

UGANDA FINANCIAL EDUCATION IMPACT PROJECT

FINAL REPORT – DECEMBER 2012



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EXECUTIVE SUMMARY

This project began as a quasi-experimental, difference-in-difference evaluation of a Habitat for Humanity financial education intervention in rural Uganda, using Financial Diaries and in-depth interviews to gather pre- and post-intervention data about the knowledge, skills, attitudes and behaviors of individuals in the study. Problems in the sampling process resulted in treatment and “comparison” groups that were highly dissimilar on a key variable – their financial service use. All of the 39 respondents in the treatment group performed transactions with either a SACCO or a savings group or both, while only 15 of the 52 respondents in the comparison group did. In addition, the respondents in the treatment group were far heavier users of the groups and SACCOs than those in the comparison group: the former performed a transaction once every week, on average, while the latter performed a transaction once every two weeks. The groups also differed in their use of banks. Nine (9) of the respondents in the comparison group performed transactions with a bank during the study, while only one of the treatment group respondents did.

As a result, we have reoriented the project to answer the following questions:

1. What can Diaries, in combination with in-depth interviews, tell us about the financial capabilities of low-income people that we might not know otherwise?
2. How can changes in indicators of financial capability be tracked through Diaries, in combination with in-depth interviews, over time?
3. Under what circumstances is it appropriate to use Financial Diaries to evaluate the impact of a financial education program?

The answers to these questions will be grounded in the conceptual framework for understanding financial capability that we develop in this report. The framework builds on work by others, notably Elaine Kempson and Monique Cohen, and also draws on the work of behavioral economists. It identifies three key components of financial capability and outlines three key dimensions of these components: the cognitive, the behavioral, and the environmental or structural dimensions. The components are:

1. Day-to-day cash flow management, which includes: making ends meet for both ordinary expenses and “lumpy,” large expenses (behavioral), keeping track of your cash flow and budgeting (cognitive), understanding the difference between necessary and unnecessary expenses (cognitive), and avoiding unnecessary expenses (behavioral);
2. Planning for the future, which includes: making contingencies, such as saving up or buying insurance, for future emergencies/risks – including a time when one can no longer work – or opportunities (behavioral), as well as the cognitive process of articulating to oneself what those might be and developing a strategy for making such contingencies;
3. Financial service use, which includes: choosing the right financial tool (savings, loan, insurance, or grant/gift) for the right occasion (behavioral), based on an understanding of the costs and benefits of each (cognitive), and choosing the right financial service provider of each of these (behavioral) given the choices available (environmental).

From these components, the report develops indicators of financial capability, which it then operationalizes through the analysis of Financial Diaries and in-depth interview data.

DATA

In total, we have 3,375 weeks of data from the 91 respondents who participated in both phases of the Diaries study: 2,230 weeks of data from Phase 1 and 1,145 weeks of data from Phase 2. We have on record over 36,500 transactions, of which over 6,100 were some sort of financial transaction (deposits and withdrawals into and out of home safes, non-cash loans and loan repayments, cash gifts between friends and within families (excluding spousal transfers), as well as transactions with financial service providers). Thirty-nine respondents were in the treatment group and 52 in the comparison group. In addition to the transactions data from the Diaries, the study collected three rounds of in-depth interviews (IIs) with 68 respondents; conducted 10 in-depth interviews with respondents, using the transactions data from the Diaries to frame the questions; and performed a financial landscape study.

FINDINGS

1. Financial service use:

- a) Transactions data from the Diaries suggest that by far the most common savings mechanism amongst the respondents was saving at home.
- b) Transactions data from the Diaries suggest that respondents in the treatment group increased the amount they saved at home and in their savings groups and SACCOs, from the pre-intervention period to the post-intervention period. The same was not the case for the comparison group.
 - i. In-depth interview data support this finding on increased savings: respondents in the treatment group reported saving more in the second and third rounds of interviews, both of which occurred after the intervention.
- c) Transactions data suggest that respondents borrowed little during the period of the study: they received 155 loans, of which 71 were from a savings group, SACCO or NGO. There were no bank loans reported. The rest of the loans were from other individuals.

2. Cash flow management:

- a) II data suggest that respondents in the treatment group reported greater satisfaction with their money management practices in the second and third round of in-depth interviews than they did in the first round. Interviews with the comparison group did not show such a change.
- b) II data suggest that the basis for participant assessments of their satisfaction with their money management skills changed over the course of the study. In both treatment and comparison groups, participants placed less emphasis on income or earnings in assessing satisfaction with money management, and more emphasis was placed on being able to meet one's needs, plan, budget, save, or invest.
- c) Transactions data suggest that respondents in the comparison group experienced a decrease in the share of weeks in which their household expenditures exceeded their combined earned income and transfers from spouses between the pre- and post-intervention periods. Treatment respondents did not experience such a decrease.
- d) II data suggest that the numbers of treatment participants who said that tracking their money helped them in planning or staying on budget increased in both the second and third rounds of interviews, while no comparison participants mentioned it.

3. Planning ahead:

- a) Transactions data suggest that in 30 percent of the weeks, respondents either earned no net income or made a loss on their businesses. During those weeks, household consumption went down, suggesting that the respondents were not fully smoothing consumption.
- b) Transactions data suggest that the treatment and comparison groups responded differently to the exogenous shock of having to pay a medical bill: the former used their savings groups and SACCOs to help manage medical bills, while the latter relied on individual support from family and friends.

The findings reported here compare changes in knowledge, skills, attitudes, and behaviors of respondents in the treatment and comparison groups, highlighting situations where the former underwent a change that might be the result of the impact of the financial education. It is difficult to attribute the change to the impact of the financial education program because of the differences between the treatment and comparison groups. Nevertheless, the data are highly suggestive, because, although the two groups vary considerably in their use of SACCOs and savings groups, the transactions data from the Diaries show commonalities across the groups in other areas, such as the use of home savings, average net income per week, exposure to exogenous shocks such as medical bills, and the share of weeks in which respondents earned zero or negative income.

METHODOLOGICAL LESSONS LEARNED

We learned the following lessons about using Diaries, combined with other research methods to evaluate a financial education program:

1. Transactions data from Diaries provide a highly granular view of respondents' behavior. It is feasible to use those data for quantitative analysis of changes in behavior over time in cases of the most commonly observed behaviors, so long as the clustered nature of the data is accounted for in the analysis. This study uses OLS and probit regression analyses to identify changes in behavior between pre- and post-intervention periods.
2. Randomization of the intervention to specific individuals is extremely difficult, and may run counter to the operational norm of the organization providing the financial education. This certainly was the case in this study. It is unclear whether randomization for the benefit of an evaluation makes sense when the norm, for example, results in specific groups joining a training. It may well be that the randomization undermines the efficacy of the training because it is not being provided to a cohesive group. As a result, the costs and benefits of randomization should be carefully weighed. In addition, if the intervention is place-based then the selection of treatment and comparison groups must be done at the community level. Communities that may appear on the surface to be the same can be different in important ways. As a result, selection of treatment and comparison communities must be done with extreme care, and it is recommended that a full financial landscape study of each community be conducted to ensure that the communities are similar in this regard.
3. In this study, as in previous Diaries studies MFO has conducted, it was difficult to recruit more than one economically active member of a household. As a result, it was difficult to perform household-level analysis, and in this study the unit of analysis was the individual. We captured intra-household dynamics by collecting data on intra-household transactions.

4. In rural Uganda there was little difficulty in restarting the Diaries data collection after a 3-month hiatus.

IMPLICATIONS OF THE STUDY FOR FINANCIAL EDUCATION INITIATIVES

The data presented here provide a detailed picture of the complex lives of low-income people in rural Uganda. The results bear many similarities to results from Diaries studies conducted elsewhere in East Africa (Kenya and Malawi). Some of the findings support the idea that an education program that changes knowledge, skills, or attitudes can change behavior. The evidence from the IIs and the transactions data suggest that that is the case for savings: both the IIs and the transactions data suggested an increase in savings on the part of the treatment group. On the other hand, while the II data suggested that respondents in the treatment group felt more in control of their money management, that did not translate into, nor was it a manifestation of, any change in the number of weeks in which their household expenses exceeded what they earned. The same was true of unnecessary expenditures: the IIs revealed that treatment group respondents had become more aware of their unnecessary expenditures, but the transaction data suggest they failed to act on this awareness. As a result, policy makers, financial service providers, and educators need to keep in mind that changes in knowledge, attitudes and skills do not always translate directly into behavior change, at least not within a short time-frame.

Furthermore, the contrasting behavior of the treatment and comparison groups resulting from the fact that they had such different levels of engagement with savings groups and SACCOs provides some important lessons regarding the power of those groups to shape behavior. Participation of many of the respondents in the groups and SACCOs was very regular, because respondents clearly recognized the benefit of the earnings their savings generated and the potential role of these informal institutions as a source of loan money. It may be the case that savings groups and SACCOs are a potential channel through which to deliver financial education. This is not inconsistent with the point made earlier, that the findings reported here are highly suggestive of a real impact of financial education despite the dissimilarity between the treatment and comparison groups in their use of savings groups and SACCOs. The added nuance here is that it may have been the combination of the financial education and the existing group financial services infrastructure that drove the change in behavior. This study cannot determine whether that is in fact the case. Nevertheless, this raises interesting questions about the role savings groups and SACCOs might play in “nudging” people to change their behavior, or providing a “point of service” delivery channel for financial education content.

1. INTRODUCTION

This report presents findings on a multi-methods study of a financial education program implemented in the Luweero district of Uganda, about 150km north of the capital, Kampala. The report focuses on how Financial Diaries generate data on the financial behavior of low-income individuals that cannot be readily generated from more traditional survey research or focus group discussions. In combination with in-depth interviews, it provides considerable detail on the knowledge, skills, attitudes (KSAs) and behaviors of low-income people that can inform the debate about how best to change KSAs and behavior for the better through financial education and other interventions. In addition, the report shows how researchers can track changes in indicators of financial capability over time using Diaries and in-depth interview data. As a result, this report demonstrates the circumstances under which Diaries can be used to evaluate the impact of a financial education program. In short, going forward, the report addresses the following questions:

1. What can Diaries, in combination with in-depth interviews, tell us about the financial capabilities of low-income people that we might not know otherwise?
2. How can change in indicators of financial capability be tracked through Diaries, in combination with in-depth interviews, over time?
3. Under what circumstances is it appropriate to use Financial Diaries to evaluate the impact of a financial education program?

Answers to these questions have important implications for both research and practice. The study will exploit the fact that the Diaries produce detailed behavioral data—they track the transactions respondents perform, the relationship between the respondent and the other party to the transaction, and where the transaction was performed. As we will elaborate in the following section, one theory of change in the financial capabilities literature is that education changes knowledge, skills and attitudes (KSAs), which in turn result in a change in behavior, out of which improvements in economic well-being emerge (UK FSA 2005, 2; Microfinance Opportunities 2005, 5). We will use the interview data to identify the sample's KSAs and changes in KSAs, and relate this information to their economic behavior and changes in behavior. In this way, we will be able to examine the relationship between KSAs and behavior.

In addition, though the Diaries data from this project only concern low-income, rural Ugandans, they will add to the growing evidence from other Diaries studies regarding the economic behavior of low-income individuals. As noted in the preceding paragraph, such evidence is critical for understanding how education, through changes in KSAs, might affect behavior. But it is also critical for understanding how alternative strategies aimed at directly affecting behavior might work within low-income populations. Advances in behavioral economics suggest that financial capabilities might be enhanced through behavioral prompts (“nudges”) that bypass changes in KSAs (Holzman 2010, 8). Detailed behavioral data from the Diaries can be used to inform the work of researchers who are interested in designing and evaluating “nudges” aimed at changing the behavior of low-income individuals.

For example, evidence from other Diaries studies (Stuart and Cohen, 2011; Stuart *et al.*, 2010; Collins *et al.*, 2009) suggests that low-income individuals handle a lot of cash, and have a wide variety of cash flows, depending on their livelihoods and other factors. A behavioral approach to improving financial capabilities might segment populations by cash flow structure, and deliver “nudges” timed to coincide with the flow of money through the hands of the people in targeted segments to remind them to save their money. A researcher interested in testing such a strategy might use a

traditional survey to gather information on how much cash a person handles each week and what pattern their cash flow follows, to segment the population and apply the different nudges. Information from the Diaries should be useful in informing survey questions designed to capture information on cash flow.

In addition to these substantive contributions to the understanding of individuals' economic behavior, the project will also enable us to evaluate the role Financial Diaries, in combination with qualitative interviews, can play in the evaluation of the impact of financial education programs. Though this project's final sample composition makes it difficult to attribute changes in KSAs and behavior to the HFHU intervention, it will nevertheless provide important guidance to researchers wishing to use the Diaries for an impact evaluation.¹ It will document the data-gathering process and provide examples of how Diaries can be used to measure changes in behavior.

The framework for the analysis will be informed by a number of different sources: the literature on financial literacy and financial capabilities in developing countries; data from participatory exercises conducted in Uganda in which participants defined financial capabilities in their own terms; and findings from previous Financial Diaries regarding the behavior of low-income individuals.

The remainder of this report is organized as follows: The next section provides an overview of the project, with sub-sections describing the intervention, conceptual framework, research design, research sites and sample characteristics, and research methodology used. Each of these sub-sections is a summary description and is accompanied by a more detailed description in the Annexes of the report. The report then presents the findings of the data analysis in full and ends with a conclusion that summarizes the major points covered in the report. As a result, readers interested in understanding enough about the project to help them understand the findings can quickly move from the short project overview to the findings. Those interested in more detail regarding the project can find this in the Annexes.

2. PROJECT OVERVIEW

HABITAT FOR HUMANITY INTERVENTION

HFHU's eight-week financial education program adapted MFO's curriculum, which includes modules on savings, budgeting, bank services, debt management, and financial negotiations. The program is designed to give participants the basic knowledge and tools they need to manage their money more wisely and to encourage positive changes in their financial behavior. By the end of the training, participants are expected to have gained financial knowledge and skills, leading them to positive changes in financial attitudes and behavior, as described in the financial education model of change. The learning objectives for each session were used in formulating outcomes indicators for assessing the impact of the financial education program. We obtained information on the schedule, rosters, and

¹ Our sampling yielded a self-selected group of individuals who almost all attended an HFHU financial education program, and are overwhelmingly members of either a savings group or a SACCO. It has also yielded a comparison group, randomly selected from similar communities to those from which the treatment group was drawn, who show little use for SACCOs and savings groups, and some use for banks. More information on the original purpose of the project, and the sampling problems we faced can be found in Annex 1, "Original Purpose of the Project."

attendance of the sessions from HFHU in order to cross-check participants' self-reported events data and to help correlate session attendance with outcome measures.

HFHU conducted seven (7) training sessions from July through September 2011 for each of four groups of financial education clients in two locations: Ssenyomo village and Kiwayirembe village. In the former, HFHU delivered FE training to the Basoko Kwavuula Group, and in the latter village it delivered FE training to the Bakuseka Magende Group, Suubi Farmers' Group and the Ssenyomo F.F. Association Group. Two sessions were required to cover each of the first two chapters in the curriculum on budgeting and saving. The remaining three (3) sessions covered financial negotiation, debt management, and bank services (Table 2.1). Though HFHU reported a 95 percent attendance rate for participants in the Diaries study, self-reported attendance suggests much lower rates of participation, from a low of 23 percent at the second budgeting session to a high of 70 percent at the second savings session. More information on the HFHU curriculum and attendance rates can be found in Annex 3, "Habitat for Humanity Intervention."

Table 2.1: FE Training Syllabus

Session	Session name	Topics covered
1	Budgeting	How to make a budget; benefits of a budget
2	Budgeting	Setting financial goals
3	Saving	Purpose for saving; savings services
4	Saving	Benefits of saving
5	Loan management & negotiation	Preparing for negotiation and benefits of negotiation
6	Debt management	Reasons for taking a loan; loan terms and conditions
7	Bank services	Overview of different service providers; HFHU services.

In total, HFHU recorded 110 individuals attending some or all of their classes, including 41 in the Diaries study. All but one pair of Diaries respondents were from different households, meaning that 40 Diaries households were exposed to financial education.

INDICATORS OF FINANCIAL CAPABILITY

Annex 2, “Conceptual Framework,” provides a brief overview of the literature on financial literacy and capability. It identifies three major elements of financial capability: day-to-day cash flow management, planning ahead, and financial service use. Each of these three has a cognitive (knowledge, skills, and attitudes), behavioral, and environmental dimension. For the purposes of this report, we are interested in the indicators of financial capability we may be able to find in our data. We are especially interested in cognitive and behavioral indicators, because the prevailing theory of change within the financial education literature is that financial education has a cognitive impact that then translates into behavioral change (see the Theory of Change Section of Annex 2 for more discussion of this). Table 2.2 outlines the elements and associated indicators used to describe what it means to be financially capable.

