences, and demographic information. Students also completed an hour-long, 35-question

[18] In 2012, we conducted a second, smaller experiment in which we randomly assigned a fraction of the original control group to receive the cash with sensitization program. We also collected the classroom-level data described below. However, the remaining control group proved too small. The point estimates are consistent with those presented here, but the standard errors are too large to provide meaningful information. These results are available upon request.

[19] The enumerator only counted a student as having each item if the enumerator could see it.

[20] Notebooks cost approximately 200 UGX (0.08 $USD) each. In Uganda, they are usually called "exercise books." A math set costs approximately 1,000 UGX (0.40 $USD) and includes such tools as a ruler, protractor and compass. Uniform and shoes each cost about 6,000 UGX. (2.39 $USD) They are a traditional school requirement.

[21] For a small number of classes, rosters were unavailable. We had to create a list of students based on the students present in class and information provided by the teacher.

exam covering math, grammar, and reading comprehension. Students in each grade took separate exams based on the national curriculum for their grade.[22]

Students completed an endline survey about two years after the base line survey. The 40 minute survey included questions about saving behavior, possession of resources like those in the class-level survey, such as uniforms, books, math sets, and shoes. It also included a 60 minute exam in the same three subjects as the baseline exam. The grade level of the endline exam was based on the students' grade at baseline. We tracked students regardless of their enrollment status. We found 3,838 of the original respondents.

Finally, we verified the presence of each student in the longitudinal sample during each class-level monitoring visit. This provided an objective measure of students' attendance rates as well as whether students were still enrolled in school in the appropriate grade.

C. Econometric Model

Since the random assignment should ensure the orthogonality of treatment assignment and other student characteristics, we estimate the effects of the treatments via Ordinary Least Squares using the following specification:

$$Y_{ijk} = \alpha + \boldsymbol{\tau}' \boldsymbol{treat_j} + \boldsymbol{\delta}' \boldsymbol{X_{ik}} + \varepsilon_{ij}. \qquad (1)$$

The variable Y_{ijk} is the dependent variable of interest. We perform estimates at the student and class level. The index i then represents either the student or class in school j and sub-county k. The vector $\boldsymbol{treat_j}$ is a vector of indicator variables for each treatment, and $\boldsymbol{X_{ik}}$ is a vector of control variables. For each estimate, we control for baseline test scores, sub-county fixed effects and the baseline value of the outcome if available. We cluster standard errors by the unit of randomization, the school.

Section IV. Internal Validity

In Table 1, we verify the effectiveness of the randomization in creating observably similar treatment and control groups on average. Each row presents estimates for the indicated baseline characteristic. Columns 1-3 provide the sample size for each variable,[23] the pooled treatment mean and standard deviation, and the control mean and standard deviation. Column 4 provides the regression estimates of the difference between the combined treatment group and control group, while Columns 5-8 provide regression estimates of the difference between each treatment group and the control group. All differences are estimated using equation (1), controlling for the sub-counties in which the schools were stratified.

[22] For both the baseline and endline exams, all scores are normalized within grade and subject relative to the contemporaneous control distribution.
[23] Sample sizes vary because subjects refused to respond to some questions.

Overall, the differences are minimal, i.e., the assignment to each treatment is orthogonal to a series of baseline variables. Of the 70 estimates presented, only seven are statistically significant: one at the one-percent level, four at the five percent level, and two at the ten percent level. And the overall joint test of significance presented in the bottom row is not significant for any treatment group. Most importantly, the magnitudes of the estimated differences are also all relatively small.

Even though the groups are comparable at baseline, differential attrition could result in differences in the analysis sample frame (i.e., those who complete the endline survey, or take the endline exams). Table 2 analyzes attrition. First, Row 1 presents the basic test for whether treatment led to differential attrition rates overall. Columns 2 and 3 show that we have identical survey completion rates in treatment and control (81 percent). Columns 5-8 show that we also find no differences across the four treatment groups.

However, even if overall survey completion rates are similar across treatment and control groups, the treatments may lead to different types of students completing the survey. To check for this, we replicate Table 1 analysis on various baseline measures. The table is organized similarly to Table 1 (except that the classroom variables are omitted, since there is no attrition at the classroom level). Overall, we find no evidence of compositional effects from differential attrition. Only five variables are statistically significant, and the only differences from Table 1 are the estimates for days missed per school term and the time preference measures. As with Table 1, the final row shows the aggregate tests, and we do not reject the null hypothesis of equality across treatment and control groups.

Section V. Results

First, we assess students' savings behavior. In Table 3, we provide two measures of total savings over the two years of the program: the total per school and per student (using two measures of the latter). Columns 1-4 provide the average for each research group. With a less restrictive measure of the student body (attendance at any point during the two year study period), the two cash payout treatment groups produce average per student savings of 2,196 UGX and 2,342 UGX in the parent outreach and no parent outreach groups, respectively. Using average attendance, these results approximately double to 4,212 and 4,560, respectively. In comparison, the two voucher treatments, with and without parent outreach, show average savings of 1,181 UGX and 1,118 UGX with a less restrictive measure of attendance, and 2,158 UGX and 2,167 UGX using average attendance. The differences between cash and voucher are statistically significant at the 99% level (Column 5), whereas the differences between parent and no parent outreach are not statistically significantly different from zero (Column 6).

We draw three conclusions from the savings data. First, the more restrictive savings vehicle, the voucher treatments, solicited significantly less savings than the less restrictive cash treatments. Second, for those in one of the savings treatment groups, we find no additional effect of the

parent outreach on savings (and the parental outreach treatment was only implemented within the treatment groups, not within the control group, thus we can estimate its treatment effect in an environment without the savings treatments). Finally, we note that the within the cash treatment arm, the parent outreach has no additive. Thus this supports the upcoming evidence that while the cash treatment arm led to higher savings, the parent outreach component shifted *how* the funds were spent.[24]

Table 4 examines the other process and intermediate outcomes. First, in Panel A, we examine process outcomes from the program itself, as reported by students in the endline survey. We find that 79 percent of treatment students and only 11 percent of control students were familiar with the Supersavers program. Similarly, 44 percent of treatment group students and only 3 percent of control group students reported saving with Supersavers. There was little difference in program awareness as well as self-reported participation on the extensive margin across treatment groups. This thus supports the argument that the difference in outcomes is not due to differential marketing or promotion of the program, or differential compliance to experimental protocols, but rather to the attractiveness of the cash versus voucher condition and the parent outreach. We do not find any increase in total self-reported savings (which in theory includes "savings held at school", i.e., savings held as part of this program), but we also consider these data noisy, as it is difficult to obtain accurate information on balances of informal savings, particularly from children. We thus put more weight on the administrative data (reported in Table 3) that shows participation in the program, and the changes in more easily observable and measured process and outcome changes, such as school supplies and test scores.

We then examine intermediate outcomes, i.e., the possession of school supplies (measured both during classroom visits as well as in the endline survey[25]), parental involvement, savings attitudes, and payment of school fees. Analysis of these questions helps to understand the mechanism through which the program worked. We present the results for each, but only find an impact on the possession of school supplies, suggesting that the other mechanisms are not responsible for the observed impacts.

Table 4 Panel B presents the results on school supplies, as reported via classroom visits. The classroom visit school supplies index is normalized with respect to the control group mean and standard deviation, and takes the average of four proportions: proportion of students in the classroom possessing uniforms, notebooks, math sets, and shoes. In 2010, none of the treatment groups yields statistically significant increases relative to the control group. Relative to each other, the cash parent group is statistically different than the other treatment groups (Column 8), but this is partly the result of a decline in supplies experienced in two of the treatment groups.

[24] Both parents and children contributed to the accounts. According to the endline survey, 57 percent of children reported having earned the money that they deposited.

[25] If control group household were buying school supplies earlier than treatment schools, because of the savings accounts and fairs, we would on average observe this because the classroom surveys were conducted during the term, not merely at the end of the term.

Relative to the control group, the cash with Parent Outreach treatment only improves by 0.12 standard deviations (se=0.13). Since the main difference between 2010 and 2011 is the addition of the Parent Outreach, the ineffectiveness of the cash treatments provides supporting evidence that the Parent Outreach is a necessary component.

For 2011, with an additional year of experience implementing the program and after the parent outreach had been fully launched, the Cash with Parent Outreach treatment arm performs considerably better than control, as well as the other three treatments (both when compared individually, as well as when the other treatments are pooled with control). Column 4 shows a 0.32 standard deviation improvement (se=0.14) compared just to control. This result is then reinforced by the endline survey, reported in Panel C: The school supplies index from the self-reported survey also shows in Column 4 a 0.11 standard deviation improvement (se=0.06) compared to control. We also find in Column 9, that the Cash with Parent Outreach is statistically different from the other treatments.[26] We do not however observe any statistically significant shifts in school fees expenditures (albeit with large standard errors), self-reported absence because of failure to pay school fees, or amount paid for most recent tests.[27]

Table 4 Panel C also reports on data from the endline survey on parental involvement and savings attitudes. Although the school supplies and test score impacts are strongest on the Cash with Parent Outreach treatment cell, we do not observe a direct impact on an index of three questions[28] regarding parental involvement in the child's education (or the individual components, as reported in Appendix Table 3b). Furthermore, we do not observe changes in a savings attitudes index of seven questions.[29] This may have implications for long-term change in saving behavior, if one posits that these attitudinal shifts are a necessary component for long-term behavior change, after the active involvement from the NGO and savings program. Alternatively, the measures may be flawed, or the attitudinal changes may be unnecessary; the

[26] Appendix Tables 3d and 5 provide the details for each component of the supplies indexes in Panels B and C. The differences seem to be driven primarily by exercise books, although the individual components analysis is less robust statistically.

27 This pattern of results is consistent with students' reports on the endline survey regarding the disposition of the saved funds. While the quality of the data are poor, we do observe that students in the cash treatment with the parent sensitization report spending 3.63 percent more of the saved funds on school related expenses than students in the cash treatment without the sensitization. We observe no differences in the amount of the savings used to purchase food or clothing or given to other family members. The increase in school related expenditures primarily comes from "other" expenses. This difference, however, is likely too small to explain all of the observed increase in school supplies, suggesting that the parent sensitization functioned both to divert students' savings and other unsaved household resources towards school supplies.

[28] The three questions in the Parental Involvement Index are (1) Student thinks parents are responsible for children's education (2) Has your parent come to your school in the past year? (3) Has your parent seen a report of yours from school in the past year?

[29] Savings Attitude Index includes 7 statements each of which the student evaluated on a Likert scale, 1-5. All scales were converted after the fact so that higher on the scale meant more positive attitude toward saving. (1) Saving money is not necessary if you live at home with your family. (2) Saving is a good thing to do. (3) Saving is for adults only. (4) My parents or relatives would be proud of me for saving. (5) Managing to save makes me feel happy with myself. (6) It's better to spend money today than to save it for use in the future. (7) Every time I get money I put away some money for saving.

learned pattern of savings may be possible to change without changing underlying savings attitudes.

Next we turn to test score results in Table 5. We put forward two basic mechanisms here: first, the savings account enables the purchasing of school supplies that are necessary for learning; second, the parental outreach leads the households and children to use the savings accounts to actually spend the saved money on school supplies. This is consistent with the results in Table 4 on the impact on school supplies. And likewise, this mechanism predicts that the Cash with Parent Outreach treatment group should generate the largest (or only) positive impacts. Column 4 indicates that Cash with Parent Outreach improves overall scores by 0.11 standard deviations (se=0.04). Looking at the components of the test, we find improvements in grammar (0.15 standard deviations, se=0.05) and reading (0.11 standard deviation, se=0.05), but no effect on math. Consistent with the hypothesized theory of change, none of the other three treatment groups generate statistically significant improvements compared to the control group, either overall or for any subject.

We also examine whether the improved test scores arises through increased attendance or enrollment, but find no evidence for either. Table 6 Panel A reports results on attendance, and Panel B reports results on enrollment. None of the treatments generate statistically significant improvements relative to the control group.

Last we examine several attitudinal indices, and child labor, in Table 7. Starting with the five attitudinal indexes, we note caution in interpretation: in theory, these may be either intermediate outcomes influenced directly by the treatment(s), or consequences of the shift in resources and test scores. In practice, we observe only two statistically significant shifts out of 20 estimates..

In terms of child labor, critics of financial education for youth posit that introducing children to savings and financial decision-making may have the unintended consequence of focusing their attention on income, and then discourage school attendance in order to work (Varcoe et al. 2005). Berry, Karlan and Pradhan (2013) tests this in Ghana with students of similar age as this study, and finds that a financial education curriculum along with a savings box (but no directive or facilitation of using the savings for education expenses) did lead to higher child labor, whereas if a social values component was added to the financial education curriculum, there was no impact on child labor. In our setting, we find no impact from the program on child labor, either hours worked or total wages. Overall, the estimates from Tables 6 and 7, combined with the other outcomes, indicate that the observed effects on learning occur solely through changes in available supplies rather than changes in attitude or participation.

Section VI. Conclusion

Weaker rather than stronger commitments can, in some instances, prove more effective. In the context of an educational savings program, we find that families and children save more under a weaker savings strategy in which funds are not dedicated to educational expenses upon deposit

than they do under a strict commitment savings program in which all deposits are dedicated to educational expenses. The purpose of commitment savings devices is to intentionally limit the use of deposited funds. In some contexts, however, such services may need to strike a balance between providing sufficient limitations to make the savings mechanisms useful while being careful not to make the limitations so severe that they deter savings. The stricter limitations may work worse for behavioral reasons (e.g., wanting option value or judgment to change own's mind) or for institutional reasons (e.g., not trusting the institution that is offering the commitment device). In our setup, for example, the voucher treatment may work worse because individuals do not trust that proper and fairly priced school supplies will be available. However, although this seems plausible in the first year, we believe by the second year, after seeing the program work for a year, households should have learned that the right school supplies would be available at a reasonable price. Understanding the nature of this trade-off between strict and loose commitment is an important direction for future research.

When combined with a parent sensitization program, we find that families and children in the cash arm spend their savings on educational expenses (school supplies).[30] This does not, however, alter school participation – we find no effects on enrollment or attendance – but does improve students' scores on a basic math and language test by 0.11 standard deviations. This suggests that financial constraints may play an important role in students' academic performance and that understanding the role of families' financial decision process may be an important element in understanding the overall production process of education.

On a practical level, several implementation issues are important to explore. As a program designed to improve student learning, treatment effects of this magnitude are large compared to other evaluations of interventions designed to provide resources to schools or directly to children (Jameel Poverty Action Lab 2014), but they are small relative to many other types of programs (most notably, for example, programs that provide additional resources while also changing pedagogical strategies). Taking the programs relative low cost (2.24 USD per student per year) into account using the methodology proposed by Dhaliwal et. al.(2014), however, the program delivers learning gains at a cost of 1.49 USD per tenth of a standard deviation or 6.71 standard deviations per 100 USD.[31] This is very competitive relative to other programs. Relative to the 27 studies compared by J-PAL (2014), only four produce improvements in test scores more cost-effectively.

In terms of encourage family savings, the program costs were high relative to the savings generated. However, if the program generated long term savings behavior change, then between

[30] Although we find that the voucher treatment led to about half the deposits as that of the cash arm, we do not find that school supplies increased by half. We posit two possible explanations. First, although the point estimate is close to zero, we cannot reject, statistically, a point estimate of half of that of the cash treatment effect. Second, the voucher treatment arm may have led to a reduction in school supplies through an anchoring effect (if the amount saved in vouchers was smaller for some than they would have spent otherwise).

[31] Estimates are provided in 2011 USD.

the continued savings and the improvement in educational outcomes, it would surpass typical cost benefit calculations. In addition, it may be possible to reduce costs, particularly with implementation via mobile banking. This would obviate the need for physical transfer of cash to a bank, and would lower the risk of theft from keeping cash in a (albeit locked) box at the school. However, if the group nature of the intervention (i.e., the public and communal training) was an important element for take-up (through mimicking of peers, or learning from peers) and adherence (through monitoring and potential for social recognition), then a mobile banking implementation may lose that visual classroom element. Although these peer mechanisms were not emphasized in the training and implementation of the program, the fact that the savings were done publicly may have had such an effect.