Table 2.2 Financial Capability Concepts & Indicators

Element	Indicator
Day-to-day cash flow management	
How people do or do not live within their means	
Income exceeds expenditures – over what time period?	Share of weeks in which individual runs a deficit
Depend on sources outside the household to cover ordinary expenses	Source of funding to cover expenses during deficit weeks: financial tool and provider
How people pay for lump sum expenditures	
Pay for it with ordinary cash flow	Share of weeks in which individual incurs a lumpy expenditure and runs a deficit
Depend on sources outside the household to cover lumpy expenditures	Source of funding to cover expenses during deficit weeks: financial tool and provider
Do people recognize difference between needs and wants?	Able to articulate difference in in-depth interview
Do they spend money on unnecessary expenditures?	Amount of unnecessary expenditures per week
How people keep track of money	
They have a budget	State they have a budget in in-depth interview
They know how much money they have	Are able to say how much money they have in in-depth interview
Planning ahead	
For an unexpected drop in income	Sources of financing to cover expenses when income drops unexpectedly Stated plan in in-depth interviews
For an unexpected expense or investment	Sources of financing to pay for unexpected expense or investment Stated plan in in-depth interviews
For an anticipated expense or investment	Sources of financing to pay for expected expense or investment Evidence of planning for expected expense or investment through behavior (e.g. saving up) or articulated in in-depth interviews
Financial service use	
How people save	

Element	Indicator
Frequency	# of savings transactions per week
Size	Amount per week; average size per transaction
Where/with whom (this will yield information on types of individuals and organizations people use)	# of savings transactions by entity
Return	Interest rate paid to saver by entity
Use (refer to cash flow management and planning ahead)	
How people manage debt, to others and from others	
Frequency of loans	# of loans per week
Size of loans	Average size of loans
Where/from/to whom (this will yield information on types of individuals and organizations people use)	# of loans by entity
Interest rate on loans	Interest paid by entity
Use (refer to cash flow management and planning ahead)	
How people make financial services choices	
Interest earned/paid	Articulated in in-depth interviews
Do they know how to calculate this?	Able to answer question asking them to calculate simple interest rate yield.
Convenience	
Proximate	Articulated in in-depth interviews. Average distance travelled by financial service users.
Flexible access – hours and number of transactions allowed per period	Articulated in in-depth interviews. Size and frequency of transactions per week per entity.
Something else	Articulated in in-depth interviews.

As we will explain more fully later in this report, the Financial Diaries produce transactions data that can be used to measure the indicators associated with each element, except in cases where it is indicated that the source is in-depth interviews. Furthermore, the interviews provide explanations for some of the behaviors we observe in the transactions data generated by the Diaries and are invaluable in helping to construct the right measures of the indicators of financial capability.

RESEARCH DESIGN

The original research design of this project was a quasi-experimental, difference-in-difference evaluation of the impact of HFHU's financial education program. It was set up to compare changes from the pre-intervention period to the post-intervention period in the KSAs and behavior of a treatment group, in comparison to pre-post changes in the KSAs and behavior of a similar comparison group in a different community that had not been exposed to the education program.

The research design of the Uganda Financial Education Impact Project divides the study into two phases in order to capture both the short-term and long-term impacts of the Financial Education intervention. Specifically, the design calls for data to be collected immediately after the intervention ends and again eight months after the fact. This approach allows for there to be an overlap in the months in which short-term, pre- and longer-term, post- intervention data are collected, in turn ensuring that our comparison of respondent knowledge, skills, and attitudes along these time horizons is based on data collected during the same season of the year.

Phase 1 spanned a 28 week period between May and November of 2011. During this phase, we planned to collect two sets of in-depth interview data before and immediately after the intervention in addition to a series of Diaries data that ran from about 10 weeks before the intervention, through the 8-week intervention itself, and then about 10 weeks after it. The study design called for a three month hiatus before Phase 2 Diaries collection picked up again on March 12, 2012. During Phase 2, we planned to conduct a third round of in-depth interviews and collect another 14 weeks of Diaries data.

The project's design was quasi-experimental in that the treatment group was not randomly selected, but recruited using HFHU's normal process of responding to community demand for its education program. We anticipated that this would introduce selection bias into the recruitment of the treatment group and intended to mitigate the effect of this on our results by both recruiting a comparison group *ex ante* with similar observable characteristics and through *post hoc* controls on variables revealed by the Diaries data. The most important method for recruiting a comparison group with similar characteristics *ex ante* was the identification of communities from which to draw the comparison sample that were similar to the communities in which the intervention took place.

As we will discuss in more detail below, the two samples we generated using the sampling strategy describe above were similar in many ways. But, as noted in the introduction to the report, there was a crucial and overwhelming difference in the pattern of their financial service use: almost all respondents in the treatment group were members of a savings group or SACCO and used these forums frequently, while very few respondents in the comparison community transacted with such entities, and those that did did so infrequently. It is likely that this is a product of the way that HFHU recruited the participants into its education program, but there may also be a fundamental difference in the financial landscape of each community. Our landscape study of the communities suggests that there were active SACCOs near each community, and that each community was home to savings groups, though there may have been more groups in the treatment communities. As a result, we cannot attribute the differences in the behavior of the two groups to differences in the groups and organizations active in their communities. Rather, the data suggest that the treatment group in the sample was a group of self-selected savings group and SACCO members.

Though there was some variation in the level of participation in savings groups and SACCOs within the treatment group, and there was some savings group and SACCO activity in the communities we identified to serve as a comparison group, the variance was not sufficient to allow us to control for the inherent bias in the data, *post hoc*. As a result, we have reoriented the project to answer the questions raised in the introduction to this report:

1. What can Diaries, in combination with in-depth interviews, tell us about the financial capabilities of low-income people that we might not know otherwise?
2. How can change in indicators of financial capability be tracked through Diaries, in combination with in-depth interviews, over time?
3. Under what circumstances is it appropriate to use Financial Diaries to evaluate the impact of a financial education program?

Though the original research design was set up to allow us to conduct a difference-in-difference analysis, it still provides a useful framework for answering the questions above. With respect to the first question, we have two samples of significant interest: one a self-selected group of individuals actively participating in savings groups and

SACCOs in low-income, rural communities in Uganda and another a group of randomly-selected individuals from similar communities. We have 1,456 weeks of data for the first group and over 1,919 weeks of data for the second group. Following McKenzie (2010), even with intra-class correlations due to the clustered nature of the data resulting in larger standard errors, the size of the dataset from each sample allows for quantitative analysis of the indicators of financial capability discussed in the Conceptual Framework section of this report.

With respect to the second question, the dataset will be, again, of sufficient size to allow for quantitative comparisons of the behavior of the respondents at different points in the study. Furthermore, the continuity of the Diaries data, especially in the first phase, will allow us to track the behavioral pathways followed by individual respondents or groups of respondents using a case analysis approach to the data. Finally, with respect to the third question, our analysis of the data can proceed on an “as if” basis (“as if” the two groups were not so different) that can demonstrate how one might use the Diaries to conduct a difference-in-difference impact evaluation.

RESEARCH SITES & SAMPLE CHARACTERISTICS

At the time of the start of the project, HFHU's Luweero office had a number of requests from community groups in the area to offer its financial education program in their communities. HFHU selected two communities, Ssenyomo and Kiwamirembe, in the Kikyusa sub-district of Luweero District, based on the criteria provided to them by MFO. Those criteria were that the communities be:

1. A rural village;
2. Away from any main, tarmac road; and
3. About a UGX 2,000 (\$2 PPP) boda boda, or motorcycle taxi, ride from a trading center.

The two communities selected are about 20km east of the Kampala-Gulu highway by road. The nearest trading center is Kiziba. Kiwamirembe is about 1km from the trading center, while Ssenyomo is about 4km from it. In the case of the former, the *boda boda* ride costs less than UGX 2,000, while in the case of the latter it costs about UGX 2,500, with rates increasing in the rainy season. Our field workers also note that the price of a *boda boda* ride is not fixed and can vary depending on the weather conditions and the bargaining power of the customer.

With respect to the comparison communities, HFHU assisted MFO and its field research team in identifying the geographical areas in which residents had neither requested nor received financial education but were similar in other ways to those in the treatment area. It is from these areas that MFO and its field team identified the two comparison communities. The communities we selected were Kibowa and Kimwanyi, which are about 16km and 17km west of the Kampala-Gulu Highway by road, and so over 35km by road from the treatment communities. The nearest trading center is Nakaseke, which is about 3km from Kibowa and 4km from Kimwanyi, though, due to the geography of Kibowa, which stretches along a dirt road heading into Nakaseke, the nearest respondent to Nakaseke is only 1.7km from the trading center.

At the end of Phase 1 of the Uganda Financial Education Impact Project, our Financial Diaries sample represented 103 respondents, living in 88 households. Forty-seven of these respondents (41 households) live in treatment communities and 56 (47 households) in comparison communities, with a fairly even split between men and women across communities.

Analysis of Phase 2 transactions data for the 13 weeks between March and June 2012 revealed that a total of 91 respondents living in 83 households rejoined the project for the second phase of data collection, with 12 respondents having dropped. The data show that only five of the 103 original respondents declined to participate in the study further because of a lack of interest. The other seven who dropped did so because they relocated, died, or suffered some other calamity. The Phase 2 Respondent Retention Analysis in Annex 4, “Research Sites and Sample Characteristics” contains a detailed report on the changes in the sample from Phase 1 to Phase 2.

As a result, there were 39 respondents in the treatment communities and 52 in the comparison communities, with a fairly even split between men and women. There are 41 households in the treatment communities and 47 households in the comparison communities. The average household size is just over six 6 people, with little difference across three of the four communities, but a markedly smaller average household size in Senyomo, which is a treatment community.

In sum, the treatment and comparison samples are drawn from communities that are located in geographically similar areas. The data suggest that the occupations of members of those communities are roughly similar, and though the sample of respondents itself shows some differences in income, these are not statistically significant at the five percent level. The Diaries data confirm that almost all respondents in both samples are farmers but also suggest that there are some differences between the two groups with respect to the share of respondents who earn income from farming, wage work, and/or running a business. A more detailed description of the research sites and sample characteristics can be found in Annex 4.

METHODOLOGY

We used a variety of methods to generate the data on which this report is based. These were:

1. Financial Diaries
 - a) Weekly interviews with each respondent in which the enumerators recorded all economic transactions performed by the respondent in the preceding week, including all formal and informal financial transactions. The enumerators also asked respondents to report any unusual events that occurred during the week.
2. In-depth Interviews
 - a) These were conducted three times during the study period: near the start, at the end of the first phase; and during the second phase. The questions in the interview focused on respondents' understanding of money management and financial concepts.
3. Case-study Interviews
4. Financial Landscape study

More information on these methodologies can be found in Annex 5, “Methodology.”

3. FINDINGS

INTRODUCTION

The conceptual framework identified three major areas of financial capability: managing cash flows, planning ahead, and financial service use. It also noted that there are three dimensions to these areas: cognitive, behavioral, and environmental. The analysis that follows is organized according to the three areas of financial capability, and, where available, reports evidence regarding changes in cognition and behavior. The analysis begins with financial service use, because financial services are so critical to understanding the other two areas, and then proceeds to looking at cash flow management and risk management.

It should be noted that for the sake of this analysis, we have split the sample temporally into pre- and post-intervention periods, with the cut off being the 22nd week of the study, when the HFHU financial education was completed. The choice of the cut off was difficult to make, given the fact that the HFHU program ran for eight weeks and covered a variety of topics. It is possible that during the training program behavior changed temporarily and so it would not be appropriate to use the end-of-program date as a cut off, but a review of the data suggests that that was not the case. The longer baseline period gained from using the end-of-program date as the cut off gives us more precision in our measures of baseline behavior, because we have more data. In addition, to increase the precision of the post-intervention data, we combined the data from the end of Phase 1, after the intervention occurred, with the data from Phase 2.

All currency data are recorded in Ugandan shillings. There are about UGX 1,000 to the dollar in purchasing power parity terms.

FINANCIAL SERVICE USE

The respondents in the study used a wide variety of financial services. The most common services used were savings accounts held with savings groups, SACCOs, and banks. Respondents used loans from those sources as well, but much less frequently. On top of these organizational sources of services, respondents also saved money at home, transferred cash to or from a spouse, and gave and received cash gifts and loans to/from family members and friends. Respondents also gave and received in-kind loans and loan repayments to/from other individuals.

Overall, respondents engaged in some sort of financial transaction with an individual other than their spouse once every two and a half weeks, averaging about UGX 17,642 per transaction (Tables 3.1a and 3.1b, standard errors in parentheses). Their financial interactions with banks, SACCOs, savings groups or some other type of organization were more frequent, over once every two weeks, and the amounts involved were much larger. The average transaction involved about UGX 33,000. The frequency of transactions did not vary considerably by gender, but the amounts involved did. The average amount of transaction men conducted with other individuals was about 1.5 times the average amount of women's transactions with other individuals. In the case of transactions with organizations, the men's average amount was almost twice that of the women's.

Table 3.1a: Financial Transactions per Week

	Women			Men			Total
	Treatment	Comparison	Total Women	Treatment	Comparison	Total Men	All
Individuals	0.62 (0.10)	0.30 (0.07)	0.45 (0.07)	0.52 (0.12)	0.33 (0.05)	0.41 (0.06)	0.43 (0.05)
All organizations	1.18 (0.13)	0.16 (0.06)	0.62 (0.09)	1.13 (0.15)	0.14 (0.06)	0.55 (0.10)	0.59 (0.08)
Bank	0.01 (0.01)	0.02 (0.02)	0.02 (0.01)	0 --	0.08 (0.03)	0.05 (0.02)	0.03 (0.01)
SACCO	0.86 (0.18)	0.01 (0.01)	0.39 (0.08)	0.77 (0.21)	0.03 (0.02)	0.33 (0.09)	0.36 (0.08)
Savings group	0.26 (0.10)	0.11 (0.04)	0.17 (0.06)	0.35 (0.10)	0.02 (0.01)	0.16 (0.04)	0.17 (0.04)
Other	0.06 (0.03)	0.02 (0.01)	0.03 (0.02)	0.01 (0.00)	0.02 (0.01)	0.02 (0.01)	0.02 (0.01)
Total with others	1.80 (0.19)	0.47 (0.09)	1.07 (0.16)	1.65 (0.19)	0.48 (0.08)	0.96 (0.10)	1.01 (0.08)
Missing	0.00 (0.00)						

Table 3.1b: Mean Amount of Financial Transactions (UGX)

	Women			Men			Total
	Treatment	Comparison	Total Women	Treatment	Comparison	Total Men	All
Individuals	15,241 (2624)	13,810 (3452)	14,704 (1830)	15,894 (2421)	26,766 (5145)	21,085 (2515)	17,642 (1928)
All organizations	16,820 (3182)	67,945 (24927)	24,090 (4411)	25,993 (9451)	140,773 (79527)	43,730 (13172)	32,966 (6037)
Bank	157,688 (68029)	278,710 (105041)	244,132 (52161)	no data	228,884 (94780)	228,884 (134162)	233,576 (69258)
SACCO	14,071 (2583)	39,360 (25422)	14,440 (2207)	32,050 (21044)	9,000 (1885)	30,981 (19618)	21,718 (6413)
Savings group	16,675 (7556)	24,717 (6869)	19,435 (5671)	11,018 (1461)	11,333 (13158)	11,040 (1097)	15,627 (2666)
Other	34,111 (8950)	73,367 (24954)	44,092 (10755)	110,160 (31883)	57,900 (33258)	68,352 (29717)	51,312 (12654)
Total with others	13,557 (2578)	9,560 (2824)	12,028 (2011)	15,134 (3269)	18,029 (5428)	16,229 (2937)	13,941 (1633)
Missing	182,000 (134124)	10,000 (4708)	124,667 (87172)	120,800 --	72,500 (42754)	88,600 (30816)	106,633 (44772)

As noted above, there was a considerable difference between the treatment and comparison group in terms of their financial transactions. Respondents in the treatment group conducted a transaction with an organization, mostly a

savings group or a SACCO, more than once a week, and they conducted transactions with individuals other than their spouse, more than once every two weeks. In contrast, respondents in the comparison group conducted a transaction with another individual, other than their spouse, once every three (3) weeks, and with some sort of organization, mostly banks, savings groups or SACCOs, once every seven (7) to eight (8) weeks (Tables 3.1a). Furthermore, the size of transactions conducted with financial institutions differed between treatment and comparison groups. The treatment groups engaged in smaller transactions with smaller variance than the comparison group, who conducted large and infrequent transactions, mostly with banks (Table 3.1b).

The data summarized above are for all financial transactions with other individuals and organizations. In the rest of this section, we document the use of services in terms of numbers of transactions and the amounts involved by type of transaction. For savings and cash gifts, we will build a model to identify factors that prompted respondents to deposit and withdraw savings or to give or receive cash gifts, and then evaluate whether behavior changed from the period before the financial education intervention to the period after it by comparing changes in the treatment and comparison groups' use of savings over the study period. We do not perform the same analysis of loan activity as the number of loans given or received was too small.

Savings

The HFHU financial education curriculum included two sessions on savings, as described earlier in the report. The interview data illustrates the savings knowledge and attitudes of participants in the study, identifies barriers to savings, and can help to explain the motivations and context of participant savings behavior.

Consistent with the transactions data reported in Tables 3.1a and 3.1b and below, the interview data revealed that treatment and comparison participants saved in different locations. Treatment community participants were very active in what they referred to as "groups". A small number of treatment participants also reported saving at home. By comparison, very few comparison participants reported participating in groups, and many more saved at home or in banks. Some interviewees saved in multiple locations, particularly in the comparison sample.

No drastic changes were found in where comparison group participants saved over the last two rounds of interviews. However, there were two noteworthy changes among treatment participants. First, more treatment participants mentioned saving in groups and saving at home during the final two rounds. This finding is linked to the second change, which concerned the number of locations where each participant saved. During the first round of interviews, the number of locations where treatment group participants reported saving averaged just over one location apiece. During the second and third interviews, the number of locations where treatment group participants reported saving rose to nearly two locations apiece, with small increases coming in SACCOs, livestock or farming, property, and unspecified investments.

Another important finding from the first round of interviews concerned saving location preferences, which can help to assess participant knowledge of formal, semi-formal, and informal savings options, which are addressed in the HFHU curriculum. Initially, more people in the comparison sample felt that banks were the best savings location, while treatment sample participants were split over whether banks or groups were preferable. It was not uncommon for people in the comparison group to say that they would like to save in banks for security reasons, but some complained that banks were inaccessible due to distance. This suggested that comparison sample participants are aware of banks and their benefits. Treatment sample participants expressed this opinion less frequently, but it is not

clear whether this was due to lower awareness or to their satisfaction with their savings groups. Very few participants in either sample felt that saving at home was the best method, and the only advantage they cited for home savings was the convenience of immediate access.

The preferred savings locations of treatment participants changed from the first round to the final rounds of the research, but not in the comparison group, despite slight fluctuations. Treatment participants increasingly favored saving in groups during the second and third rounds of the research, while fewer favored saving in banks. At the same time, while a small number of treatment participants during the first round felt that the best way to save was with friends or family, or in livestock or farming, the numbers decreased during the second round and none felt that either way was the best by the third round.

Table 3.2: Quotes About the Benefits of Different Savings Locations

Topic	Quote and Participant Code
Distance of banks	<i>Banks are the best [savings option], but the only problem is that they are far from us. You have to go up to Wobulenzi or Luwero to access one. - II 305 (Round 1, comparison)</i> <i>It is very safe besides that you take a long time to withdraw your money because it is not near you. - II 904 (Round 3, comparison)</i>
Security of banks	<i>[Banks] have a lot of security unlike in [savings] groups and at home. You are assured that your money is safe. - II 111 (Round 1, treatment)</i> <i>You do not use your money at all times because it is not near you and thieves cannot access your money like when you keep it all at home. I believe if you kept your money in the bank you also need to keep a little at home because of the abrupt problems that may come up. - II 903 (Round 3, comparison)</i>
Profits from savings groups	<i>When you keep money in a group, you get profits. We are able to get profits because some people borrow from the same group at an interest rate. - II 101 (Round 1, treatment)</i> <i>Groups give you the opportunity to borrow when you do not have money and they earn you some profit when time to share comes; that profit comes from the interest that people pay on loans. - II 115 (Round 3, treatment)</i>
Convenience of savings groups	<i>Saving groups because they are more accessible and you can easily get money from there in case you need it. - II 407 (Round 1, treatment)</i> <i>Saving groups [are best] because [your] money is always available and no conditions are attached to the money you borrow. - II 107 (Round 3, treatment)</i>

Participants who felt that banks were the best savings location felt that way mainly because banks offer security. No participants mentioned earning interest as a benefit of using banks. By contrast, earning “profits” or “interest” from savings groups was a key motivation that participants cited for keeping money with groups. Two other important benefits that participants cited for using groups, not cited when discussing banks, were convenience in accessing their money, and the ability to borrow funds. The numbers of treatment participants citing interest and convenience as benefits of savings groups doubled from the first round to the last, suggesting an added awareness of the financial benefits that groups offer.

Treatment participants increasingly favored using groups, but because very few thought banks were the best savings location by the end of the study, their specific level of knowledge of banks was not measurable. One interpretation of this could be that knowledge of these relative benefits may still not be enough to convince participants to open and use bank accounts because of the associated transaction costs. Treatment participants, as will be shown, were also less likely at the end of the study to think of money with savings groups as an investment, which may be a result of exposure to information in the HFHU curriculum about savings options, causing them to alter the way they think about the money they keep with their groups.

The data from the Financial Diaries show that a bulk of the financial activity of the respondents in the study was savings-related – either with a bank, SACCO, or savings group (henceforth referred to collectively as “financial institution”) or at home. Respondents made a deposit or withdrawal from a financial institution about once every two weeks and from their home savings about once a week (Tables 3.3a and 3.3b).

The treatment and comparison groups had very different levels of transactions activity with financial institutions, both in terms of frequency and average amounts per transaction. The treatment group interacted far more frequently with financial institutions than did the comparison group (once a week vs. once every 8 weeks) and the amounts involved each time were smaller (UGX 21,000 vs. UGX 102,000). This difference was driven by the treatment group’s extensive use of savings groups and SACCOs. In contrast, the home savings activity of each group was roughly similar in terms of frequency and the amount per transaction. Respondents in both study groups deposited or withdrew money into/from their home savings just under once a week, and the average amount of the transaction was UGX 46,000 in the case of the comparison group, and UGX 41,000 in case of the treatment group (Tables 3.3a and 3.3b).

Table 3.3a: Savings Transactions per Week

	Women			Men			Total All
	Treatment	Comparison	Total Women	Treatment	Comparison	Total Men	
With others							
Individuals	0.00 (0.00)						
All organizations	1.02 (0.12)	0.13 (0.05)	0.53 (0.09)	1.01 (0.11)	0.13 (0.05)	0.49 (0.07)	0.51 (0.06)
Bank	0.01 (0.01)	0.02 (0.01)	0.01 (0.01)	0 --	0.06 (0.03)	0.04 (0.02)	0.03 (0.01)
SACCO	0.79 (0.17)	0.01 (0.00)	0.36 (0.09)	0.69 (0.18)	0.03 (0.02)	0.30 (0.07)	0.33 (0.06)
Savings group	0.21 (0.08)	0.10 (0.04)	0.15 (0.04)	0.32 (0.10)	0.02 (0.01)	0.14 (0.05)	0.14 (0.03)
Other	0.01 (0.01)	0.00 (0.00)	0.01 (0.01)	0 --	0.00 (0.00)	0.00 (0.00)	0.01 (0.00)
Total with others	1.03 (0.13)	0.13 (0.05)	0.53 (0.08)	1.01 (0.10)	0.12 (0.05)	0.48 (0.10)	0.51 (0.06)
Home savings	0.66 (0.06)	0.73 (0.04)	0.70 (0.03)	0.76 (0.06)	0.87 (0.03)	0.83 (0.04)	0.76 (0.02)

Differences across gender varied depending on the group and the type of transaction. Men in the comparison community deposited or withdrew money into/from home savings slightly more frequently than the women in that group – the difference was statistically significant but substantively it was not great. Within the treatment group, the differences were not statistically significant. In both treatment and comparison communities the amounts men deposited into or withdrew from their home savings were far larger than the amounts women transacted. The average amount women transacted was about UGX 30,000, while the average amount men transacted ranged from UGX 51,500 (treatment) to UGX 60,000 (comparison).

Table 3.3b: Mean Amount of Savings Transactions

	Women			Men			Total All
	Treatment	Comparison	Total	Treatment	Comparison	Total	
With others							
Individuals	2,200 (1152)	5,200 (2890)	3,400 (1368)	16,000 (9978)	4,667 (2732)	9,200 (6242)	6,300 (3222)
All organizations	11,917 (1963)	65,486 (25942)	19,209 (4685)	22,447 (8417)	152,179 (76171)	42,192 (15661)	29,783 (8406)
Bank	157,688 (72995)	304,364 (100329)	257,428 (83960)	no data	228,884 (108010)	228,884 (126856)	236,993 (84742)
SACCO	11,060 (1841)	39,360 (21613)	11,507 (1587)	29,262 (18245)	9,000 (1768)	28,213 (15030)	18,731 (6140)
Savings group	7,190 (1411)	18,793 (5911)	11,376 (3071)	7,996 (1017)	11,333 (12913)	8,253 (1049)	9,881 (1326)
Other	24,545 (7877)	55,000 (24940)	32,667 (8056)	no data	48,333 (16876)	48,333 (16185)	35,278 (7661)
Total with others	12,291 (1942)	60,217 (23762)	18,698 (4755)	22,428 (10289)	133,997 (87888)	38,285 (12131)	27,656 (6935)
Home savings	30,419 (2496)	28,491 (7192)	29,313 (5291)	51,533 (7023)	60,319 (6605)	56,973 (5769)	43,802 (3024)

In the case of financial institution transactions, there was little difference in the frequency of transactions conducted by men and women. The variance of the transaction amounts was high in most cases, so interpreting the differences across groups is difficult. But the data do suggest that, on average, the size of men's and women's transactions with savings

Box 3: A Case Study in Group Savings Discipline

Isaac saved with two different Muyizi Kasubwa SACCO and Suluma Farmers Group, making consistent weekly deposits of an average of UGX 6,988. Isaac explained that he saved with these SACCOs in order to be prepared for emergencies and for weeks in which his income was low. Isaac remarked that, even though there are no penalties for missing a weekly deposit, it is important for him to save each week in order to increase his earnings at share-out. This commitment is reflected in the fact that he continued to make deposits every week in Phase II, despite the decrease in income he experienced.

groups were roughly the same (UGX 7,996 and UGX 7,190 respectively).

The case study data revealed the logic behind the highly consistent pattern of deposits made by many respondents in savings groups and SACCOs. They explained that the logic of interest earnings combined with an annual share-out period motivated them to do so. That is, they understood that the more they saved in these forums, the more they would earn in interest, and having their savings “frozen” until share-out appealed to them because it helped avoid temptations to spend. Additionally, many respondents described having joined savings groups and SACCOs in order to gain access to loans, either for unexpected, emergency expenses or for business investments.

Changes in savings behavior

The Diaries data allow us to look at the coincidence of transactions in time, and also to calculate the overall balance of income and expenditures within a given week. As a result, we can model savings behavior, and then see whether there was any change in behavior between the period before and during the financial education program and the period after it. The models below include variables likely to be correlated with savings deposits into formal and semi-formal accounts and home savings. We have presented models that look at both the amount of the deposits as the dependent variable and the incidence of deposits (1 if the deposit happened; 0 if it did not). They include:

- **Post:** =1 if week fell after the end of the whole financial education program (weeks 22+), 0 otherwise
- **Balance_iht:** the amount by which the respondent's net income during the week exceeded his household expenses (business expenses are taken into account through the calculation of net income);
- **Deficit_iht:** =1 if balance_iht is less than zero and 0 otherwise
- **Harverst1:** = 1 if week fell during the harvest period (weeks 13 to 21), 0 otherwise
- **Gender1:** =0 if the respondent is a woman and =1 if the respondent is a man
- **Medbill:** the amount spent on medical bills during the week
- **Medbill1:** =1 if a medical bill was paid, 0 otherwise
- **Schoolfees:** the amount spent on school fees during the week
- **Schoolfees1:** = 1 if school fees were paid, 0 otherwise
- **Deposits:** = amount deposited in a formal or semi-formal account
- **Deposits1:** = 1 if deposit was made, 0 otherwise
- **Home_Dep:** amount deposited in home savings
- **Home_Dep1:** =1 if home deposit was made, 0 otherwise
- **Tot_fin_in** = the amount of inflows from financial sources, including cash gifts or loan repayments from other individuals, withdrawals from a savings account, a loan from an individual or financial institution.

Medical bills are included in the model in order to capture the impact of a large, surprise expenditure on the savings behavior of the respondents, while the school fees capture the impact of large, but anticipated, expenditures on this behavior.

If we run the model for each group, the results suggest that the treatment group changed their savings behavior from the period before they finished their financial education program to the period afterwards, while the comparison group's behavior did not change. This is the case in terms of both the amount deposited and the incidence of deposits for home savings, and is also the case in terms of the amount deposited in formal and semi-formal accounts. This result from the transactions data is consistent with the findings from the in-depth interviews, which also found

that treatment group respondents reported an increase in savings. The results also suggest that, other than the “post” dummy variable, the independent variables were correlated with the two groups’ deposit behavior in similar ways.

Home Deposits

Controlling for other factors that might have affected how much people deposited in their home savings, we find that individuals in the treatment group deposited more in their home savings in the post-intervention period than they did in the pre-intervention period (Table 3.4). The coefficient on the “post” dummy variable is strongly significant, suggesting that there was an increase in average deposits of about UGX 9,600 between the pre- and post-intervention periods after controlling for other factors. In contrast, the coefficient on the “post” dummy variable in the model of comparison group behavior was in the opposite direction, suggesting a *decrease* in home savings deposits, though this was not statistically significant at the five percent level.

Table 3.4: Model of Home Savings Deposit Behavior

Comparison						
	(Replications based on 52 clusters in RespID)					
	Observed	Bootstrap	Normal-based			
Savings Variable	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval	
Post	(6,429.57)	3,386.78	(1.90)	0.06	(13,067.53)	208.39
Gender1	11,143.47	4,115.49	2.71	0.01	3,077.27	19,209.68
Medbill	0.01	0.18	0.07	0.95	(0.34)	0.37
Schoolfees	0.24	0.15	1.59	0.11	(0.06)	0.54
Deposits	(0.55)	0.16	(3.42)	0.00	(0.87)	(0.24)
Harvest1	7,234.46	3,723.48	1.94	0.05	(63.42)	14,532.35
Balance_iht	0.56	0.11	5.12	0.00	0.34	0.77
Tot_fin_in	0.55	0.10	5.39	0.00	0.35	0.75
_cons	12,301.75	4,988.39	2.47	0.01	2,524.68	22,078.82
Treatment						
	(Replications based on 39 clusters in RespID)					
	Observed	Bootstrap	Normal-based			
Savings Variable	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval	
Post	9591.84	2132.24	4.50	0.00	5412.72	13770.95
Gender1	9567.55	3024.48	3.16	0.00	3639.68	15495.42
Medbill	0.07	0.14	0.48	0.63	(0.21)	0.35
Schoolfees	0.29	0.11	2.66	0.01	(0.08)	0.50
Deposits	(0.35)	0.10	(3.45)	0.00	(0.55)	(0.15)
Harvest1	3803.55	1887.63	2.01	0.04	103.86	7503.24
Balance_iht	0.35	0.11	3.24	0.00	0.14	0.56
Tot_fin_in	0.45	0.08	5.51	0.00	0.29	0.60
_cons	1114.30	1882.26	0.59	0.55	-2574.86	4803.46

The variables correlated with home deposits were similar for both the treatment and comparison groups. In both cases, men deposited more than women; deposits in formal and semi-formal accounts were negatively correlated with home deposits; home deposits went up during the harvest period; home deposits went down when the respondents spent more than they earned; and medical bills had no impact on home savings deposits. The one exception was the payment of school fees. The impact of paying these fees on home savings behavior was positive, and statistically significant, in the case of the

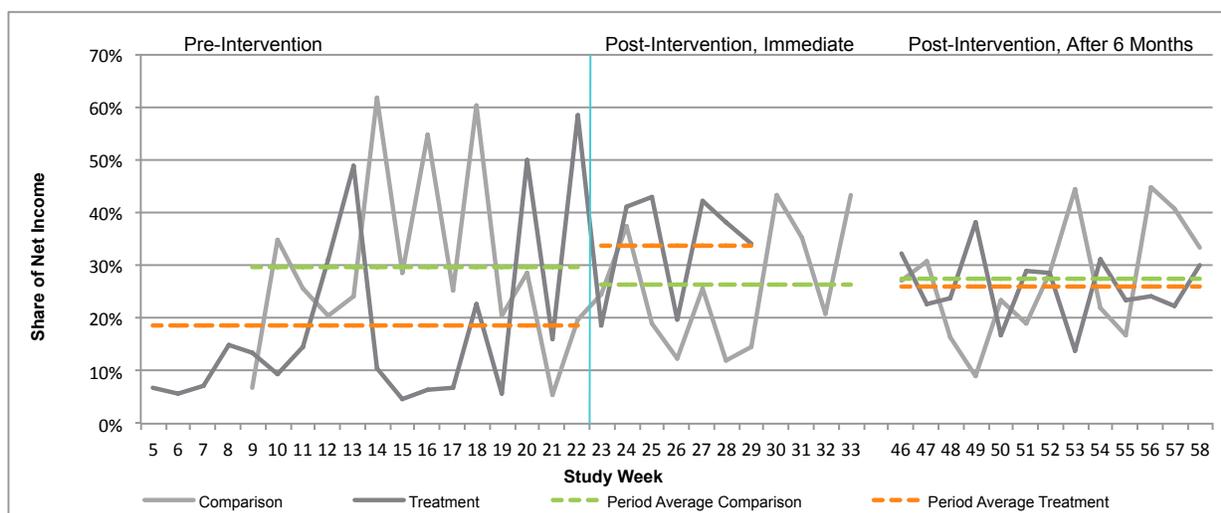
Box 4: A Case Study in Increased Savings

Harriet independently reported that after attending an HFHU training, she and her husband realized they had been over-spending and started working to decrease their expenditures and save more, which in turn allowed them to invest in a plot of land and building material. She shared having cut down on unnecessary expenditures such as monthly trips to Kampala to visit family and giving her children money for snacks when she had already paid for school lunches.

comparison group, while there was no correlation between fees and home savings deposits for the treatment group. It is unclear why this was the case, especially given that the school fees comparison group respondents paid were almost twice as high, on average, as those paid by treatment group respondents (Table 3.4). This suggests that, overall, the drivers of savings behavior in the treatment and comparison groups were similar, and that the major difference between them was how much they saved in the pre- and post-intervention periods.