On a more theoretical level, these results open up many related questions. How does the optimality of looser versus stricter commitments depend on whether savings is long term or short-term? If one is saving for potentially short-run needs, such as a buffer stock, looser knots may be optimal; whereas long-term savings, such as for retirement, may require tighter commitments as the benefits from savings are too remote. Also with respect to timing, are external interventions of this sort effective in changing long term behavior, i.e., does the psychic cost of deviation persist, even without an outsider-led intervention?

Questions also persist regarding how such interventions influence intra-household dynamics. Did the intervention shift the preferences of the child, or the parents, or both, and what does this imply for intra-household cross-generational bargaining issues?

Lastly, design issues may be critical for such a program to work. For example, how critical was the timing element of the "soft" commitment device, i.e., the fact that the school supplies were immediately available for purchase at the time of withdrawal? If that was critical, it is a ringing endorsement for the "make it easy" mantra, and also implies that the soft commitment device may have worked for reasons elaborated on in Mullainathan and Shafir (2013), because it increased the attention of individuals to educational expenses at exactly the right moment, when they had cash in their hands.

Figure 1: Research Timeline

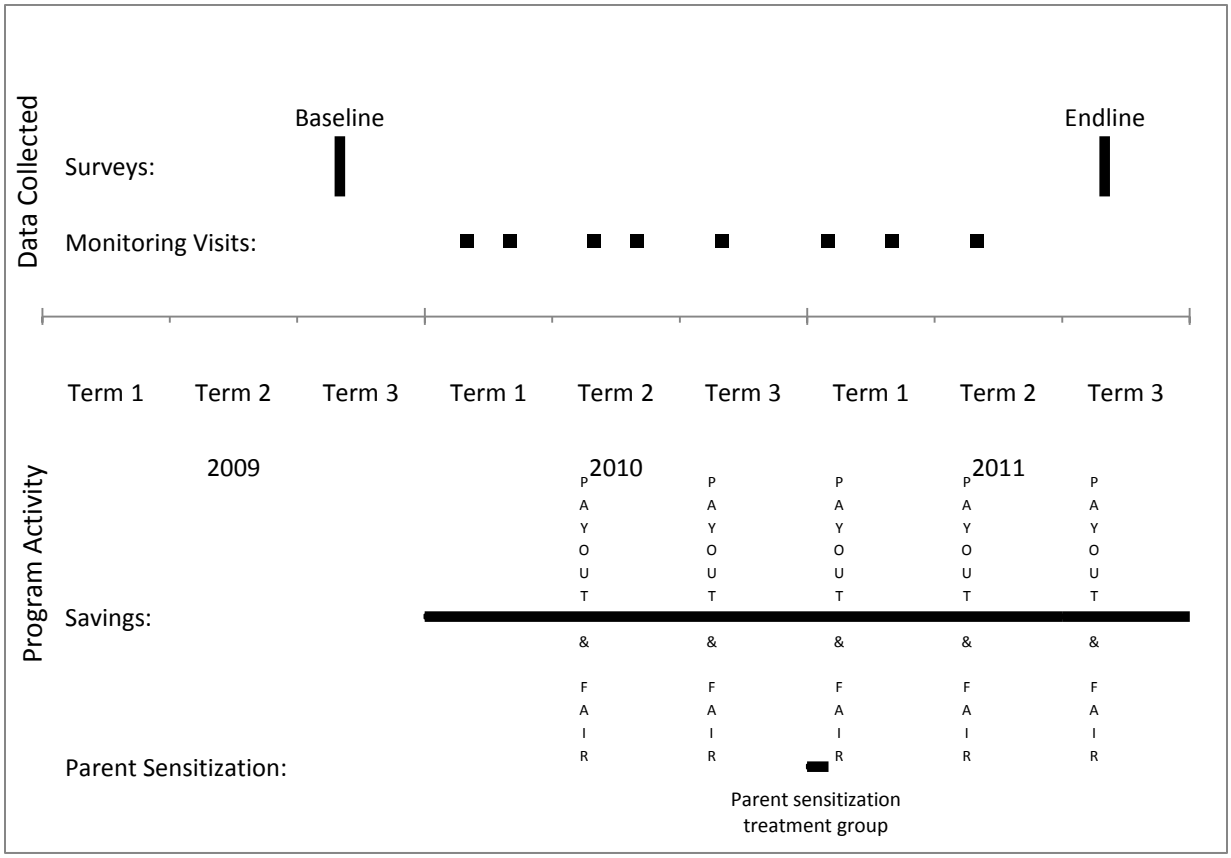

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Table 1: Summary Statistics and Orthogonality Verification of Random Assignment, Full Sample Frame from Baseline
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (one specification per row)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
Dependent Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Classroom Survey: % of students in attendance	811	0.09	0.10	-0.01	-0.02	-0.01	-0.01	-0.01	0.55
		(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	
Classroom Survey: Supplies Index	813	0.03	0.01	0.02	0.22*	0.04	-0.12	-0.05	0.02
		(0.05)	(0.05)	(0.10)	(0.11)	(0.15)	(0.19)	(0.14)	
Normalized Test Score: Grammar	4710	0.08	0.00	0.11	0.12	-0.02	0.18*	0.14	0.87
		(0.02)	(0.02)	(0.07)	(0.11)	(0.09)	(0.10)	(0.09)	
Normalized Test Score: Reading	4713	0.00	0.00	0.01	-0.02	-0.00	0.02	0.05	0.59
		(0.02)	(0.02)	(0.07)	(0.10)	(0.09)	(0.09)	(0.11)	
Normalized Test Score: Math	4715	0.00	0.00	0.02	-0.01	-0.07	0.07	0.08	0.72
		(0.02)	(0.02)	(0.06)	(0.09)	(0.08)	(0.10)	(0.10)	
Normalized Test Score: Total	4716	0.03	0.00	0.06	0.04	-0.03	0.11	0.11	0.77
		(0.02)	(0.02)	(0.07)	(0.11)	(0.09)	(0.10)	(0.11)	
Student Survey: Attendance Code (lower = more attendance)	4716	1.43	1.42	0.00	-0.07	0.10	-0.01	0.00	0.33
		(0.02)	(0.02)	(0.07)	(0.11)	(0.12)	(0.11)	(0.10)	
Student Survey: Days missed per school term	3886	1.63	1.64	-0.02	-0.04	-0.06	-0.07	0.10*	0.57
		(0.02)	(0.02)	(0.04)	(0.07)	(0.07)	(0.07)	(0.06)	
Student Survey: Prefer 500 UGX today to 800 UGX tomorrow	4702	0.65	0.64	0.01	0.02	-0.00	-0.04	0.07**	0.83
		(0.01)	(0.01)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	
Student Survey: Prefer 500 UGX today to 800 UGX next week	4699	0.29	0.24	0.04**	0.06	0.07**	-0.02	0.07**	0.68
		(0.01)	(0.01)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	
Student Survey: Child receives pocket money from family	4678	0.75	0.74	0.01	-0.02	0.03	0.07***	-0.02	0.04
		(0.01)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	
Student Survey: Amount received in pocket money (UGX)	4698	204.20	214.45	-7.92	-17.84	-1.30	9.69	-21.83	0.30
		(5.13)	(6.65)	(13.91)	(16.31)	(19.61)	(18.07)	(19.39)	
Joint Significance Test F-stat, one regression per column with column header as dep var (p-value)				1.35	1.16	1.08	1.25	1.10	
				(0.21)	(0.32)	(0.38)	(0.27)	(0.37)	

% of students in attendance: The enumerators count of the number of students present during a classroom visit, divided by the enrollment in the class as provided by the teacher. Supplies Index: the normalized mean of 4 binary measures: whether a student has a uniform, notebook, mathset, and shoes. The coefficient is expressed as standard deviations from the control mean. Attendance Code: A subjectively recorded code given with the enrollment data that indicates how frequently a student attends, from 1 (always attends) to 6 (never attends). OLS specifications: Columns 4 and in Colums 5-8 include robust standard errors, clustered by school (the unit of randomization), and subcounty fixed effects (the stratification variable). * p<0.10 ** p<0.05 *** p<.01

Table 2: Summary Statistics and Orthogonality Verification of Random Assignment, Post-Attrition Sample Frame
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (one specification per row)				P-value for test of Cash Parent = Other Treatments
Dependent Variables	(1)	Any Treatment (2)	Control (3)	Any Treatment (4)	Cash with Parent Outreach (5)	Voucher with Parent Outreach (6)	Cash w/o Parent Outreach (7)	Voucher w/o Parent Outreach (8)	(9)
Endline survey completed (of baseline students)	4716	0.81	0.81	0.00	0.01	0.00	-0.02	0.02	0.16
		(0.39)	(0.39)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	
Normalized Test Score: Grammar	3832	0.09	0.01	0.06*	0.09**	0.00	0.10**	0.05	0.87
		(0.99)	(1.00)	(0.03)	(0.04)	(0.05)	(0.05)	(0.04)	
Normalized Test Score: Reading	3835	0.01	0.01	-0.03	-0.05	0.03	-0.07	-0.03	0.59
		(1.02)	(1.00)	(0.03)	(0.04)	(0.04)	(0.05)	(0.04)	
Normalized Test Score: Math	3837	0.00	0.01	-0.03	-0.04	-0.04	-0.03	-0.02	0.72
		(0.98)	(0.98)	(0.04)	(0.04)	(0.05)	(0.06)	(0.06)	
Normalized Test Score: Total	3837	0.04	0.01	0.00	0.00	0.00	0.00	0.00	0.77
		(0.99)	(0.99)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	
Student Survey: Attendance Code (lower = more attendance)	3837	1.42	1.42	-0.01	-0.08	0.07	-0.03	-0.01	0.33
		(0.94)	(0.90)	(0.07)	(0.12)	(0.13)	(0.10)	(0.10)	
Student Survey: Days missed per school term	3145	1.62	1.63	-0.01	-0.03	-0.05	-0.05	0.09	0.57
		(0.91)	(0.93)	(0.05)	(0.07)	(0.08)	(0.07)	(0.06)	
Student Survey: Prefer 500 UGX today to 800 UGX next week	3828	1.37	1.37	0.00	0.01	-0.01	0.01	-0.01	0.83
		(0.48)	(0.48)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	
Student Survey: Prefer 500 UGX today to 800 UGX tomorrow	2415	1.49	1.52	-0.03	-0.05	0.00	-0.01	-0.03	0.68
		(0.50)	(0.50)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	
Student Survey: Child receives pocket money from family	3805	0.75	0.74	0.01	-0.02	0.02	0.05**	-0.02	0.04
		(0.43)	(0.44)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	
Student Survey: Amount received in pocket money (UGX)	3821	199.30	217.59	-16.08	-19.38	-12.07	3.27	-34.54*	0.30
		(248.80)	(303.02)	(15.17)	(18.37)	(21.01)	(18.98)	(18.34)	

% of students in attendance: The enumerators count of the number of students present during a classroom visit, divided by the enrollment in the class as provided by the teacher. Supplies Index: the normalized mean of 4 binary measures: whether a student has a uniform, notebook, mathset, and shoes. The coefficient is expressed as standard deviations from the control mean. Attendance Code: A subjectively recorded code given with the enrollment data that indicates how frequently a student attends, from 1 (always attends) to 6 (never attends). OLS specifications: Columns 4 and in Colums 5-8 include robust standard errors, clustered by school (the unit of randomization), and subcounty fixed effects (the stratification variable). * p<0.10 ** p<0.05 *** p<.01

Table 3: Super Savers Program Savings by Treatment Group in '000 UGX
Mean (standard error)

	Mean (standard error)				p-value from t-test	
Dependent Variables	Cash with Parent Outreach (1)	Cash w/o Parent Outreach (2)	Voucher with Parent Outreach (3)	Voucher w/o Parent Outreach (4)	Cash vs. Voucher (5)	Outreach vs. No Outreach (6)
Panel A: Both Years						
Average Cumulative Deposits Made per School	527.08 (132.23)	553.23 (68.83)	265.87 (32.59)	290.31 (42.12)	0.001***	0.761
Average Cumulative Deposits Made per Student (any attendance)	2.20 (0.37)	2.34 (0.34)	1.18 (0.17)	1.12 (0.18)	0.000***	0.985
Average Cumulative Deposits Made per Student (avg attendance)	4.21 (0.76)	4.56 (0.69)	2.16 (0.29)	2.17 (0.38)	0.000***	0.895
Panel B: 2010						
Average Cumulative Deposits Made per School (2010)	180.29 (53.34)	186.76 (28.26)	109.09 (19.46)	105.24 (19.33)	0.021**	0.969
Average Cumulative Deposits Made per Student in 2010 (any attendance)	0.95 (0.20)	0.99 (0.18)	0.58 (0.13)	0.48 (0.09)	0.006***	0.746
Average Cumulative Deposits Made per Student in 2010 (avg attendance)	1.28 (0.25)	1.43 (0.27)	0.78 (0.17)	0.69 (0.14)	0.005***	0.999
Panel C: 2011						
Average Cumulative Deposits Made per School (2011)	346.78 (81.99)	366.47 (50.49)	156.78 (16.30)	185.07 (28.77)	0.000***	0.659
Average Cumulative Deposits Made per Student in 2011 (any attendance)	3.60 (1.29)	2.91 (0.54)	1.26 (0.15)	1.51 (0.32)	0.013**	0.688
Average Cumulative Deposits Made per Student in 2011 (avg attendance)	4.41 (1.64)	3.67 (0.70)	1.60 (0.17)	1.77 (0.37)	0.014**	0.695
Observations (schools)	19	20	19	20		

Results from bank administrative school-level data. Exchange rate 2815 Ugandan Shillings per US dollar. Cumulative savings deposits for full two years of the program. Note that these data are collected at the school level, i.e., the Average Deposits per Student is the average across schools of the average deposits per student at each school. Number of students per school is calculated attendance data from 8 visits over 2 years. The top specification counts any student who attended during any of these 8 visits; the bottom uses the average number of students present over those 8 visits. * p<0.10 ** p<0.05 *** p<.01.

Table 4: Process and Intermediate Outcomes, Intent to Treat Estimates
Mean (standard deviation) and OLS

Dependent Variables	Number of Obs. (1)	Mean (std dev) Any Treatment (2)	Mean (std dev) Control (3)	OLS (one specification per cell) Any Treatment (4)	OLS (each row = one regression) Cash with Parent Outreach (5)	OLS (each row = one regression) Voucher with Parent Outreach (6)	OLS (each row = one regression) Cash w/o Parent Outreach (7)	OLS (each row = one regression) Voucher w/o Parent Outreach (8)	P-value for test of Cash Parent = Other Treatments (9)
Panel A: Process Outcomes (Endline Survey - 2011)									
Heard of Super Savers program	3831	0.79	0.11	0.67***	0.69***	0.67***	0.68***	0.64***	0.23
		(0.41)	(0.32)	(0.02)	(0.02)	(0.03)	(0.02)	(0.03)	
Saved with Super Savers	3832	0.44	0.03	0.40***	0.42***	0.39***	0.44***	0.35***	0.37
		(0.50)	(0.18)	(0.02)	(0.02)	(0.04)	(0.03)	(0.04)	
Ever Saves Money	3829	0.79	0.79	0.00	0.01	0.02	0.02	-0.02	0.86
		(0.40)	(0.41)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	
Total self-reported savings ('000 UGX), 1% trimmed	3838	7.03	7.88	-719.99*	-0.36	-1.40**	-0.15	-0.95*	0.41
		(13.99)	(15.10)	(397.08)	(0.63)	(0.59)	(0.61)	(0.53)	
Primary Source of Savings was Work	3838	0.43	0.47	-0.04*	-0.06**	-0.04	0.00	-0.05**	0.24
		(0.50)	(0.50)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	
Panel B: Intermediate Outcomes (Classroom Visits)									
School Supplies Index 2010	813	-0.23	-0.08	-0.08	0.12	-0.05	-0.17	-0.21	0.06
		(1.18)	(0.88)	(0.12)	(0.13)	(0.20)	(0.24)	(0.19)	
School Supplies Index 2011	882	0.30	0.21	0.08	0.32**	0.04	-0.09	0.07	0.02
		(0.95)	(0.92)	(0.12)	(0.14)	(0.17)	(0.21)		
Student Survey: Prefer 500 UGX today to 800 UGX tomorrow									
School Supplies Index	3838	0.01	0.00	0.01	0.11*	0.02	-0.06	-0.04	0.02
		(1.02)	(1.00)	(0.04)	(0.06)	(0.05)	(0.07)	(0.06)	
Parental Involvement Index	3838	0.01	0.00	0.00	0.04	-0.01	0.00	-0.01	0.42
		(1.04)	(1.00)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)	
Savings Attitude Index	3838	0.05	0.00	0.06	0.04	0.10	0.06	0.02	0.76
		(1.00)	(1.00)	(0.04)	(0.08)	(0.07)	(0.07)	(0.06)	
School Fees	3838	28,804.26	33,580.77	-4652.60	-6158.51	-6179.58	-3000.08	-3340.79	0.55
		(64594.63)	(76629.27)	(3802.75)	(4445.07)	(5017.89)	(4698.29)	(5229.41)	
Missed school because sent to look for fees or lack of scholastic materials	3583	0.18	0.18	0.00	-0.01	-0.00	0.02	-0.01	0.67
		(0.38)	(0.39)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	
Cost of most recent test	2348	1506.71	1589.22	-57.27	-68.45	78.24	-318.33	55.89	0.95
		(2658.92)	(2843.68)	(190.06)	(273.29)	(255.71)	(245.58)	(302.07)	