Figure 3.1 partially depicts what happened, showing the amount deposited in home savings as a share of net income for each group, during weeks when the respondents reported that they did not receive any financial inflows. The data suggest that there was a savings increase as a share of income in the immediate post-intervention period for those in the treatment group, and that this increase remained, at a lesser level, six months later. In contrast the comparison group decreased their home savings deposits in the post-intervention period.

Figure 3.1: Home Deposit Amounts as a Share of Income by Week and Group, when Financial Inflows are Zero



Formal and Semi-Formal Savings Account Deposits

The data also suggest that respondents in the treatment group increased the amount they deposited in savings accounts each week after the financial education program was over. In contrast, the comparison group did not. Controlling for other factors that might have affected how much people deposited in their deposit accounts, we find that the difference in savings behavior of the treatment group between the pre- and post-intervention periods holds true (Table 3.5).

Table 3.5: Model of Semi-Formal and Formal Deposit Behavior

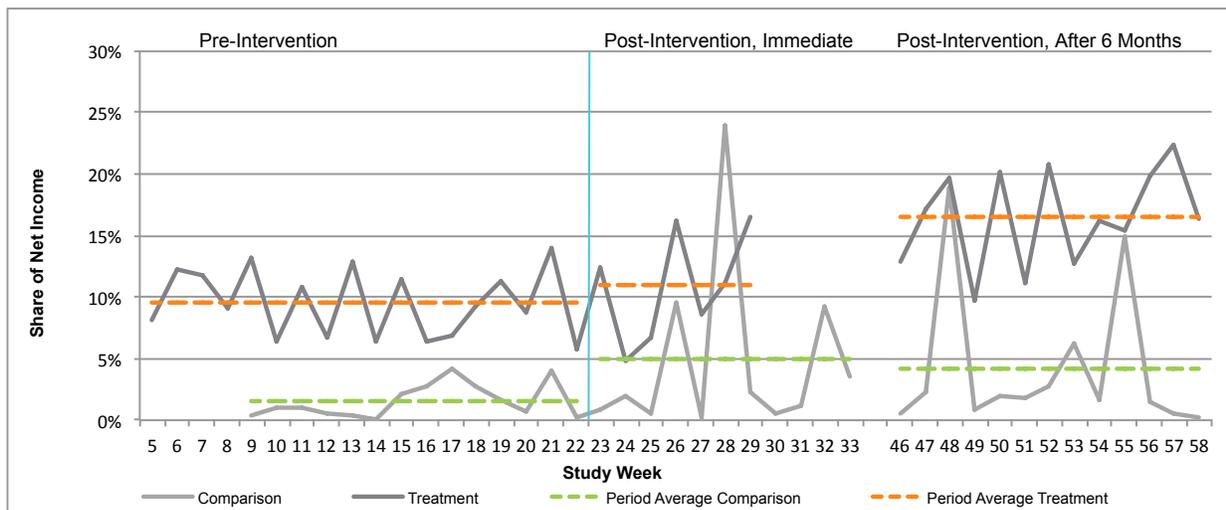
Comparison						
	(Replications based on 52 clusters in RespID)					
	Observed	Bootstrap	Normal-based			
Savings Variable	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval	
Post	789.4402	1,215.14	0.65	0.52	(1,592.192)	3,171.07
Gender1	1,071.887	3,537.52	0.30	0.76	(5,861.518)	8,005.29
Medbill	0.02	0.07	0.22	0.82	(0.12)	0.15
Schoolfees	0.08	0.05	1.79	0.07	(0.01)	0.18
Home_dep	(0.19)	0.10	(1.91)	0.06	(0.39)	0.00
Harvest1	553.3675	845.00	0.65	0.51	(1,102.807)	2,209.54
Balance_iht	0.19	0.09	2.05	0.04	0.01	0.37
Tot_fin_in	0.19	0.09	2.12	0.03	0.01	0.36
_cons	4,032.797	1,882.78	2.14	0.03	342.6219	7,722.97
Treatment						
	(Replications based on 39 clusters in RespID)					
	Observed	Bootstrap	Normal-based			
Savings Variable	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval	
Post	6,242.98	2,691.11	2.32	0.02	968.51	11,517.45
Gender1	5,433.21	3,472.29	1.56	0.12	(1,372.35)	12,238.77
Medbill	0.29	0.23	1.24	0.22	(0.17)	0.74
Schoolfees	0.54	0.29	1.88	0.06	(0.02)	1.11
Home_dep	(0.57)	0.28	(2.03)	0.04	(1.11)	(0.02)
Harvest1	8,136.16	5,196.98	1.57	0.12	(2,049.73)	18,322.05
Balance_iht	0.62	0.29	2.11	0.04	0.04	1.19
Tot_fin_in	0.56	0.27	2.10	0.04	0.04	1.08
_cons	568.18	3,137.54	0.18	0.86	(5581.28)	6,717.65

The coefficient on the “post” dummy variable is strongly significant, suggesting that there was an increase in average deposits of about UGX 6,200 between the pre- and post-intervention periods after controlling for other factors. In contrast, the coefficient on the “post” dummy variable in the model of comparison group behavior was not statistically

significant. The match between the statistical significance and direction of the coefficients was less similar in the treatment and comparison groups, suggesting that drivers of deposit behavior across the two groups were different (Table 3.5). This is not surprising given the fact that, as we have observed before, the respondents in the two groups used formal and informal accounts very differently.

Figure 3.2 partially depicts what happened, showing the amount deposited in semi-formal and formal savings accounts as a share of income for each group, during weeks when the respondents reported that they did not receive any financial inflows. In contrast to the home deposit data, the graph suggests that there was an initial, small increase in deposits in the period right after the end of the financial education program, and that there was a greater increase six months later. Furthermore, the graph shows how the savings deposits of the comparison group also increased, but not by much.

Figure 3.2: Formal and Semi-Formal Deposit Amounts as a Share of Income by Week and Group, when Financial Inflows were Zero²



Cash Gifts

As in the other studies MFO has conducted in East Africa, the transactions data from Uganda suggest that the respondents frequently exchanged cash gifts. On average, respondents received a gift about once every six weeks and gave one about one every seven weeks – **excluding** transfers between husbands and wives. The average amount given was UGX 2,800 and the average amount received was UGX 992. There was considerable difference in the frequency with which men and women gave and received cash gifts. Men gave gifts more frequently than women did, and the latter received gifts more than did the former. Looking across the treatment and comparison groups, the two groups looked very similar in terms of gifts given, but the men in the comparison group received gifts far more frequently than the men in the treatment group.

² Data depicted in the graph exclude eight (8) deposits in amounts greater than UGX 500,000, which are outliers.

Table 3.6a: Cash Gifts Received and Given – Transactions per week

	(Replications based on 91 clusters in respid)			
	Observed	Bootstrap	Normal-based	
Gender and Group	Mean	Std. Err.	[95% Conf. Interval]	
Gifts Received				
Women, comparison	0.15	0.04	0.07	0.23
Women, treatment	0.12	0.02	0.07	0.16
Men, comparison	0.24	0.06	0.13	0.36
Men, treatment	0.09	0.03	0.02	0.15
Gifts Given				
Women, comparison	0.09	0.02	0.04	0.14
Women, treatment	0.12	0.02	0.07	0.16
Men, comparison	0.18	0.04	0.11	0.26
Men, treatment	0.18	0.04	0.11	0.25

Table 3.6b: Cash Gifts Received and Given – Amount per transaction

	(Replications based on 91 clusters in respid)			
	Observed	Bootstrap	Normal-based	
Gender and Group	Mean	Std. Err.	[95% Conf. Interval]	
Gifts Received				
Women, comparison	2,514	800	946	4,082
Women, treatment	2,578	575	1,451	3,705
Men, comparison	4,883	1,298	2,338	7,427
Men, treatment	1,141	577	9	2,272
Gifts Given				
Women, comparison	755	227	310	1,200
Women, treatment	1,357	383	605	2,108
Men, comparison	770	252	275	1,264
Men, treatment	1,072	270	544	1,600

There were no discernible changes in cash gift activity between the pre- and post-intervention periods, except that the men in the comparison group experienced a dramatic decline in the number of cash gifts they received over that period. It is unclear what drove this change in behavior.

Debt

The respondents in the Diaries study received a limited number of loans from financial institutions and individuals during the study period – 155 in total. Seventy-one of these were from financial institutions, and 68 of these were from savings groups or SACCOs. There were no loans from banks reported. Not surprisingly, most of the loans from savings groups and SACCOs went to treatment group respondents. In addition, treatment respondents received the bulk of the loans from individuals – 63 of the 83. One interpretation of this latter finding is that the treatment group's social networks were much richer than those of the comparison group. Not only were they part of active savings groups, but they were also able to call on members of their community for loans. In the qualitative interviews, it was clear that respondents thought of asking someone else for a loan as imposing a “burden” on them and was something that should not be done casually.

There was no change in the rate at which respondents used loans across the pre- and post-intervention time periods, but the limited number of loans that the respondents received makes the detection of any change very difficult due to the lack of precision in the data.

Financial Service Use: Summing Up

1. Transactions data from the Diaries suggest that by far the most common savings mechanism amongst the respondents was saving at home.
2. Transactions data from the Diaries suggest that respondents in the treatment group increased the amount they saved at home and in their savings groups and SACCOs, from the pre-intervention period to the post-intervention period. The same was not the case for the comparison group.
 - a) In-depth interview data support the finding on increased savings: respondents in the treatment group reported saving more in the second and third rounds of interviews, both of which occurred after the intervention.
3. Transactions data suggest that respondents borrowed little during the period of the study: they received 155 loans, of which 71 were from a savings group, SACCO or NGO. There were no bank loans reported. The rest of the loans were from other individuals.

CASH FLOW MANAGEMENT AND KEEPING TRACK OF MONEY

Making Ends Meet

The HFHU financial education course addressed a wide variety of money management issues in order to equip participants with the knowledge, skills, and attitudes that were likely to facilitate overall improvements in their financial management behaviors. If program participants felt that they were more successful at managing their money after taking the course, then they would be expected to express more satisfaction with their ability to do so. In the in-depth interviews,

Box 5: A Case Study in Borrowing

Francis explained that when he does not have enough savings to cover either large, business-related expenses or basic household needs, he borrows money from the Farmers Group. He chooses to borrow from the group because he is able to get the money quickly there. He described the process of applying for a bank loan as being long and arduous, involving a lot of paperwork, trips to the local council, a two-week waiting period, and a visit from bank staff to evaluate your security. His fellow group members, on the other hand, know him personally and can trust that he will pay his loan back.

participants were asked to self-report their satisfaction with their skills and behaviors in managing money and to explain why they felt the way they did.

While the number of individuals in the comparison group who were *unhappy* with their money management practices remained static throughout the duration of the study, the numbers went down for the treatment group in both the second and the third phases. Both groups registered increases in terms of the numbers of individuals who reported being *happy* with how they managed their money, though the increase was much greater in the treatment group due to the low numbers who reported being satisfied during the first round of interviews.

The basis for participant assessments of their satisfaction with their skills changed over the course of the study, but in ways that were similar across the treatment and comparison groups. In both groups, participants placed less emphasis on income or earnings in assessing satisfaction with money management, and more emphasis was placed on being able to meet one's needs, plan or budget, or save or invest. It is possible that the process of participating in the Diaries research had a similar effect on the thinking of individuals in both groups, resulting in a greater understanding that managing money is a skill that is learned rather than a characteristic of high-income earners.

The last significant difference that was noted in the responses of comparison and treatment participants concerns business success as the basis for assessing money management success. In the first round of interviews, nearly a third of comparison participants mentioned the success of their business as evidence of their ability to manage money, compared to no treatment participants. During the last two rounds of interviews, however, no participants at all mentioned business success as a factor in determining self-satisfaction with money management. It is unclear why this was the case.

Table 3.7: Changes in Self Reports of Money Management Satisfaction

Interview Round	Quote and Participant Code	Quote and Participant Code
Round 1	<i>I am not happy because my income is low.</i> – II 409 (treatment)	<i>I am not happy, because I work so hard to get money but I do not get it like I want to. If I could I would stop doing my kind of job but I need the money.</i> – II 415 (treatment)
Round 2	<i>I am happy. I work hard and get money that I save.</i> – II 409 (treatment)	<i>I am not happy because I do not get the money the way I would like to get it, when I get it; it is not enough to cater for my needs. I even try and do many things for money but it is never enough.</i> – II 415 (treatment)
Round 3	<i>Through the hard work I earn money which I use to settle my needs, this makes my heart happy.</i> – II 409 (treatment)	<i>I am happy because I can get the money to help me with my needs and also look after my children.</i> – II 415 (treatment)

It was expected that by the second round of interviews, more treatment sample members would discuss their own money management in terms of their ability to plan, budget, or save money, and to use financial services. This was found to be the case, but this was also true of comparison participants.

The behavioral implications of the findings regarding changes in knowledge, skills, and attitudes are not clear. As noted above, participants placed less emphasis on income or earnings in assessing satisfaction with money management, and more emphasis was placed on being able to meet one's needs, plan or budget, or save or invest. As a result, it is not clear that the change in the level of control the treatment group experienced should have manifested itself in a change in behavior.

The Diaries data allow us to calculate expenditures (including loan repayments and cash gifts and loans to others) and net, earned income for each week. The data from the Uganda Diaries suggest that respondents ran deficits about half the time, even when one includes cash transfers that women received from their husbands. They covered these deficits with money from financial institutions, other individuals, and withdrawal from home savings. The most common way for people to manage these deficits weeks was through withdrawals from their home savings (70 percent of the time), followed by cash gifts or loans from other individuals (27 percent of the time), followed by cash withdrawals or loans from financial institutions (11 percent of the time). The percentages add up to more than 100 because respondents may have used more than one source of financing to manage their cash flow (Table 3.8). The data also suggest that there is a very strong relationship between the inflow of cash from a financing source and a deficit. This is not surprising in that an inflow of cash from a source other than earned, net income or a spousal transfer allowed the respondents to spend more than they earned. The data also suggest that the comparison group was more likely to draw down their home savings in deficit weeks than was the treatment group, while the latter was more likely to receive money from other individuals or from financial institutions.

Table 3.8: Incidence of Financial Transactions in Deficit & Non-Deficit Weeks

	(Replications based on 91 clusters in respid)			
	Observed	Bootstrap	Normal-based	
	Mean	Std. Err.	[95% Conf. Interval]	
Inflow from organization				
No Deficit	0.034	0.008	0.018	0.049
Deficit	0.113	0.016	0.082	0.145
Inflow from individual				
No Deficit	0.105	0.012	0.081	0.128
Deficit	0.270	0.029	0.212	0.328
Withdrawal from home savings				
No Deficit	0.069	0.012	0.045	0.092
Deficit	0.698	0.028	0.643	0.754

Looking at whether there were any changes in cash flow between the pre-intervention and post-intervention period, the data suggest that there was no change in the overall incidence of deficit weeks for the treatment group, but the incidence went down for the comparison group. In neither case was there a statistically significant change in net income per week across the two periods. Furthermore, in neither case was there a change in the types of financial resources respondents used to manage their cash flow shortages. These data are consistent with the disconnect articulated in the in-depth interviews between the sense of control over the management of one's money and actual changes in one's income.

Keeping Track

All participants in the Diaries study tracked their income and expenses as part of the project, which is one of the behaviors that the curriculum was intended to inculcate. The case study data revealed that the practice of keeping Financial Diaries afforded them valuable insight into how the individual transactions they were conducting translated into larger spending patterns. One respondent joked that his Diaries brought to light for him the fact that *“[he] could earn UGX 10,000 and wouldn’t be able to keep it for one night!”* The holistic view the Diaries provided respondents of their inflow and outflow sequences over time recast casual expenditures as meaningful trade-offs. As one respondent put it, reviewing his Diaries allowed him to see that, “if [he] spent less here and [more] here... [he] would be better off.” Respondents were able to use their Diaries data to identify where they were spending unnecessarily, and, in turn, to begin saving more. For example, Harriet, a treatment respondent, realized that she continued to dole out snack money to her children, despite having already paid for their school lunches as part of their tuition fees. By cutting back on this and other types of avoidable expenditures she identified in her Diaries, she and her husband were able to save up and invest in a plot of land and building material. We need to keep this “Hawthorne effect” in mind as we interpret the data on keeping track of money presented below.

Treatment group respondents exposed to the HFHU curriculum were expected to learn considerably more about budgeting than the comparison group over the course of the research study. By the end of the study, treatment group participants should have shown increased levels of budgeting knowledge and more positive attitudes about budgeting than the comparison group. The II tool included questions about participants’ money tracking practices, including how they currently track money, how they tracked money before the Diaries, and what they think the benefits are of tracking their income and expenses.

In the first round of II research, the most notable finding was that very few participants reported tracking their money before they began using the Diaries. Only four participants, two from each sample, tracked either personal or business transactions in writing before the Diaries project. These participants had all completed primary school, suggesting that those with more formal education are more likely to learn how to record their earnings and expenses. Furthermore, only one of the participants who tracked their money was female.

The number of treatment participants who said that tracking their money helped them in planning or staying on budget increased in both the second and third rounds of interviews, while no comparison participants mentioned it. By the third round, planning and budgeting were identified as important benefits of tracking money within the treatment group. Treatment and comparison participants both saw benefits to tracking their money, but it is significant that it was the treatment group that began to view tracking as a skill that could be used to plan future spending, as taught in the HFHU curriculum.

Table 3.9: Keeping Track

Type of Response	Quote and Participant Code
Tracking to reduce expenses	<i>When you are aware of how much you earn and how you spend it all, you then start thinking of ways that you can reduce your spending on unnecessary things so that you then save more.- II 104 (Round 3, treatment)</i>
	<i>Tracking money is important because it helps you to know how you earned and spend which helps you either to devise means of increasing your earnings or reducing your expenses.- II 904 (Round 3, comparison)</i>
Tracking to plan	<i>It has helped me not to spend recklessly; always I use money within my earning limit. - II 602 (Round 2, treatment)</i>
	<i>I regulate my expenses by planning first on which things I have to spend on.- II 605 (Round 3, treatment)</i>

Similarly, treatment participants tended to cite other reasons for tracking and spending less than they did during the first round of interviews. The reasons that were cited less often were knowing what expenses they had made, knowing what their income was, and reducing expenses. In the comparison group, knowledge of expenses and knowledge of income were seen as consistent benefits of tracking spending, but little change was registered from the first to the third round of interviews. Fewer comparison participants in the second and third round of interviews mentioned that tracking spending could help them reduce expenses.

While the practice of tracking their inflows and outflows had led many to understand its utility in eliminating unneeded costs, very few had thought about how tracking their money could help them to save more. This is a specific skill taught in the HFHU course.

In sum, treatment participants reported benefits of tracking money based on their exposure to the HFHU training, which sought to show trainees the benefits of this behavior. No such changes were noted among comparison participants, which suggests that exposure to the curriculum may have played a role in increasing this aspect of their money management knowledge.

Box 6: A Case Study in Keeping Track and Planning

Evans related that he planned for his children’s school fees, especially given that his children attended different schools and had differing fee schedules. During harvest seasons, he stored crops from his garden so that he could earn the money needed to pay their school fees before the start of each term. He also made sure to get receipts for the payments he made to help him keep track of his school fee obligations.

Unnecessary Expenditures

The issue of what participants considered to be necessary and unnecessary expenses was explored in the interviews to gauge a specific learning objective of the HFHU curriculum on necessary and unnecessary expenses in the context of budgeting. In the curriculum, necessary expenses are defined as "everyday expenses that occur regularly

and are necessary for the household's day-to-day existence. These expenses are fairly predictable in both their timing and amounts." Participant descriptions of unnecessary expenses at the start of the study were compared to those at the end of the study to assess their retention of the definition and their ability to apply it in providing an example of such an expense from their own experience.

There were some differences between treatment and comparison groups in identifying unnecessary expenses that emerged through analysis of the entire II first round sample. Treatment sample participants were much more likely to describe unnecessary expenses as ones that were not planned, or were generally wasteful, inessential, or not useful. Moreover, women in the treatment sample were far more likely than the men in that sample to point to unplanned expenses as unnecessary during the first round of interviews. At that time, most of the women in the treatment sample who said that an unplanned expense was unnecessary also reported saving their money in groups. Because the first round of interviews occurred before the financial education classes, the intervention could not have contributed to this difference. It is possible that the groups incorporate a training or discussion component that sensitized their members to the need to plan expenditures. However, during the second and third rounds of interviews, the numbers of treatment men who cited unplanned expenses as unnecessary doubled, while the numbers of treatment women who cited the same went down slightly. The strong upward trend among the males may be partially explained by their exposure to the FE program, but the slight decline among women does not support the same conclusion.

There were important gendered differences in the responses that reflect differing social roles and personal concerns. Only men described spending money on women as unnecessary, and only women described spending money on excess food or on improving one's appearance as unnecessary. Interviewees seemed to think about what expenses were planned or not planned based on their own personal experiences. This may be because a preceding question in the interview asked respondents to discuss any expenses that they personally regretted.

There were some changes in the ideas that participants had about what constitutes an unnecessary expense between the first and the third round of interviews, but the biggest differences remained between the treatment and comparison groups.

Participants in the treatment group remained much more likely to cite unplanned expenses as unnecessary, though there was an increase during the second round of interviews immediately after their exposure to the HFHU curriculum, when their retention of the content could be expected to be at its peak. On the other hand, participants in the comparison group were much more likely to feel that unnecessary expenses included spending on alcohol and tobacco, women (including in many cases prostitutes), and gambling. These were also cited by treatment group participants, but the pattern was much weaker, particularly concerning alcohol and tobacco. Relatedly, spending on entertainment such as cinema and music concerts was thought unnecessary by some individuals in both groups, but there were no strong differences between the two nor strong trends within either group. It appears that environmental factors may be responsible for some of the differences between participants in the treatment and comparison samples, but that cannot be determined with any certainty from the current research.

Table 3.10: Descriptions of Unnecessary Expenses

Type of Response	Quote and Participant Code
<p>Unplanned expense</p>	<p><i>These are expenditures made before planning on what to spend on.- II 401 (Round 2, treatment)</i></p> <p><i>It is about budgeting and having priorities. When you go to the market to buy food worth 5000 shillings but because you took 10000 shillings you start buying things that are unnecessary with the change you get (from your intended purchases). – II 115 (Round 3, treatment)</i></p>
<p>Description of alcohol expense</p>	<p><i>As I told you, alcohol does not help you in any way. I always buy it because of peer influence. - II 415 (Round 1, treatment)</i></p> <p><i>This is when someone who drinks alcohol comes to the bar and spends his money by buying nearly for everyone who wants by the time he leaves he doesn't have any money left.- II 901 (Round 2, comparison)</i></p> <p><i>This is when you spend money on things that you did not want to buy, like spending money on alcohol and may be buying prostitutes.– II 908 (Round 3, comparison)</i></p>

Participants who made purchases they regretted were also asked to explain which purchases caused them to feel regret. During the first round, each comparison participant identified a single type of regretted purchase, but in the treatment group, participants cited an average of two different types of regretted purchases each. During the second and third rounds, both the comparison and treatment participants cited on average a single type of regretted purchase, meaning that fewer treatment participants regretted purchases.

Patterns were also found in the types of regretted purchases that treatment participants managed to control. While there was little change in the types of purchases that comparison participants regretted, treatment participants drastically reduced the four most cited types of purchases they regretted during the first round of interviews: food (half of the cited purchases), business or agricultural investments (one quarter), and alcohol (one fifth). During the second and third rounds, only two participants regretted making any of these purchases. These purchases were also regretted by comparison participants during the first round of interviews, but the comparison participants who cited them reduced less significantly during the second and third rounds or were constant, in the case of alcohol purchases.

Different explanations are possible for the changes in these types of regretted expenses. Diaries participants in this and other studies have repeatedly linked the act of tracking expenses to their identification of unnecessary spending. This is especially true of habitual expenses like the purchase of snacks or alcohol, which represent small individual transactions but become more significant when considered on a weekly basis. The sharp reduction in the number of regretted food and alcohol expenses by treatment participants is probably related to the expense tracking they performed. The fact that citations did not increase in the third round, after the Diaries research had concluded, however, suggests that the FE program helped participants to retain the lessons and maintain their improved behavior. Changes in the numbers of treatment participants who regretted business or agricultural expenses may be related to changes in their understanding of those expenses as investments with attendant risk, as suggested in the HFHU FE curriculum.

Table 3.11: Descriptions of Regretted Expenses

Type of Response	Quote and Participant Code
Regretted food expense	<i>I can buy fish and when I reach home I do not eat it because I no longer feel like eating it. It is such things that I regret.– II 608 (Round 1, treatment)</i>
Other regretted expense	<i>(There are) many things like animals I regret (purchasing) because they sometimes die while you rear them and yet you expected to get profit out of it.– II 801 (Round 3, comparison)</i>
Regretted alcohol expense	<i>Sometimes I buy beer... and yet at home I did not buy enough basic necessities; this makes me regret.- II 415 (Round 3, treatment)</i> <i>I buy alcohol and at times regret (it) because I would have used that money to buy other things like sugar and soap.– II 904 (Round 3, comparison)</i>
Changes in regretted expenses	<i>I used to but now I no longer because I plan for my expenses.– II 401 (Round 3, treatment)</i> <i>No, when I started keeping track of my money I stopped buying things that I would regret.– II 313 (Round 2, comparison)</i>

An alternative explanation could be that treatment participants were reluctant to report their actual behavior because they had been taught in the HFHU training that it was wasteful. The transactions data lend some support to this latter explanation. The respondents in the Diaries study reported spending money on a leisure activity or item about once every five (5) weeks. The average amount was just under UGX 4,900, and the average amount per respondent per week was just under UGX 960. The most common leisure expenditure was on alcohol, mostly beer or a local brew – about five out of six of the leisure expenditures were on alcohol. Men spent far more on leisure items and services than did women. On average, men in the sample spent about UGX 1,550 per week on leisure items, while women spent, on average, just under UGX 350 per week. Women in the treatment and comparison communities spent roughly the same amount per week, but men in the comparison communities spent far more than the men in the treatment communities. There was no change in the average amount spent per week on leisure items in both the treatment and comparison communities.

Cash Flow Management: Summing Up

1. In-depth interview data suggest that respondents in the treatment group reported greater satisfaction with their money management practices in the second and third round of in-depth interviews than they did in the first round. Interviews with the comparison group did not show such a change.
2. In-depth interview data suggest that the basis for participant assessments of their satisfaction with their money management skills changed over the course of the study. In both treatment and comparison groups, participants placed less emphasis on income or earnings in assessing satisfaction with money management, and more emphasis was placed on being able to meet one's needs, plan, budget, save, or invest.

3. Transactions data suggest that respondents in the comparison group experienced a decrease in the share of weeks in which their household expenditures exceeded their combined earned income and transfers from spouses between the pre- and post-intervention periods. Treatment respondents did not experience such a decrease.
4. If data suggest that the numbers of treatment participants who said that tracking their money helped them in planning or staying on budget increased in both the second and third rounds of interviews, while no comparison participants mentioned it.

PLANNING AHEAD: RISK & OPPORTUNITY MANAGEMENT

Managing Risks

Income short-falls

The respondents in our sample not only suffered from low-incomes, but also from varied incomes. In about 30 percent of the weeks for which we have data, their net income was zero or less. There was little difference in the incidence of zero or negative income between men and women, so long as one includes intra-household transfers from spouses in women’s incomes. There was a difference between the treatment and comparison groups in the incidence of zero or negative income weeks amongst men, but not women (Table 3.12).

Table 3.12: Incidence of Zero & Negative Income Weeks

Gender and Group	(Replications based on 91 clusters in respid)			
	Observed Mean	Bootstrap Std. Err.	Normal-based [95% Conf. Interval]	
Women, Comparison	33%	4%	26%	41%
Women, Treatment	22%	3%	16%	28%
Men, Comparison	37%	6%	25%	49%
Men, Treatment	18%	3%	11%	24%
Total	29%	2%	24%	33%

In situations where people smooth their consumption across lean and plentiful weeks, household expenditures should not vary with week-to-week variations in income. The data from the Uganda respondents suggest that people did not fully smooth their consumption. Household expenditures varied with income: respondents spent almost UGX 17,000 less in weeks in which their net income was zero or less. This relationship held true when controlling for gender and across treatment and comparison groups. It broke down, however, for the treatment group in the post-intervention period, suggesting that treatment group respondents changed their behavior in the post-intervention period.

Despite the fact that income and household expenditures varied together, there was some consumption smoothing going on. The case study data revealed that respondents were keenly aware of farming seasons, dividing the calendar year into “planting” months in which they incurred heavy expenses in preparing their land, “harvest” months in which expenses were lower but they weren’t yet able to earn money, and “market” months in which they could sell

their crops. Indeed, all but one respondent – a student and intermittent wage worker – felt able to anticipate weeks in which they would be short on money, based on seasonal farming flows.

Respondents used financial inflows from individuals and organizations as well as withdrawals from home savings to smooth their consumption. In all cases, controlling for gender, household expenditures were positively correlated with inflows from these sources during weeks when income was zero or negative. This was also true for the comparison group, on its own, but the data for the treatment group suggest that only inflows from organizations, mostly savings groups and SACCO savings withdrawals, were correlated with increases in household expenditures during zero or negative income weeks (Table 3.13).

Comparing the pre- and post-intervention period suggests that inflows from individuals were important for both groups in the post-intervention period, but not in the pre-intervention period. It is unclear what drove this change in behavior, but it seems unrelated to the intervention given that both groups experienced it.

Table 3.13: Relationship between Financial Transactions & Household Expenditures in Zero & Negative Income Weeks

Comparison						
	(Replications based on 51 clusters in RespID)					
	Observed	Bootstrap	Normal-based			
House Expenditures	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval	
Gender	11,510	4,606	2.5	0.016	2,257	20,762
Home Savings Withdrawal	15,792	4,220	3.74	0	7,316	24,269
Inflow from an Organization	77,113	24,181	3.19	0.002	28,545	125,681
Inflow from an Individual	14,858	6,771	2.19	0.033	1,258	28,458
Constant	(923)	3,684	-0.25	0.803	(8,323)	6,477
Treatment						
	(Replications based on 37 clusters in RespID)					
	Observed	Bootstrap	Normal-based			
House Expenditures	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval	
Gender	13,266	7,218	1.84	0.074	(1,372)	27,904
Home Savings Withdrawal	(1,681)	7,244	-0.23	0.818	(16,373)	13,011
Inflow from an Organization	39,551	12,361	3.2	0.003	14,482	64,620
Inflow from an Individual	13,855	9,118	1.52	0.137	(4,638)	32,347
Constant	14,933	7,162	2.09	0.044	409	29,457

Exogenous shocks

Low-income people are vulnerable to a wide variety of exogenous shocks, such as illnesses, accidents, violence, theft, or natural disasters. The most common type of expense reported by the Diaries respondents that was

associated with an exogenous shock was the payment of a medical bill. The respondents reported paying 325 such bills, on average once every ten weeks per respondent. The average amount they paid was UGX 15,371.

Financial services can provide a useful cushion against shocks. For example, an illness in the family need not have negative consequences for the family if they have the resources to pay for medical attention that allows the ill person to recover quickly. Payment for the medical attention may have its own consequences, and, again, financial services can be used to mitigate those. Obviously, insurance is a common mechanism for ensuring that medical bills can be paid, but so are savings, support from family and friends, and loans.

The case study data revealed that respondents felt unable to prepare for emergencies, given their unexpected nature. They described emergencies as “*something that comes abruptly*,” stating that they “*cannot know what will happen*,” and thus “*cannot prepare the money in advance*.” Respondents tended to rely primarily on whatever money they had at home or had recently earned to cover emergency expenses, although a few mentioned that they saved in savings groups, SACCOs, or banks in order to be able to provide for future emergency needs.

Box 7: A Case Study in Managing Medical Expenditures

Samuel suffered from typhoid and malaria during Phase I of the study, and he sought treatment at the Kikyusa Clinic regularly in the beginning and end of this Phase (study weeks 5-10 and 21 – 29), incurring twelve different medical bills of an average size of UGX 32,717.

Samuel explained that when he had to undergo treatment, he would work in his retail shop and hire casual laborers to dig his farm for him. Indeed, he recorded expenditures for wage fees in the majority of weeks in which he sought treatment. Samuel related that he used revenues from his retail shop to cover these medical expenses, adding that this is how he usually covers emergency costs.