See next page for notes.

Table 4 Notes:

Total Self Reported Savings (Endline Survey): sum of amount of money respondents reported savings in each of a variety of locations (at home in local bank, hidden at home, give to a family member, savings program at school -- which likely includes the savings held as part of the treatment, in a bank account of a family member, other). School Supplies Index (Classroom Visits): Enumerators at several classroom visits each term counted the number of students with school supplies then we divided that number by the number of students in attendance. School Supplies Index (Endline Survey): a standardized index of the count of categories for which at least one item is owned of the following: uniforms, notebooks, mathsets, and shoes. Parental Involvement Index includes 3 questions: 1) Student thinks parents are responsible for children's education. 2) Has your parent come to your school in the past year? 3) Has your parent seen a report of yours from school in the past year? Savings Attitude Index includes 7 statements each of which the student evaluated on a Likert scale, 1-5. All scales were converted after the fact so that higher on the scale meant more positive attitude toward saving. 1) Saving money is not necessary if you live at home with your family. 2) Saving is a good thing to do. 3) Saving is for adults only. 4) My parents or relatives would be proud of me for saving. 5) Managing to save makes me feel happy with myself. 6) It's better to spend money today than to save it for use in the future. 7) Every time I get money I put away some money for saving. Column 5 compares the Cash with Parent Outreach to the pool of the three other treatments and control group. OLS specifications: Columns 4-7 include robust standard errors, clustered by school (the unit of randomization), a control for children's mean testing score, and subcounty fixed effects (the stratification variables). *p<0.10 **p<0.05 ***p<.01. Column 8 is the p-value of an F-test of sigificance on a regression of the cash parent treatment against all other treatmnets and the same controls from Columns 4-7.

Table 5: Effect of Super Savers on Normalized Test Scores
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Grammar	3768	0.05	-0.01	0.05	0.15***	0.03	0.06	-0.05	0.01
		(1.05)	(0.99)	(0.04)	(0.05)	(0.05)	(0.05)	(0.07)	
Reading	3765	0.02	0.00	0.01	0.11**	0.00	-0.03	-0.03	0.00
		(1.01)	(1.00)	(0.04)	(0.05)	(0.05)	(0.05)	(0.07)	
Math	3768	-0.04	0.00	-0.05	0.00	-0.11**	-0.01	-0.09	0.09
		(1.00)	(1.00)	(0.04)	(0.04)	(0.04)	(0.05)	(0.07)	
Total	3765	0.01	0.00	0.01	0.11**	-0.02	0.00	-0.06	0.00
		(1.02)	(1.00)	(0.03)	(0.04)	(0.05)	(0.04)	(0.07)	

OLS specifications: Columns 4-7 include robust standard errors, clustered by school (the unit of randomization), a control for children's mean testing score, and subcounty fixed effects (the stratification variables). *p<0.10 **p<0.05 ***p<.01. Column 8 is the p-value of an F-test of sigificance on a regression of the cash parent treatment against all other treatmnets and the same controls from Columns 4-7.

Table 6: Effect of Super Savers on School Participation
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: Attendance rate									
2010	4705	0.35	0.35	-0.02	-0.06	-0.02	-0.03	0.02	0.24
		(0.42)	(0.42)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	
2011	4705	0.20	0.17	0.00	-0.01	0.00	0.02	0.01	0.42
		(0.38)	(0.35)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	
Overall (2010 & 2011 combined)	4705	0.29	0.28	-0.01	-0.04	-0.01	-0.01	0.02	0.27
		(0.37)	(0.36)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	
Attendance Index	3586	-0.02	0.00	-0.01	0.02	-0.00	-0.05	-0.03	0.23
		(0.98)	(1.00)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)	
Panel B: Enrollment rate									
2010	4716	0.44	0.44	-0.03	-0.08	-0.03	-0.02	0.03	0.15
		(0.50)	(0.50)	(0.03)	(0.05)	(0.05)	(0.05)	(0.05)	
2011	4716	0.24	0.22	-0.00	-0.02	-0.00	0.02	-0.00	0.39
		(0.43)	(0.41)	(0.02)	(0.04)	(0.03)	(0.04)	(0.03)	

Attendance Rate: Based on a roll call of students on the official school enrollment list, counting only those students present in the class when roll call was done. Attendance Index: includes 3 self-reported questions on student attendance: 1) Of the five school days of last week, how many were you absent? 2) Think of a normal week from last term, of the five school days how many were you usually absent from school? 3) Think of a normal month from last term, how many days were you usually absent? Enrollment Rate: Based on teacher responses as to whether a student on the official school enrollment list, was still enrolled at that school. OLS specifications: Columns 4-7 include robust standard errors, clustered by school (the unit of randomization), a control for children's mean testing score, and subcounty fixed effects (the stratification variables). *p<0.10 **p<0.05 ***p<.01. Column 8 is the p-value of an F-test of sigificance on a regression of the cash parent treatment against all other treatmnets and the same controls from Columns 4-7.

Table 7: Effect of Super Savers on Student Attitudes
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Self Esteem Index	3838	-0.02	0.00	-0.03	-0.05**	-0.03	-0.03	-0.01	0.23
		(0.44)	(0.44)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	
Time Preference Index	3838	-0.04	0.00	-0.04	-0.02	-0.05	-0.04	-0.06	0.55
		(1.01)	(1.00)	(0.04)	(0.07)	(0.07)	(0.06)	(0.06)	
Locus of Control	3826	1.58	1.60	-0.02	-0.01	-0.02	-0.01	-0.03	0.75
		(0.49)	(0.49)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	
Financial Independence Index	3838	-0.04	0.00	-0.04	-0.06	-0.13**	0.05	-0.01	0.64
		(0.97)	(1.00)	(0.04)	(0.06)	(0.06)	(0.06)	(0.05)	
Aspirations Index	3838	-0.01	0.00	-0.02	-0.04	-0.03	0.03	-0.03	0.56
		(1.04)	(1.00)	(0.04)	(0.06)	(0.06)	(0.04)	(0.06)	
Total annual hours worked, wins. 99%	3838	295.33	294.96	3.43	-4.32	-32.83	29.91	20.04	0.69
		(461.85)	(447.26)	(17.63)	(23.24)	(28.38)	(29.82)	(26.39)	
Total annual income from work (10k UGX), wins. 99%	3838	18.00	18.00	-0.05	-1.87	-2.91	3.59*	0.97	0.17
		(34.00)	(34.00)	(1.37)	(1.72)	(2.23)	(2.09)	(2.02)	