Table 3.14: Relationship between Financial Transactions & Medical Bill Payments

	(Replications based on 91 clusters in ResplD)						
	Observed	Bootstrap	Normal-based		Mean	[95% Conf. Interval	
	Coef.	Std. Err.	z	P> z			
Net Income	1.14 E-07	4.35 E-08	2.72	0.006	35459.1	2.90 E-08	2 E-07
Gender	0.0124001	0.0190845	0.65	0.515	0.481778	-0.025005	0.049805
Made a deposit	-0.0060326	0.0158054	-0.38	0.706	0.372741	-0.037011	0.024945
Made a home deposit	-0.0359303	0.014098	-2.51	0.012	0.384593	-0.063562	-0.008299
Home savings withdrawal	-0.0120603	0.0146331	-0.8	0.424	0.366519	-0.040741	0.01662
Inflow from an organization	0.0558801	0.0278296	2.28	0.023	0.071407	0.001335	0.110425
Inflow from an individual	0.0515827	0.0186883	3.03	0.002	0.182815	0.014954	0.088211
Harvest time	-0.022808	0.0103364	-2.1	0.036	0.241185	-0.043067	-0.002549

The Diaries data show a relationship between the incidence of a medical bill payment and the use of financial services. In both treatment and comparison groups, there is a correlation between financial inflows from organizations and individuals, on the one hand, and the payment of a medical bill in a particular week, on the other. Furthermore, the payment of a medical bill is related to a decrease in the incidence of home deposits. In addition to these financial

service relationships, the data suggest that the more income an individual earned during the week, the more likely they were to pay a medical bill.

When we isolate the groups, we find that there is a statistically significant relationship between inflows from other individuals and medical bill payments for the comparison group, but not for the treatment group.

Table 3.15: Relationship between Financial Transactions & Medical Bill Payments, by group

Comparison							
	(Replications based on 52 clusters in RespID)						
	Observed	Bootstrap	Normal-based				
	Coef.	Std. Err.	z	P> z	Mean	[95% Conf. Interval	
Net Income	1.02 E-07	4.41 E-08	2.32	0.02	38124.9	1.50 E-08	1.9 E-07
Gender	0.0006141	0.0213902	0.03	0.977	0.499218	-0.04131	0.042538
Made a deposit	-0.0164579	0.0254417	-0.61	0.545	0.083898	-0.066323	0.033407
Made a home deposit	-0.0213802	0.0214315	-0.99	0.324	0.406462	-0.063385	0.020625
Home savings withdrawal	-0.0203342	0.0177539	-1.12	0.263	0.383012	-0.055131	0.014463
Inflow from an organization	0.0331245	0.0389567	0.93	0.351	0.043773	-0.043229	0.109478
Inflow from an individual	0.0600642	0.025789	2.62	0.009	0.15581	0.009519	0.11061
Harvest time	-0.0296445	0.0123402	-2.2	0.028	0.242835	-0.053831	-0.005458
Treatment							
	(Replications based on 39clusters in RespID)						
	Observed	Bootstrap	Normal-based				
	Coef.	Std. Err.	Z	P> z	Mean	[95% Conf. Interval	
Net Income	131 E-07	9.42 E-08	1.46	0.144	31945.7	-5.30 E-08	3.2 E-07
Gender	0.0367311	0.0324114	1.15	0.25	0.458791	-0.026794	0.100256
Made a deposit	-0.0342998	0.0265712	-1.42	0.156	0.753434	-0.086378	0.017779
Made a home deposit	-0.0563452	0.0176276	-3.22	0.001	0.355769	-0.090895	-0.021796
Home savings withdrawal	0.0100203	0.0243367	0.43	0.67	0.34478	-0.037679	0.057719
Inflow from an organization	0.0823717	0.0410717	2.34	0.019	0.10783	0.001873	0.162871
Inflow from an individual	0.0464967	0.0276871	1.84	0.066	0.218407	-0.007769	0.100762
Harvest time	-0.0104809	0.0181457	-0.57	0.572	0.239011	-0.046046	0.025084

Furthermore, the relationship between home deposits and medical bill payments disappears for the comparison group. In contrast, for the treatment group, the relationship between medical bill payments and home savings deposits remains – the latter go down when the former occur – as does the relationship between inflows from organizations and medical bills, but the relationship between medical bills and inflows from individuals disappear. One way to think about the differences between the treatment and comparison groups is that the former use their savings groups and SACCOs to help manage their medical bills, while the latter rely on individual support from family and friends.

The number of medical bill payments was too small to say anything meaningful about whether behavior changed between the pre- and post-intervention periods in either group.

Asset Accumulation

Respondents reported making 137 asset purchases during the study period. These purchases ranged from piglets to doorframes to cell phones. Thirty-eight (38) of these purchases occurred in weeks during which the respondents did not receive any sort of financial inflows including withdrawals from home savings. Sixty-eight (68) of these purchases occurred in weeks in which the respondents also withdrew money from their home savings, leaving only 31 asset purchases that occurred in weeks when the respondents also received financing from an external source. In other words, almost 75 percent of asset purchases were financed by the respondents themselves out of cash flow or home savings. Only 13 of the asset purchases were financed by loans.

There were too few asset purchases in the sample to say anything about changes in the way people purchased assets between the pre- and post-intervention periods.

During the study period respondents sold 144 assets. Of these sales, 144 coincided with some sort of financial outflow during the same week. In the case of the treatment group, 51 of the 60 sales coincided with a deposit in a savings group or SACCO account, and 34 coincided with a deposit in home savings (there were numerous cases when there were both types of transaction). In the case of the comparison group, 66 of the 84 sales coincided with a deposit into home savings, and only nine (9) coincided with a deposit into a bank, SACCO, or savings group account.

The asset sales took place in weeks when net income, excluding the proceeds from the asset sales themselves, was positive, zero, or negative. In the case of the treatment group, just over 25 percent of sales took place in weeks when net income was zero or negative, while in the case of the comparison group half of the sales took place in such weeks. This could be interpreted as showing that the treatment group was less likely to be selling assets under duress – when they needed the money. But an alternative explanation is that there were more respondents in the comparison group who sold assets as part of their business.

An analysis of the impact of financial education on the ability of people to plan ahead would need to distinguish between these two explanations, because one might expect that an improvement in an individual's ability to plan ahead might lead to fewer asset sales under duress. For this study, the point is moot because there was not a sufficient number of asset sales during the study period to determine the impact of financial education on asset sale behavior. Nevertheless, it is worth examining how one might distinguish between business-as-usual asset sales and those made under duress. The data from Uganda suggest that one distinction that can be made is between assets that are commonly sold and assets that are not. Clearly, the data show that livestock sales were quite common: 102 of the 144 assets sold were livestock. There were also eight (8) sales of mats of which four (4) were by the same respondent in the space of eight (8) weeks. The other sales were more *ad hoc*, and likely constitute sales that were not business-as-usual.

The challenge then becomes to identify livestock sales that were not business-as-usual. One place to look is in the asset purchases the seller made, the timing of those purchases, and other sales the respondent made. This last point is important. If a person buys livestock regularly and then sells meat regularly, one can assume that they are in

some sort of butchering business. If they buy a milking animal and then sale milk regularly, one can assume that they are in the milk production business. A sale of a live animal would not be business-as-usual, and might be a sign of the need for quick money. But a person who buys animals and then re-sells them, maybe after fattening them up, would sell livestock assets as part of their normal business activities. One can code asset sales this way, but the Uganda Diaries data suggest that the number of assets involved may be small and that the results would most likely provide valuable qualitative case study data, rather than provide a basis of a quantitative analysis of behavior change.

Planning Ahead: Summing Up

1. Transactions data suggest that in 30 percent of the weeks respondents either earned no net income or made a loss on their businesses. During those weeks household consumption went down, suggesting that the respondents were not fully smoothing consumption.
2. Transactions data suggest that the treatment and comparison groups responded differently to the exogenous shock of having to pay a medical bill: the former used their savings groups and SACCOs to help manage their medical bills, while the latter relied on individual support from family and friends.

4. CONCLUSION

This report began with three questions:

1. What can Diaries, in combination with in-depth interviews, tell us about the financial capabilities of low-income people that we might not know otherwise?
2. How can change in indicators of financial capability be tracked through Diaries, in combination with in-depth interviews, over time?
3. Under what circumstances is it appropriate to use Financial Diaries to evaluate the impact of a financial education program?

In answer to the first question, the report draws on a rich set of qualitative and quantitative data to describe the lives of low-income Ugandans. The data were able to provide considerable insight into how the respondents manage their cash flow and risk, and use financial services. The data demonstrated that low-income Ugandans form multiple financial relationships, have highly varied incomes, and are prone to exogenous shocks. Any one hoping to implement a financial education program must keep these complexities in mind and find ways to enable low-income people to deal with the realities of their lives as they live them.

In answer to the second question, the combination of the in-depth interviews, Diaries, and case studies identified situations where changes in knowledge, skills and attitudes resulted in changed behavior and situations where, despite changes in the former, there was no discernible change in the last. As such, it provided insight into the issue of the connection between changes in KSAs and changes in behavior.

In addition, the report took a step away from traditional quantitative analyses that rely on cross-sectional data and examine behavior in terms of respondent attributes (such as gender or average income). Instead the report used the Diaries to analyze behavior in one aspect of a person's life, say saving money in a particular week, with behavior in another aspect of their lives, say income earned in a particular week or whether they made a medical expenditure in

that week. In essence, the analysis in this report sought to explain, or at least correlate, behaviors with behaviors, rather than attributes with behaviors. The report used the same approach in tracking changes in behavior – looking at whether behavior changed in one aspect, controlling for changes in behavior in other aspects of their lives.

To the extent that financial education is about behavior change, the analytical approach described above demonstrates the power of Diaries data for understanding the impact of financial education. Diaries data allow a researcher to track changes in behaviors of interest, such as saving or spending on unnecessary items. This report showed how this could be done while controlling for changes in behavior in other, related aspects of the respondents' lives. The analysis was fairly simple, and was limited by the size of the sample, and there is more that can be done to unpack the causal chain linking financial education to behavior change, by looking at, for example, intermediate behavioral changes. Despite these limitations, we believe this report has demonstrated how one might go about this, by operationalizing measures of financial capability using the Diaries data, and analyzing whether those data demonstrated any behavioral changes.

Finally, despite the sampling problems this project encountered, the findings of the report suggest that the financial education program in Uganda, however flawed in its implementation, and however biased in its recruitment processes, had some effect on the financial behavior of the participants. In particular, the transactions and II data suggest that the respondents in the treatment group changed their savings behavior. In particular, the finding that the treatment group experienced an increase in the amount they saved at home – an activity common to both groups – was most striking. The findings also showed the potential disjuncture between a change in knowledge, skills, and attitude, on the one hand, and behavior on the other hand. The example presented in this study was the finding in the qualitative data that the treatment group felt they had improved their control over their money management but there was no change in incidence of weeks when they spent more than they earned.

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ANNEXES



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ANNEX 1. ORIGINAL PURPOSE OF THE PROJECT

The World Bank's Russia Financial Literacy & Education Trust Fund selected Microfinance Opportunities (MFO) to implement a Financial Diaries study of the impact of Habitat for Humanity Uganda's (HFHU) financial education program. MFO's research protocol included supplemental data from three rounds of qualitative, in-depth interviews, which, in turn, were informed by participatory exercises used to establish local definitions of financial capability. The objectives of the study were to:

1. Conduct an evaluation of a financial education program using a mixed-methods research protocol that yields both qualitative and quantitative data, and a research design in which the sample is split between treatment and control groups;
2. Produce a report on the results of the evaluation that can be disseminated within Uganda and globally to inform the current body of knowledge on the impact of financial education, with a specific focus on informing the current efforts by the Bank of Uganda and Ministry of Finance, Planning and Economic Development in this policy area;
3. Identify and report out on lessons learned what worked, what did not, unexpected problems from the implementation of the research protocol that can be incorporated into the Financial Literacy Toolkit.

Due to problems in the sampling, the treatment and control groups are sufficiently dissimilar on a key dimension of financial capability, use of savings groups and SACCOs, to make it difficult for us to attribute changes in the financial capabilities of the treatment group to the financial education program. As envisaged in the original project proposal, the sample design had built into it a non-random assignment to the treatment group, due to the manner in which HFHU admitted participants into its education programs. It is HFHU's practice to respond to demand from groups of individuals in a community, rather than reach out to people in targeted communities. When HFHU receives a request they respond by delivering a financial education program in the community.

From a research perspective, this opens the door to self-selection bias. As will be discussed in more detail in a subsequent section of this report, we considered options for identifying a control group with a similar inclination to sign up for an education program, but, as noted in the original project proposal, these were not feasible. As a result, we chose to recruit a control group with similar characteristics to the treatment group, and to mitigate the self-selection bias *post hoc* by controlling for variables that might be indicators of such bias in our analysis. The sampling strategy did, largely, generate similar groups. But there was one clear and important exception: the treatment community was far more likely to be a member of a savings group, a SACCO, or both. In fact, all 39 of the Diaries respondents in the treatment group had at least one transaction with a SACCO or savings group during the period of the study. In contrast, only 15 of the 52 respondents in the control group did so. Such an overwhelming contrast in the two groups makes it very difficult to mitigate the bias resulting from the non-random recruitment of the treatment group. Though there is some variance in the intensity with which individuals in the treatment group use SACCOs and savings groups, there is not sufficient heterogeneity to control, *post hoc*, for the bias.

ANNEX 2. CONCEPTUAL FRAMEWORK

DEFINING FINANCIAL CAPABILITIES

The goal of this project is to examine how Financial Diaries, in combination with in-depth interviews, can inform our understanding of the financial capabilities of low-income individuals, track changes in their capabilities, and be used to evaluate the impact of financial education programs. To do this, we have to have a working definition of financial capabilities. Kempson (2008) states:

“A financially capable person is one who has the knowledge, skills and confidence to be aware of financial opportunities, to know where to go for help, to make informed choices, and to take effective action to improve his or her financial well-being...” (*ibid.*, 3).

Cohen and Sebstad (2003) quote Greenspan (2002) who, in describing the potential role financial education can play, provides another working definition of what it means to be financially capable. He states:

“[Financial education]... can help to inculcate individuals with the financial knowledge necessary to create household budgets, initiate savings plans, and make strategic investment decisions. Such financial planning can help families meet near term obligations and maximize their longer term well being...” (quoted in Cohen and Sebstad 2003, 2)

Finally, Sebstad *et al.* (2006) state:

Financial literacy can be defined as knowledge of basic financial concepts and the skills and attitudes to translate this knowledge into behaviors that improve financial outcomes. (*ibid.*, 6)

As summarized in Sebstad *et al.*, all three definitions point to the cognitive and behavioral dimensions of financial capability. A person with the right knowledge, skills, and attitudes or confidence, is cognitively equipped to act or behave in a financially capable manner. Furthermore, the cognitive dimension explicitly references both the importance of (good) information -- knowledge, and the importance of having the ability to frame and process that information effectively -- skills and attitudes or confidence. These definitions of financial capability are consistent with findings from behavioral economics, which link the framing of information to the economic behavior of individuals (Kahneman and Tversky, 1974). But there is also growing evidence from behavioral economics that behavioral prompts, “nudges,” can directly affect behavior without necessarily changing knowledge, skills or attitudes (Holzman 2010, 8). Thus, any understanding of financial capability has to take into account both the cognitive and the behavioral dimensions, and the relationship between the two.

In addition to these two dimensions of financial capability, which focus on the capabilities of the individual, there is a third dimension to financial capability that we have to keep in mind -- the “enabling environment” (Kempson 2008, 3). This includes both informal and formal financial service providers, as well as financial

education interventions and systems, such as communications networks, to deliver “nudges.” It is not possible to gain a complete understanding of the behavior of individuals without understanding the environment in which they are operating. If a community is not served by a bank, then no amount of financial education or “nudges” are going to change the behavior of individuals in that community in such a way that they start using the services of a bank.

With these three dimensions of financial capability in mind – the cognitive, behavioral, and environmental, we can begin to think about what financial capability might look like as we try to observe it. The literature on financial capabilities highlights some essential components of financial capability that a researcher might look for. Kempson (2008) states:

[T]he need for financial education breaks down into four distinct components: the need for personal resource management; the need to be able to fulfill (*sic*) transactional and other basic banking needs; the need to be able to provide for major future expenses and risks; and, finally, the need to manage exposure to debt and to know how to escape a debt trap once inside. (*ibid.*, 3)

Elsewhere Kempson discusses personal resource management in terms of the ability of a person to “make ends meet” and “keeping and using financial records” (Kempson 2005, 21).

In a similar vein, Sebstad and Cohen (2003) state: “Good money management is critical for meeting day-to-day needs, dealing with life cycle events and unexpected emergencies, taking advantage of opportunities when they present themselves, and planning for the future.” Elsewhere they provide “illustrative indicators of financial knowledge, skills and attitudes by financial education theme,” which provide more concrete examples of what a researcher might look for in trying to observe financial capability (Sebstad *et al.* 2005, 11). The themes they identify are: budgeting, savings, debt management, bank services, and financial negotiation (*ibid.*, 11-12).

Drawing from a more detailed reading of these four sources (Kempson 2005 and 2008, Sebstad and Cohen 2003, and Sebstad *et al.* 2005), we can identify some common conceptualizations of what it means, in real life, to be financially capable. These concepts include:

1. Day-to-day cash flow management, which includes: making ends meet for both ordinary expenses and “lumpy,” large expenses (behavioral), keeping track of your cash flow and budgeting (cognitive), understanding the difference between necessary and unnecessary expenses (cognitive), and avoiding unnecessary expenses (behavioral);
2. Planning for the future, which includes: making contingencies, such as saving up or buying insurance, for future emergencies/risks, including a time when one can no longer work, or opportunities (behavioral), as well as the cognitive process of articulating to oneself what those might be and developing a strategy for making such contingencies;
3. Financial service use, which includes: choosing the right financial tool (savings, loan, insurance, or grant/gift) for the right occasion (behavioral), based on an understanding of the costs and benefits of each (cognitive), and choosing the right financial service provider of each of these (behavioral) given the choices available (environmental).

It should be noted that we have conflated under each of these three concepts some ideas that appear separately in the literature. Kempson (2008, Annex 7, p.4) lists “keeping track” and “making ends meet” separately, but we have combined them under day-to-day cash flow management as we see both activities relating to that broader concept, one from the cognitive perspective (keeping track) and one from the behavioral perspective (making ends meet). Note that we have conflated planning for the future, on the one hand, with the management of risks and opportunities, on the other hand, because it is fairly clear that they are two sides of the same coin – the former is the cognitive side, while the latter is the behavioral side. Also, we have combined the use of specific financial tools (e.g. savings) and the use of specific financial services providers under the same concept of financial service use as a way both to draw the distinction between the tool and the provider, on the one hand, and also to acknowledge the close relationship between the two in terms of the terms and conditions of the financial product and the service delivery system through which people gain access to it, on the other hand. For example, it is useful to know whether people borrow more than they save; but it is also useful to know from whom they borrow or where they save. Furthermore, the answer to the “from whom?” question may have implications for the relative merits of a particular financial tool. For example, borrowing from a moneylender may have different implications for one’s ability to manage debt than borrowing from a rotating savings and credit group (ROSCA).

So far we have discussed financial capabilities in universal terms. But it is likely that what it means to be financially capable varies from place to place, due to cultural and economic factors. Variation might occur at three different levels. First, it may be the case that the operationalization of capabilities varies across different cultures and economies. For example, avoiding an unnecessary expenditure in one country may be different from another country. Second, it may be the case that the priorities cultures or economies assign to different capabilities vary. For example, in Malawi making ends meet was a very important measure of financial capability, because food security is a pressing concern of low-income Malawians. Third, it may be the case that cultures or economies vary in their definition of what it means to be financially capable in ways that cannot be reconciled through the process of abstraction. This last level of variation raises questions about cultural relativism versus universalism, as well as empirical questions as to whether there are truly distinct capabilities that one must have in a particular economy or culture that cannot be equated to capabilities in other economies or cultures at some abstract, but still practical, level.

To ensure that we took into account local understandings of what it means to be financially capable, we conducted nine participatory exercises in three communities, three in each community, to elicit from the participants their ideas of what it means to be capable. We used the modified participatory ranking exercise described in which key informants ranked households by their financial capabilities and explained to the facilitator why they ranked them as they did. Those statements were recorded and subsequently coded and scored (based on the ranking of the households about which they were made). We compared the results of these exercises with those that we had previously conducted in other countries – El Salvador, India, Malawi, and Pakistan.

The exercises yielded 360 unique statements about financial capability, which we coded into 92 standardized statements whereby statements whose meanings were the same were both ascribed to the same standardized statement. The number of occurrences of a standardized statement ranged from one to 20, with the average number of occurrences being four and the median three. For the purposes of identifying

common themes, we focused on standardized statements that occurred five or more times – 26 statements in all. Many of the themes emerging from the exercises were ones that had emerged in exercises we have done in other countries, though sometimes with different emphasis. They were also consistent with the three concepts of cash flow management, planning ahead, and financial service use listed above.

In terms of day-to-day cash flow management, participants in the exercises identified **spending on vices** as a sign of a lack of financial capability. In particular, spending on alcohol was a sign of low financial capability. As was the case in many other countries, the participants correlated high income with high financial capability, though Ugandans also articulated a correlation between land ownership and financial capability, which was less common in other countries. They also considered a household having its **own business** to be financially capable. Finally, the participants in the exercise identified **hard work and laziness** as variables that defined financial capability – the participants clearly thought households exhibiting the former were financially capable, while those exhibiting the latter were not. This idea does not fit as intuitively into the broader cash flow management theme, but it is possible that hard work translates to good cash flow management either through the diligent management of money or because it contributes to a greater income, which the participants identified as a sign of financial capability.

With respect to planning ahead, the participants identified one indicator of financial capability that they mentioned fairly frequently, which was that a financially capable household is one that **invests**. Finally, in terms of financial service use, the participants identified households that **save** and those that have a **bank account** as financially capable.

The data revealed some attributes of financial capability that had not emerged in exercises conducted in other parts of the world. One was **making good use of one's inheritance** – the participants seemed to place some emphasis on a household's inheritance and on whether they managed it well, with a household that did manage it well being more financially capable. It is unclear whether this capability fits under the day-to-day cash flow management theme or the planning ahead theme, but it is possible to envisage that it fits under either one or both. For example, managing one's inheritance well might be part of an overall capability for making ends meet in such a way that the inheritance is not denuded over time. Or managing one's inheritance well might be part of planning ahead, in such a way that it is available either to help in the management of risks, invest in new or opportunities, or to pass on to their own children.

Participants also identified households that had **an aspiration to become rich** as financially capable. This idea seems to fit squarely into the theme of planning ahead, in that people who have an aspiration to become rich are likely to be planning for the future. It is also likely to put the emphasis on planning for opportunities to invest, because that is the most likely route to becoming rich for a low-income person.

Finally, the participants identified **attending group meetings** as a sign of financial capability. There seems to have been considerable activity by government agricultural extension workers where we conducted our exercises, and participants pointed to attendance at these meetings as building financial capability. This idea suggests that people saw value in the education they got in the group meetings, or saw value in the opportunity to meet with their neighbors. But without knowledge of the specific content of these meetings, we cannot say what it was that they valued in particular. In the same way, the participants in the exercise

also stated that **households with educated adults and those that were educating their children**, were more financially capable. Again, the participants did not articulate more specifically what it was about being educated that contributed to financial capability.

THEORY OF CHANGE

A traditional financial education program is designed to change the knowledge, skills, and attitude (KSAs) of participants through education, which is meant to motivate a change of behavior, which, in turn, results in a change in economic well-being.

Figure A2.1: Financial Education Theory of Change



The design of the study allows us to examine the connection between changes in KSAs and changes in behavior. For example, should a respondent articulate their intent to start to save for emergencies, we can trace whether there is any change in their savings behavior over time, and whether, if they face an emergency, they use any savings they have accumulated. We will also be able to examine changes in behavior that do not seem to have any explanation grounded in changes in KSAs. In such cases, we will attempt to trace back the changes in behavior, through the transactional and events data in the Diaries, to try to identify their source. For example, if an individual suddenly starts to save, is there evidence that he or she experienced some event, such as an increase in income or a crisis, that might have prompted them to start saving? The longitudinal structure of the Diaries data allows us to answer these sorts of questions regarding changes in behavior.

ANNEX 3. HABITAT FOR HUMANITY INTERVENTION

DESCRIPTION OF THE HFHU FINANCIAL EDUCATION PROGRAM

HFHU's eight-week financial education program adapted MFO's curriculum, including modules on savings, budgeting, bank services, debt management, and financial negotiations. The program is designed to give participants the basic knowledge and tools they need to manage their money more wisely and encourage positive changes in their financial behavior. By the end of the training, participants are expected to have gained financial knowledge and skills, leading them to positive changes in financial attitudes and behavior as described in the financial education model of change. The learning objectives for each session were used in formulating outcomes indicators for assessing the impact of the financial education program. Information on the schedule, rosters, and attendance of the sessions was obtained from HFHU in order to cross-check participants' self-reported events data and to help correlate session attendance with outcome measures.

IMPLEMENTATION

HFHU conducted seven (7) training sessions from July through September 2011 for each of four groups of financial education clients in two locations: Ssenyomo village and Kiwayirembe village. In the former, HFHU delivered FE training to the Basoko Kwavuula Group, and in the latter village it delivered FE training to the Bakuseka Magende Group, Suubi Farmers' Group and the Ssenyomo F.F. Association Group. Two sessions were required to cover each of the first two chapters in the curriculum on budgeting and saving. The remaining three (3) sessions covered financial negotiation, debt management, and bank services (Tables A-3.1 and A-3.2). More information on the HFHU curriculum can be found in Technical Annex 1, "HFHU Learning Objectives."

Table A-3.1: FE Training Syllabus

Session	Session name	Topics covered
1	Budgeting	How to make a budget; benefits of a budget
2	Budgeting	Setting financial goals
3	Saving	Purpose for saving; savings services
4	Saving	Benefits of saving
5	Loan management and negotiation	Preparing for negotiation and benefits of negotiation
6	Debt management	Reasons for taking a loan; loan terms and conditions
7	Bank services	Different service providers; HFHU services.

In total, HFHU recorded 110 individuals attending some or all of their classes, including 41 in the Diaries study (Table A-3.2). All but one pair of Diaries respondents were from different households, meaning that 40 Diaries households were exposed to financial education.

Table A-3.2: FE Participation by Group

Village	Group name	Total participants	Diaries participants
Ssenyomo	Bakuseka Magende Group	32	9
Kiwayirembe	Basoko Kwavuula Group	23	21
Ssenyomo	Suubi Farmers' Group	27	8
Ssenyomo	Ssenyomo F.F. Association Group	28	3
TOTAL		110	41

Table A-3.3: HFHU Reported Attendance Rate

Session	Training content	Non-Diaries	Diaries	Total
1	Budgeting	64%	100%	77%
2	Budgeting	51%	95%	67%
3	Introduction to savings	41%	95%	61%
4	Savings	55%	90%	68%
5	Loan management and negotiation	48%	93%	65%
6	Debt management	51%	95%	67%
7	Bank services	57%	95%	71%
Average attendance for all sessions		52%	95%	68%

HFHU's attendance data suggest that attendance rates of participants in their program averaged 68 percent per session, but there was a large discrepancy in attendance rates between individuals enrolled in the research protocol and those not, with the former having almost perfect attendance and the latter having much worse attendance. Self-reported attendance data suggest that participants in the research protocol had similar attendance rates to those not participating in the research protocol. Regardless, if we consider those not participating in the research protocol to be representative of people enrolled in a financial education program, then the data suggest that attendance was only about 50 percent.

The discrepancy between the Diaries participants' attendance rates and those of people not participating in the Diaries is a cause for concern, because it indicates either a large impact on attendance from participating in the Diaries study or misreporting by HFHU of the attendance rates of the Diaries participants. We can shed some light on this issue because we have self-reported attendance data from Diaries participants, gathered during the weekly Diaries interview. Omitting the attendance rates for the first two sessions, which are low for reasons to do with problems in the research protocol, the data suggest that the attendance rates of the Diaries participants were more like those of individuals not participating in the Diaries study – around 57 percent for the last five sessions.

Table A-3.4: Self Reported Attendance Rate

Session	Session name	Attendance rate
1	Budgeting	34%
2	Budgeting	23%
3	Saving	66%
4	Saving	70%
5	Loan management and negotiation	50%
6	Debt management	59%
7	Bank services	39%

OTHER TRAINING PROGRAMS ATTENDED

Table A-3.5: Non-HFHU Trainings, by topic covered

Topic Covered	Treatment	Comparison	Total
Adult Education	1	1	2
Agricultural Marketing	4	0	4
Agricultural Production	16	23	39
Child Care	0	9	9
Family	1	0	1
Financial Education	4	0	4
Health	4	14	18
Home Economics	2	2	4
Miscellaneous	0	2	2
Missing	1	2	3
Total	33	53	86

HFHU's financial education training program was not the only program offered to people living in the treatment and comparison communities. During the Diaries study, 18 different respondents in the

comparison communities attended one or more of 53 training sessions offered by fourteen different training organizations. In the treatment communities, during the Diaries study, 22 respondents attended one or more of 33 training sessions offered by seventeen different organizations, other than HFHU. The types of organizations offering these trainings varied considerably, as did the topics covered. The majority of the sessions covered topics related to agricultural production or health (Table A-3.5).

ANNEX 4. RESEARCH SITES & SAMPLE CHARACTERISTICS

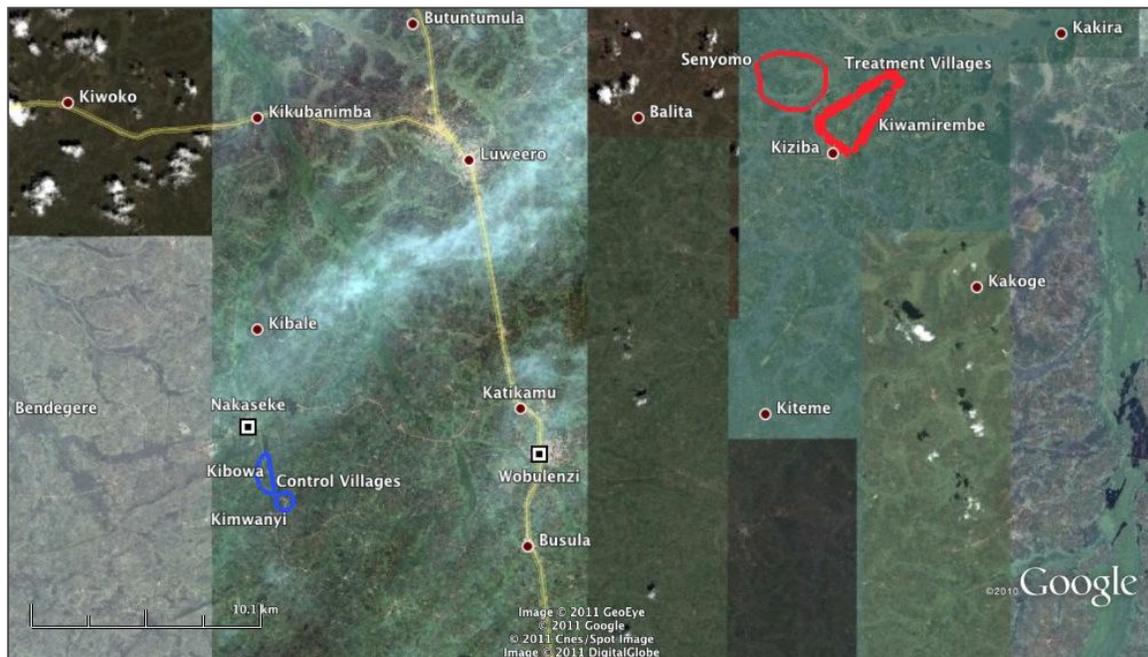
At the time of the start of the project, HFHU's Luweero office had a number of requests from community groups in the area to offer its financial education program in their communities. HFHU selected two communities, Ssenyomo and Kiwamirembe, in the Kikyusa sub-district of Luweero District, based on the criteria provided to them by MFO. Those criteria were that the communities be:

- A rural village;
- Away from any main, tarmac road; and
- About a UGX 2,000 (\$2 PPP) boda boda, or motorcycle taxi, ride from a trading center.

The two communities selected are about 20km east of the Kampala-Gulu highway by road. The nearest trading center is Kiziba. Kiwamirembe is about 1km from the trading center, while Ssenyomo is about 4km from it. In the case of the former, the *boda boda* ride costs less than UGX 2,000, while in the case of the latter it costs about UGX 2,500, with rates increasing in the rainy season. Our field workers also note that the price of a *boda boda* ride is not fixed and can vary depending on the bargaining power of the customer and the weather conditions.

With respect to the comparison communities, HFHU assisted MFO and its field research team in identifying the geographical areas in which residents had neither requested nor received financial education but were similar in other ways to those in the treatment area. It is from these areas that MFO and its field team identified the two comparison communities. The communities we selected were Kibowa and Kimwanyi, which are about 16km and 17km west of the Kampala-Gulu Highway by road, and so over 35km by road from the treatment communities. The nearest trading center is Nakaseke, which is about 3km from Kibowa and 4km from Kimwanyi, though, due to the geography of Kibowa, which stretches along a dirt road heading into Nakaseke, the nearest respondent to Nakaseke is only 1.7km from the trading center. Figure A4.1 shows the geographic distribution of the treatment and comparison samples by village – for confidentiality reasons we have not plotted the exact locations of our sample.