Self Esteem Index: includes 10 statements each of which the student evaluated on a Likert scale, 1-5. All scales were converted after the fact so that higher on the scale meant higher self esteem. 1) I am satisfied with myself. 2) Sometimes I think I am no good at all. 3) I believe I have a number of good qualities. 4) I am able to do things as well as most children. 5) I do not have much to be proud of. 6) Sometimes I feel useless. 7) I believe I am a valuable person, at least as much as my classmates. 8) I wish I could have more respect for myself 9) I sometimes think that I am a failure. 10) When I think of myself, I usually think good thoughts. In addition to those 10 statements, there is one question: 11) Are you confident that you will be successful in the future? Time Preference Index: includes 2 hypothetical time preference choices. 1) Would you rather receive 500 shillings today or 800 shillings next week? 2) Would you rather receive 500 shillings today or 1,000 shillings next week? From these, respondents were split into low, medium, and high future preference groups. Locus of Control: If a person is successful in life, is it because he or she was lucky or because he or she worked very hard? (1=yes, 2=no) Financial Independence Index: includes 3 questions: 1) How much money do you think you will get in the next 7 days? 2) How much money did you get in the past 7 days? 3) How much pocket money are you given to spend as you wish? Aspirations Index: includes 4 questions about academic and vocation aspirations: 1) If you graduate from primary school, will your life be better than if you hadn't graduated? 2) Do you think you will go to secondary school? 3) Do you think you will reach university? 4) What do you want to be when you grow up? (student responded with career that requires higher education) Exchange rate: 2815 Ugandan Shillings per US dollar. OLS specifications: Columns 4-7 include robust standard errors, clustered by school (the unit of randomization), a control for children's mean testing score, and subcounty fixed effects (the stratification variables). *p<0.10 **p<0.05 ***p<.01. Column 8 is the p-value of an F-test of sigificance on a regression of the cash parent treatment against all other treatmnets and the same controls from Columns 4-7.

Appendix Table 1: Data Collection Summary

	2010	2011	2012
Student Survey			
Grades Covered	P5, P6	P6, P7	
Median age	12, 13	13, 14	
Sample Size (Students)	4983	4059	
Attendance Survey			
Grades Covered	P5, P6	P6, P7	P7
Median age	12, 13	13, 14	14
Sample Size (Students)	37874	29016	13681
Classroom Survey			
Grades Covered	P5, P6, P7	P5, P6, P7	P5, P6, P7
Median age	12, 13, 14	12, 13, 14	12, 13, 14
Sample Size (Classes)	406	408	340

Appendix Table 2: Additional Attrition Analysis

OLS

Dependent variable:	Endline Survey Completed	Endline Survey Completed	Endline Survey Completed	Endline Test Completed	Endline Test Completed	Endline Test Completed
	(1)	(2)	(3)	(4)	(5)	(6)
Cash with Parent Outreach	-0.002	-0.004	-0.02	-0.0004	-0.002	-0.04
	(0.02)	(0.02)	(0.07)	(0.02)	(0.02)	(0.08)
Cash w/o Parent Outreach	-0.01	-0.006	0.06	0.002	0.003	0.04
	(0.02)	(0.02)	(0.08)	(0.02)	(0.02)	(0.08)
Voucher with Parent Outreach	0.004	0.007	0.06	0.008	0.008	0.04
	(0.02)	(0.02)	(0.07)	(0.02)	(0.02)	(0.07)
Voucher w/o Parent Outreach	0.02	0.02	0.10	0.02	0.01	0.05
	(0.02)	(0.02)	(0.07)	(0.02)	(0.02)	(0.07)
Constant	0.76***	0.71***	0.69***	0.75***	0.69***	0.69***
	(0.02)	(0.04)	(0.05)	(0.02)	(0.04)	(0.06)
Observations	4983	4057	4057	4983	4057	4057
Covariates	No	Yes	Yes	No	Yes	Yes
Interactions between each covariate and each treatment variable	No	No	Yes	No	No	Yes
Control mean	0.81	0.81	0.81	0.80	0.80	0.80
(Control sd)	(0.39)	(0.39)	(0.39)	(0.40)	(0.40)	(0.40)
F-test (p-value) of joint significance of the four treatment assignments	0.70	0.53		0.30	0.15	
	(0.59)	(0.71)		(0.88)	(0.96)	
F-test (p-value) of joint significance of interaction terms of each covariate with each treatment			1.57**			1.45*
			(0.02)			(0.05)

All specifications are OLS, include subcounty (the stratification variable) fixed effects, and cluster standard errors by school. * p<0.10 ** p<0.05 ***

Appendix Table 3a: Effect of Super Savers on Financial Indices and their Components
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Savings Attitude Index & Components									
Savings Attitude Index	3838	0.05	0.00	0.06	0.04	0.10	0.06	0.02	0.76
		(1.00)	(1.00)	(0.04)	(0.08)	(0.07)	(0.07)	(0.06)	
Saving money is not necessary if you live at home with your family.	3819	3.07	2.96	0.11***	0.14**	0.12**	0.11*	0.07	0.50
		(0.81)	(0.85)	(0.04)	(0.06)	(0.05)	(0.06)	(0.05)	
Saving is a good thing to do.	3830	3.49	3.50	-0.01	-0.06	0.04	-0.04	0.00	0.09
		(0.54)	(0.54)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	
Saving is for adults only.	3818	3.36	3.33	0.03	0.03	0.07*	0.00	0.01	0.95
		(0.64)	(0.65)	(0.03)	(0.05)	(0.04)	(0.04)	(0.04)	
My parents or relatives would be proud of me for saving.	3769	3.21	3.20	0.01	0.01	0.01	0.03	-0.02	0.97
		(0.58)	(0.61)	(0.02)	(0.04)	(0.03)	(0.04)	(0.03)	
Managing to save makes me feel happy with myself.	3819	3.38	3.35	0.03	0.04	0.05	0.01	0.03	0.81
		(0.58)	(0.61)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	
It's better to spend money today than to save it for use in the future.	3813	3.16	3.13	0.03	0.00	0.06	0.08**	0.00	0.30
		(0.70)	(0.70)	(0.03)	(0.05)	(0.04)	(0.04)	(0.04)	
Every time I get money I put away some money for saving.	3812	3.04	3.05	-0.01	0.01	-0.05	0.03		0.63
		(0.68)	(0.71)	(0.03)	(0.04)	(0.05)	(0.05)	(0.05)	
Financial Independence Index & Components									
Financial Independence Index	3838	-0.04	0.00	-0.04	-0.06	-0.13**	0.05	-0.01	0.64
		(0.97)	(1.00)	(0.04)	(0.06)	(0.06)	(0.06)	(0.05)	
How much money do you think you will get in the next 7 days? winsorized at 99%	3650	2245.60	2399.59	-129.85	-229.96	-447.79*	201.19	-40.54	0.53
		(4225.71)	(4587.07)	(167.64)	(213.72)	(252.52)	(250.32)	(243.15)	
How much money did you get in the past 7 days? winsorized at 99%	3838	1957.95	2038.95	-71.56	-125.25	-412.22**	269.55	-18.67	0.69
		(3332.84)	(3464.53)	(119.46)	(191.67)	(189.24)	(187.60)	(154.55)	
How much pocket money are you given to spend as you wish? winsorized at 99%	3838	4394.88	4584.16	-205.17	-336.91	-436.43	-4.05	-51.66	0.78
		(7170.65)	(7246.93)	(284.54)	(357.98)	(413.56)	(534.25)	(428.97)	

All specifications are OLS, include subcounty (the stratification variable) fixed effects, and cluster standard errors by school. * p<0.10 ** p<0.05 *** p<0.01

Appendix Table 3b: Effect of Super Savers on Academic Indices and their Components
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Parental Involvement Index & Components									
Parental Involvement Index	3838	0.01	0.00	0.00	0.04	-0.01	0.00	-0.01	0.42
		(1.04)	(1.00)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)	
Has parent seen a report from school in the past year?	3838	0.90	0.90	-0.01	0.01	0.00	-0.02	-0.02	0.19
		(0.30)	(0.29)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	
Has your parent come to your school in the past year?	3838	0.71	0.71	-0.00	0.00	-0.02	0.00	0.01	0.69
		(0.46)	(0.45)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	
Student thinks parents are responsible for education.	3838	0.72	0.70	0.02	0.02	0.01	0.04	0.02	0.96
		(0.45)	(0.46)	(0.02)	(0.03)	(0.03)	(0.03)	(0.02)	
Aspirations Index & Components									
Aspirations Index	3838	-0.01	0.00	-0.02	-0.04	-0.03	0.03	-0.03	0.56
		(1.04)	(1.00)	(0.04)	(0.06)	(0.06)	(0.04)	(0.06)	
Do you think you will go to secondary school?	3699	-0.05	0.00	-0.05	-0.10	-0.03	0.00	-0.09	0.39
		(1.11)	(1.00)	(0.04)	(0.06)	(0.06)	(0.04)	(0.06)	
Do you think you will reach university?	3057	-0.05	0.00	-0.06	-0.05	-0.10*	0.00	-0.09	0.95
		(1.04)	(1.00)	(0.04)	(0.06)	(0.06)	(0.06)		
If you graduate from primary school, will your life be better than if you hadn't graduated?	3838	0.05	0.00	0.04	0.08	0.00	0.06	0.04	0.26
		(0.94)	(1.00)	(0.03)	(0.05)	(0.04)	(0.05)	(0.05)	
What do you want to be when you grow up? (student responded with career that requires higher education)	3838	0.02	0.00	0.01	-0.04	0.05	0.01	0.02	0.09
		(0.98)	(1.00)	(0.03)	(0.04)	(0.05)	(0.05)	(0.04)	
Attendance Index & Components									
Attendance Index	3586	-0.02	0.00	-0.01	0.02	0.00	-0.05	-0.03	0.23
		(0.98)	(1.00)	(0.04)	(0.06)	(0.06)	(0.06)	(0.06)	
Of five school days of last week, was absent for	3585	0.75	0.70	0.05	0.13	0.07	0.04	-0.02	0.33
		(1.33)	(1.27)	(0.06)	(0.11)	(0.08)	(0.09)	(0.09)	
In normal week from last term, how many days were you usually absent from school?	3586	1.27	1.31	-0.02	0.00	-0.01	-0.04	-0.02	0.44
		(1.48)	(1.54)	(0.07)	(0.08)	(0.09)	(0.10)	(0.10)	
Think of a normal month from last term, how many days were you usually absent?	3463	3.34	3.59	-0.24*	-0.27	-0.18	-0.37**	-0.16	0.80
		(3.13)	(3.55)	(0.13)	(0.17)	(0.21)	(0.17)	(0.19)	

Notes: All specifications are OLS, include subcounty (the stratification variable) fixed effects, and cluster standard errors by school. * p<0.10 ** p<0.05 *** p<0.01

Appendix Table 3c: Effect of Super Savers on Self Esteem and Time Preference Indices and their Components
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Self Esteem Index & Components									
Self Esteem Index	3838	-0.02	0.00	-0.03	-0.05**	-0.03	-0.03	-0.01	0.23
		(0.44)	(0.44)	(0.02)	(0.02)	(0.02)	(0.03)	(0.03)	
I am satisfied with myself.	3812	3.20	3.21	-0.01	-0.01	-0.01	-0.01	-0.02	0.98
		(0.67)	(0.64)	(0.03)	(0.05)	(0.04)	(0.04)	(0.05)	
Sometimes I think I am no good at all.	3817	2.55	2.54	0.00	-0.05	0.01	0.01	0.03	0.09
		(0.79)	(0.77)	(0.03)	(0.04)	(0.05)	(0.04)	(0.05)	
I believe I have a number of good qualities.	3800	3.14	3.19	-0.05**	-0.07	-0.08*	-0.03	-0.04	0.68
		(0.71)	(0.69)	(0.03)	(0.05)	(0.05)	(0.03)	(0.05)	
I am able to do things as well as most children.	3822	3.31	3.33	-0.03	-0.05	-0.01	-0.03	-0.04	0.38
		(0.62)	(0.62)	(0.02)	(0.03)	(0.03)	(0.04)	(0.04)	
I do not have much to be proud of.	3777	2.42	2.43	-0.01	0.03	-0.07	-0.02	0.01	0.23
		(0.77)	(0.78)	(0.03)	(0.05)	(0.04)	(0.05)	(0.05)	
Sometimes I feel useless.	3816	3.08	3.08	-0.01	-0.05	-0.01	0.05	-0.02	0.05
		(0.80)	(0.81)	(0.03)	(0.03)	(0.04)	(0.04)	(0.04)	
I believe I am a valuable person, at least as much as my classmates.	3808	3.25	3.28	-0.04	-0.07*	0.01	-0.06		0.34
		(0.62)	(0.64)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	
I wish I could have more respect for myself.	3755	1.96	1.94	0.01	0.03	-0.06	0.05	0.02	0.61
		(0.62)	(0.61)	(0.03)	(0.04)	(0.05)	(0.04)	(0.04)	
I sometimes think that I am a failure.	3814	2.98	2.96	0.02	-0.03	0.04	-0.04	0.09**	0.11
		(0.84)	(0.86)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	
When I think of myself, I usually think good thoughts.	3828	2.96	2.98	-0.03	-0.04	0.02	-0.10**	0.01	0.83
		(0.81)	(0.82)	(0.03)	(0.05)	(0.05)	(0.04)	(0.05)	
Are you confident that you will be successful in the future ?	3652	0.96	0.97	-0.01*	-0.01	-0.02**	-0.01	-0.01	0.91
		(0.21)	(0.18)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	
Time Preference Index & Components									
Time Preference Index	3828	2.05	2.07	-0.02	-0.02	-0.02	0.00	-0.03	0.96
		(0.83)	(0.82)	(0.03)	(0.04)	(0.04)	(0.04)	(0.04)	
Would you rather receive 500 UGX today or 800 UGX next week?	3828	1.37	1.37	-0.00	0.01	-0.01	0.01	-0.01	0.44
		(0.48)	(0.48)	(0.02)	(0.02)	(0.03)	(0.03)	(0.02)	
Would you rather receive 500 UGX today or 1,000 UGX next week?	2415	1.49	1.52	-0.03	-0.05	0.00	-0.01	-0.03	0.31
		(0.50)	(0.50)	(0.02)	(0.03)	(0.03)	(0.03)	(0.03)	

Notes: All specifications are OLS, include subcounty (the stratification variable) fixed effects, and cluster standard errors by school. * p<0.10 ** p<0.05 *** p<0.01

Appendix Table 3d: Effect of Super Savers on School Supplies Index and its Components

Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (one specification per cell)	OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Any Treatment	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Panel A: School Supplies Index & Components (Classroom Surveys 2010 and 2011)									
School Supplies Index (2010)	813	-0.161	-0.099	-0.08	0.12	-0.05	-0.17	-0.21	0.06
		(1.175)	(0.886)	(0.12)	(0.13)	(0.20)	(0.24)	(0.19)	
Shoes	813	0.246	0.251	0.00	0.00	0.04*	-0.04	0.00	0.99
		(0.256)	(0.256)	(0.02)	(0.03)	(0.03)	(0.04)	(0.03)	
Uniform	813	0.847	0.839	-0.01	-0.00	0.01	-0.03	-0.01	0.70
		(0.108)	(0.118)	(0.02)	(0.02)	(0.02)	(0.04)	(0.03)	
Math Set	813	0.378	0.364	0.01	0.03	0.00	-0.01	0.01	0.24
		(0.113)	(0.097)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	
Pencils	813	0.992	0.992	0.00	0.00	0.00	0.00	-0.00	0.35
		(0.029)	(0.038)	(0.00)	(0.00)	(0.00)	(0.00)	(0.01)	
Exercise Book	813	0.990	0.997	-0.00	0.00	-0.01	0.00	-0.01	0.10
		(0.043)	(0.017)	(0.00)	(0.00)	(0.01)	(0.00)	(0.01)	
School Supplies Index (2011)	882	0.370	0.254	0.08	0.32**	0.04	-0.09	0.07	0.02
		(0.914)	(0.892)	(0.12)	(0.14)	(0.17)	(0.21)	(0.16)	
Shoes	882	0.349	0.319	0.04	0.05	0.05*	0.01		0.59
		(0.264)	(0.242)	(0.02)	(0.04)	(0.03)	(0.03)	(0.03)	
Uniform	882	0.883	0.861	-0.00	0.03*	-0.01	-0.04	0.01	0.02
		(0.111)	(0.115)	(0.02)	(0.02)	(0.03)	(0.04)	(0.03)	
Math Set	882	0.440	0.437	-0.00	0.01	-0.00	0.00	-0.01	0.41
		(0.125)	(0.121)	(0.01)	(0.02)	(0.02)	(0.02)	(0.02)	
Exercise Book	882	0.903	0.902	0.02	0.05**	0.01	0.00	0.01	0.03
		(0.094)	(0.105)	(0.02)	(0.02)	(0.02)	(0.03)	(0.02)	
Panel B: School Supplies Index & Components (Endline Survey - 2011)									
School Supplies Index	3838	0.01	0.00	0.01	0.11*	0.02	-0.06	-0.04	0.02
		(1.02)	(1.00)	(0.04)	(0.06)	(0.05)	(0.07)	(0.06)	
Shoes	3838	0.20	0.19	0.01	0.02	0.02	0.00	0.00	0.72
		(0.40)	(0.39)	(0.01)	(0.02)	(0.02)	(0.03)	(0.02)	
Uniform	3838	0.70	0.70	-0.00	0.04	0.01	-0.03	-0.02	0.05
		(0.46)	(0.46)	(0.02)	(0.03)	(0.02)	(0.03)	(0.03)	
Math Set	3838	0.38	0.36	0.01	0.03	0.02	-0.01	0.01	0.55
		(0.49)	(0.48)	(0.02)	(0.02)	(0.04)	(0.03)	(0.03)	
Pencils	3838	0.66	0.67	-0.01	-0.01	-0.02	-0.01	-0.01	0.98
		(0.47)	(0.47)	(0.02)	(0.03)	(0.02)	(0.03)	(0.02)	
Exercise Book	3838	0.44	0.44	-0.00	0.07**	-0.02	-0.03	-0.04	0.00
		(0.50)	(0.50)	(0.02)	(0.03)	(0.03)	(0.04)	(0.04)	

Notes: All specifications are OLS, include subcounty (the stratification variable) fixed effects, and cluster standard errors by school.
* p<0.10 ** p<0.05 *** p<0.01

Appendix Table 4: Summary Statistics of Annual School Fees

	Number of Obs.	Mean	Std Dev	Min	25th Percentile	Median	75th Percentile	Max.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Annual School Fees for Each Student (in USD), winsorized at 90%								
Total of All Fees	3793	13.53	14.05	0.00	2.66	6.93	21.31	42.56
General Fee	3791	7.44	11.63	0.00	0.00	0.00	13.50	31.90
Food Fees	3792	1.24	1.70	0.00	0.00	0.09	1.83	5.12
Lunch Fee	3792	0.89	1.49	0.00	0.00	0.00	1.13	4.39
Chef/Grinding Fee	3791	0.22	0.42	0.00	0.00	0.00	0.00	1.07
Testing Fees	3792	2.13	2.52	0.00	0.00	1.07	3.20	7.46
Standardized Test Fee	3791	1.03	1.71	0.00	0.00	0.00	1.28	4.97
Practice Test Fee	3792	0.54	0.65	0.00	0.00	0.00	1.07	1.60
Test Paper Fee	3791	0.00	0.00	0.00	0.00	0.00	0.00	0.00
School Infrastructure Fees	3792	0.16	0.37	0.00	0.00	0.00	0.00	1.07
Development Fee	3791	0.11	0.33	0.00	0.00	0.00	0.00	1.07
School Necessities Fee	3792	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Extra Lessons Fee	3791	0.40	1.03	0.00	0.00	0.00	0.00	3.20
Panel B: Average Annual School Fees per Student for Each School (in USD), winsorized at 90%								
Total of All Fees	136	16.47	10.84	2.93	8.51	13.35	20.74	41.22
General Fee	136	10.60	9.52	0.00	3.80	7.80	12.58	32.74
Food Fees	136	2.21	1.97	0.00	0.90	1.58		6.92
Lunch Fee	136	1.92	2.05	0.00	0.62	1.02	2.18	6.88
Chef/Grinding Fee	136	0.27	0.27	0.00	0.02	0.16	0.47	0.78
Testing Fees	136	2.39	1.12	0.01	1.54	2.24	3.26	4.38
Standardized Test Fee	136	1.28	0.84	0.00	0.62	1.20	1.88	2.71
Practice Test Fee	136	0.69	0.46	0.00	0.33	0.71	1.04	1.42
Test Paper Fee	136	0.31	0.48	0.00	0.00	0.00	0.55	1.43
School Infrastructure Fees	136	0.32	0.35	0.00	0.04	0.17	0.50	1.01
Development Fee	136	0.23	0.29	0.00	0.00	0.06	0.37	0.83
School Necessities Fee	136	0.06	0.08	0.00	0.00	0.03	0.12	0.23
Extra Lessons Fee	136	0.74	1.00	0.00	0.00	0.30	1.02	3.20

The data here incorporate student-reported fees across three terms. Numbers are in USD, converted from UGX in Sept 2011 (when endline survey was conducted) at 2815UGX = 1USD. General Fee: A fee required to attend school. Because the government discourages General Fees, most schools do not charge them, but some schools, especially in urban areas still do. Food Fees: include lunch fees and chef/grinding fees. The chef/grinding fee can either be monetary or in-kind (e.g., maize). We imputed the value of maize at 450 UGX/kg. Testing Fees: include standardized test fees, practice test fees, and test paper fees. Practice test fee is often optional. School Infrastructure Fees: include Development Fee and School Necessities Fee. The Development Fee is generally for infrastructure projects such as latrines, building repair, etc. The School Necessities Fee includes recurring costs such as toilet paper (and other supplies) and utilities.

Appendix Table 5: Effect of Super Savers on Individual School Supplies Items
Mean (standard deviation) and OLS

	Number of Obs.	Mean (std dev)		OLS (each row = one regression)				P-value for test of Cash Parent = Other Treatments
		Any Treatment	Control	Cash with Parent Outreach	Voucher with Parent Outreach	Cash w/o Parent Outreach	Voucher w/o Parent Outreach	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Reports owning at least 1 pair of shoes	3838	0.63	0.62	0.01	-0.02	0.00	0.02	0.89
		(0.48)	(0.49)	(0.02)	(0.03)	(0.03)	(0.03)	
Student wearing shoes during survey	3838	0.20	0.19	0.02	0.02	0.00	0.00	0.72
		(0.40)	(0.39)	(0.02)	(0.02)	(0.03)	(0.02)	
Reports owning at least 1 uniform	3837	0.84	0.86	0.01	0.00	-0.05*	-0.04	0.09
		(0.36)	(0.35)	(0.02)	(0.02)	(0.02)	(0.02)	
Child wearing uniform during interview	3838	0.70	0.70	0.04	0.01	-0.03	-0.02	0.05
		(0.46)	(0.46)	(0.03)	(0.02)	(0.03)	(0.03)	
Reports owning a math set	3838	0.38	0.36	0.03	0.02	-0.01	0.01	0.55
		(0.49)	(0.48)	(0.02)	(0.04)	(0.03)	(0.03)	
Shows enumerator math set	3838	0.24	0.21	0.04**	0.04	-0.01	0.02	0.18
		(0.42)	(0.41)	(0.02)	(0.03)	(0.02)	(0.03)	
Reports owning at least 1 pen or pencil	3838	0.93	0.94	-0.01	-0.01	-0.03	-0.01	0.55
		(0.25)	(0.23)	(0.01)	(0.01)	(0.02)	(0.01)	
Shows enumerator at least 1 pen or pencil	3838	0.82	0.82	-0.00	0.00	-0.03	0.00	0.80
		(0.38)	(0.38)	(0.02)	(0.02)	(0.03)	(0.02)	
Student Survey: Prefer 500 UGX today to 800	3838	0.91	0.93	0.00	-0.01	-0.04*	-0.00	0.24
		(0.28)	(0.26)	(0.01)	(0.01)	(0.02)	(0.01)	
Shows enumerator at least 1 exercise book	3838	0.73	0.73	-0.01	0.03	-0.04	-0.00	0.82
		(0.45)	(0.44)	(0.03)	(0.03)	(0.03)	(0.03)	

Notes: All specifications are OLS, include subcounty (the stratification variable) fixed effects, and cluster standard errors by school. * p<0.10 ** p<0.05 *** p<0.01