Figure A4.1: Geographic Distribution of Treatment & Comparison Communities



In the treatment communities, HFHU held a community meeting in early April 2011 to identify those who would participate in the financial education and to introduce the Diaries research team. HFHU provided our field team with a list of individuals who had signed up to participate in the financial education, and the team then randomly selected individuals to recruit into the study. As will be described in more detail below, there were a total of 110 attendees at the HFHU financial education sessions, of which 41 participated in the Diaries study. Six respondents in the treatment communities did not attend the education, but five of those six were members of households where another person in the household attended. The assumption in financial education is that people in the household of someone who attends a financial education training is likely to have exposure, indirectly, to the content of the curriculum. Under this assumption, we will consider these respondents part of the treatment group. The one person living in a household in which no one attended the financial education classes is a single mother with a nine year-old child. For the purposes of this study, we will also include this individual as part of the treatment group.

In the comparison communities, the MFO field team followed a geographic sampling procedure, visiting every third house to invite people to participate in the study, with some exceptions. One exception is a respondent in the Kibowa community who is a leader in that community and was included in the study to ensure the participation of others in the community. Though he was included in the data collection, this respondent's data is not included in the analysis here. There were other exceptions made due to the fact that neighbors of randomly selected households that agreed to participate in the study also requested/insisted they be part of the study. As a result, we have some clustering of households.

THE RESEARCH SITES

MFO conducted a census of the households in each community to establish some basic information about their economies and to define the universe of households from which we drew our sample. We used both official information and a participatory ranking method to conduct the census. We secured an official list of households in each community and then called together a group of key informants and asked them to map the locations of all the households in the community. We assigned each household a number and asked the informants to identify the occupation of the head of household and his or her marital status.

Once we had completed the identification of the households, the field team created cards for each household with sufficient information on it to enable the key informants to recognize the household. They then sorted each household into piles, from the lowest ranked to the highest ranked in terms of household income, and described each pile in terms of whether the households in them were “very poor,” “poor,” “a bit better off,” or “doing ok.” They also stated their estimate of the average income of the households in each pile, in terms of Ugandan shillings per month, though the field team reported that in at least one community these estimates were not reliable.

Using these data, we were able to generate a picture of the distribution of occupations and incomes within the different communities and assign “scores” to the various occupations based on how households in different occupations were ranked during the income ranking exercise. Our analysis was made easier by the fact that each group of key informants sorted the households in their community into six piles, except in one community where they sorted them into seven.¹

The results suggest commonalities and differences across the communities in which we are conducting our research. Data from the income ranking exercises in each community suggest that the median household is either “poor” or “a bit better off,” based on their own assessment of what those phrases mean. This gives us some sense that the self-perception of the communities is roughly equivalent but does not establish that the yardstick they are using is the same (Table A-4.1).

“Farmer” was the most common occupation listed for the heads of household in all the communities. Almost all the households in all the communities were involved in farming, but some were involved in other activities as well. The data suggest that the distribution of occupations in the two sets of communities was roughly the same – there were no statistically significant differences in the share of occupations across the two groups except in the case of casual laborers who were not mentioned in the comparison communities.

1. The protocol for the ranking exercise requires that the informants sort households into at least four piles, but there is no limit as to how many piles they can identify.

Table A-4.1: Distribution of Household Income Rank

Treatment					
Kiwamirembe			Senyomo		
Rank	Percent	Status	Rank	Percent	Status
1	4.31%	Doing OK	1	2.74%	Doing ok
2	7.18%	Doing OK	2	15.07%	Doing ok
3	11.48%	A bit better off	3	15.07%	Doing ok
4	14.35%	Poor	4	15.07%	A bit better off.
5	35.89%	Poor	5	19.18%	A bit better off.
6	26.79%	Very Poor	6	23.29%	Very poor
			7	9.59%	Very poor

Comparison					
Kibowa			Kimwanyi		
Rank	Percent	Status	Rank	Percent	Status
1	22.02%	Doing OK	1	2.83%	A bit better off
2	19.27%	A bit better off	2	16.98%	A bit better off
3	19.27%	A bit better off	3	33.02%	A bit better off
4	16.51%	Poor	4	15.09%	A bit better off
5	16.51%	Poor	5	16.98%	Poor
6	6.42%	Very Poor	6	15.09%	Very poor

Table A-4.2: Distribution of Occupations, by group

Occupation	Comparison		Treatment	
	Percent Share	Weighted Average Score as a Percent of Top Score	Percent Share	Weighted Average Score as a Percent of Top Score
Animal husbandry	3%	88%	4%	84%
Business	13%	61%	19%	81%
Casual labor	0%	35%	7%	n/a
Employee	2%	100%	1%	77%
Farmer	64%	62%	56%	56%
Other	1%	n/a	1%	n/a
Self-employed	7%	76%	6%	78%
Student	0%	50%	0%	19%
Teacher	3%	50%	1%	80%
Traditional healer	3%	88%	1%	95%
Unemployed	1%	25%	2%	29%
Total	100%		100%	

To see whether the communities' perceptions of the occupations in each community were the same, we scored the occupations according to the rankings of the households associated with them. The rankings in each community are relative, so we standardized the average scores of each occupation as a percentage of the average score of the highest ranked occupation in each community and then calculated the weighted average of each occupation within the two sets of communities – treatment and control. The data suggest that the relative placement of many occupations is the same in the treatment and control communities, but there is a difference in the perceptions of households with a business. In the comparison community that occupation is ranked higher than in the treatment community. There are also disagreements regarding the ranking of teachers, students and employees, but these do not relate to a large number of households.

In sum, the income ranking data suggest that the communities' self-perception of the distribution of incomes across households is roughly the same, with the median household being either “poor” or “a bit better off.” The occupation data clearly suggest that households in the two communities are involved in the same income-generating activities, and that there is some agreement across the communities as to the relative merits of each occupation.

SAMPLE CHARACTERISTICS

The research design of the Uganda Financial Education Impact Project divides the study into two phases in order to capture both the short-term and long-term impacts of the Financial Education intervention. Specifically, the design calls for data to be collected immediately after the intervention ends and again eight months after the fact. This approach allows for there to be an overlap in the months in which short-term, pre- and longer-term, post- intervention data are collected, in turn ensuring that our comparison of respondent knowledge, skills, and attitudes along these time horizons is based on data collected during the same season of the year.

Phase 1 spanned a 29 week period between May and November of 2011, with a three month hiatus before Phase 2 Diaries collection picked up again on March 12, 2012. Phase 2 continued for 13 weeks, ending in mid-June 2012.

At the end of Phase 1 of the Uganda Financial Education Impact Project, our Financial Diaries sample represented 103 respondents, living in 88 households. Forty-seven of these respondents (41 households) live in treatment communities and 56 (47 households) in comparison communities, with a fairly even split between men and women across communities.

Analysis of Phase 2 transactions data for the 13 weeks between March and June 2012 revealed that a total of 91 respondents living in 83 households rejoined the project for the second phase of data collection, with 12 respondents having dropped. The data show that only five of the 103 original respondents declined to participate in the study further because of a lack of interest. The other seven who dropped did so because they relocated, died, or suffered some other calamity. The next sub-section, “Phase 2 Retention Analysis,” contains a detailed report on the changes in the sample from Phase 1 to Phase 2.

As a result, there were 39 respondents in the treatment communities and 52 in the comparison communities, with a fairly even split between men and women (Table A-4.3). There are 41 households in the treatment communities and 47 households in the comparison communities. The average household size is just over six people, with little difference across three of the four communities, but a markedly smaller average household size in Senyomo, which is a treatment community (Table A-4.4).

Table A-4.3: Gender Distribution of Sample

	Female	Male	Grand Total
Comparison	26	26	52
Treatment	21	18	39
Participating	47	44	91

Table A-4.4: Average Household Size

Group	Mean	Std. Err.	[95% Conf. Interval]	
Comparison	6.71	0.31	6.11	7.32
Treatment	5.40	0.42	4.58	6.23

Income

As we will discuss in more detail below, the Diaries data track income from all sources and business-related expenses, amongst other transactions. As a result, the data allow us to calculate the weekly income of each respondent for every week that they are in our study. We calculated the net business income of each respondent by subtracting business expenses from business earnings, and added in any other sources of income such as wages or the sale of farm produce. We did not include cash gifts or other sorts of cash transfers received in our calculation of income, even though, for some respondents these are an important source of support.

Table A-4.5: Average Weekly Net Income

	(Replications based on 91 clusters in respid)			
	Observed	Bootstrap	Normal-based	
Gender and Group	Mean	Std. Err.	[95% Conf. Interval]	
Women, comparison	15,611	2,923	9,883	21,339
Women, treatment	17,926	4,278	9,542	26,310
Men, comparison	60,709	10,048	41,015	80,404
Men, treatment	48,484	7,028	34,708	62,259

The average income data show some differences between treatment and control groups that are not statistically significant, and a clear, statistically significant difference between the net incomes of men and women.²

Occupation

As in the case of the census of the households, the sample of respondents were almost all engaged in farming, based on their self-reported occupation and an analysis of the sources of income reported in the Diaries. In the comparison group, just over a third of the respondents described themselves as farmers only, and their Diaries data supported this contention, showing income only from the sale of agricultural produce or animals. The rest of the comparison group had a variety of combinations of income sources, which we have categorized by whether they were from some sort of business activity, casual wage labor, or permanent employment (Table A-4.6). In the treatment group, very few respondents described themselves as farmers only, and the Diaries data show that most of the respondents in this group earned income from a variety of sources (Table A-4.6).

Table A-4.6: Household Sources of Income

Occupation	Comparison		Treatment	
	Number	Percent	Number	Percent
Business, wage	2	4%	1	3%
Farmer	14	27%	2	5%
Farmer, business	22	42%	17	44%
Farmer, business, wage	5	10%	12	31%
Farmer, employed	1	2%	0	0%
Farmer, employed, business	1	2%	0	0%
Farmer, wage	6	12%	6	15%
Wage	1	2%	1	3%
Total	52	100%	39	100%

At first glance, the data suggest that our samples in both treatment and comparison groups are not representative of the communities from which they are drawn, because there are too few people in the sample who are farmers only. It is likely that this is the result of the key informants not knowing all the activities in which the households in their community engage. On the other hand, the data are consistent

2. Precise tests of the difference in means of clustered samples are complex and have not been performed here. Instead, we use an estimate of the likelihood that means are different at the five percent level if the following condition is satisfied (Wolfe and Hanley, 2002): $|\text{mean}_B - \text{mean}_A| > 2\sqrt{(\text{SE}_A^2 + \text{SE}_B^2)}$, where SE = standard error.

with respect to the fact that the census data, the self-reported survey data, and the Diaries data confirm that almost everyone in the communities where we conducted our research do farm.

The data also suggest that individuals who report earning income only as farmers make up a larger share of the comparison group than of the treatment group and that farmers who both earn a wage and have business income make up a larger share of the treatment group. The first difference is suggestive, but not statistically significant, while the second is statistically significant.

Summary

The treatment and comparison samples are drawn from communities that are located in geographically similar areas. The data suggest that the occupations of members of those communities are roughly similar, and the median household is either “poor” or “a bit better off.” The sample of respondents itself shows some differences in income, but these are not statistically significant at the 5% level. The Diaries data confirm that almost all respondents in both samples are farmers but also suggest that there are some differences between the two groups with respect to the share of respondents who earn income from farming, wages, and a business.

PHASE 2 RESPONDENT RETENTION ANALYSIS

The research design of the Uganda Financial Education Impact Project divides the study into two phases in order to capture both the short-term and long-term impacts of the Financial Education intervention. Specifically, the design calls for data to be collected immediately after the intervention ends and again eight months after the fact. This approach allows for there to be an overlap in the months in which short-term, pre- and longer-term, post-intervention data are collected, in turn ensuring that our comparison of respondent knowledge, skills, and attitudes along these time horizons is based on data collected during the same season of the year.

Phase 1 spanned a 29 week period between May and November of 2011, with a three month hiatus before Phase 2 Diaries collection picked up again on March 12, 2012. Phase 2 continued for 13 weeks, ending in mid-June 2012. This section provides a brief analysis of respondent retention in Phase 2.

At the end of Phase 1 of the Uganda Financial Education Impact Project, our Financial Diaries sample represented 103 respondents, living in 88 households. Forty-seven of these respondents (41 households) live in treatment communities and 56(47 households) in comparison communities, with a fairly even split between men and women across communities.

Analysis of Phase 2 transactions data for the 13 weeks between March and June 2012 revealed that a total of 91 respondents living in 83 households rejoined the project for the second phase of data collection, with 12 respondents having dropped. We collected a full 13 weeks of data from 82 of the rejoining respondents, 12 weeks of data from five of the respondents and 2, 3, 4 and 10 weeks of data from the remaining four respondents respectively.

The field research team gathered summary information as to why the 12 respondents dropped from the study. Three primary reasons emerged from their feedback: death or calamity, relocation, and disinterest (Table A-4.7). The data show that only five of the 103 original respondents declined to participate in the study further because of a lack of interest. The other seven who dropped did so because they relocated, died, or suffered some other calamity.

Table A-4.7: Reasons for Dropping Out of Study

	Not Interested	Relocated	Death or Calamity	Total
Comparison	3	1		4
Treatment	2	4	2	8
Total	5	5	3	12

To further improve the study's retention rate, we asked the research team early in Phase 2 to make a concerted effort to encourage respondents who reported no longer being interested in participating to re-enroll and to place a particular focus on those individuals identified as having a household member (spouse) who was still participating. The field research team reached out to these respondents – in some cases, on two separate occasions – but was mostly unable to persuade them to continue participating in Phase 1I, with the exception of one respondent.

The one respondent who did, eventually, respond to the team's outreach efforts was the husband in a farming couple living in Senyomo (a treatment community). They experienced a personal calamity, the burning of their tobacco and pineapple crops, and initially described feeling too overwhelmed to continue participating in the survey's second phase. The research team managed to reach the respondent's wife, who expressed interest in re-enrolling but explained that she would have to consult with her husband before making a final decision. The next time the team met with this couple, they provided them a small incentive. Eventually the husband rejoined the study and provided four weeks of data.

Distribution by study group

Eight of the 12 dropped respondents live in treatment communities and four in comparison communities. As is shown in Table A-4.8, a roughly equal number of respondents dropped from each of this study's treatment communities, Kiwamirembe and Senyomo, while most of the dropped respondents in the comparison group live in the same treatment community, Kimwayna.

The Phase 2 roster now includes a total of 91 respondents spread across 83 households, with 39 respondents living in treatment communities, and 52 in comparison communities.

Table A-4.8: Distribution by Study Group

	Comparison		Comparison Total	Treatment		Treatment Total	Grand Total
	Kibowa	Kimwanyi		Kiwamirembe	Senyomo		
Dropped	1	3	4	4	4	8	12
Participating	22	30	52	18	21	39	91

Distribution by gender

As is summarized in Table A-4.9, eight of the 12 dropped respondents are female. The split between men and women in our effective Phase 2 Roster remains fairly even, both across the study sample and within each study community.

Table A-4.9: Distribution by Gender

	Female	Male	Grand Total
Dropped	8	4	12
Comparison	3	1	4
Treatment	5	3	8
Participating	47	44	91
Comparison	26	26	52
Treatment	21	18	39

Distribution by Phase 1 participation rates

We examined the Phase 1 transactions data for dropped respondents in order to determine how actively these individuals participated in the first phase of our survey, using the number of weeks of data entered as a proxy. A respondent’s participation rate, then, represents the number of weeks out of the 25 study weeks in Phase 1 in which he entered Financial Diaries data (excluding the first four weeks of data that we consider to be unreliable and part of the “start-up” phase of the study).

Our analysis of Phase 1 participation rates reveals that, participants provided an average of about 24 weeks of data, for a sample-wide average participation rate of 98%. Dropped respondents, on the other hand, provided an average of 19 weeks of data and had an average participation rate of 78%. Table A-4.10 summarizes the results of our analysis of Phase 1 participation rates.

Table A-4.10: Distribution by Phase 1 Participation Rate

	Mean	Median	Standard Deviation	[95% Confidence Interval]
Phase 1 sample	24.5	25	0.735	[24.35, 24.66]
Dropped	19.4	20.5	2.77	[16.65, 22.18]

ANNEX 5. METHODOLOGY

LOCALLY-INFORMED INTERVIEWS

The research design calls for three rounds of in-depth interviews, one at the start of the project, one mid-way through, after the intervention, and one in the second phase of the project. The purpose of the in-depth interviews was to generate data from which we could assess changes in the knowledge, skills, and attitudes of respondents. In addition, the interview data provided important context about participants and their ways of thinking, which we used to strengthen the analysis of the transactional data coming out of the Financial Diaries. Theories developed about participants from the transactional data were also checked against interview data. This helped to inform the interpretation of the Diaries data by offering explanations, in the words of participants, of their own financial management attitudes and behaviors. Interview data also revealed broader participant motivations with which to construct theories behind behavioral patterns found in the transactions data.

The interviews covered a number of topics, gathering information about: the respondent and his/her family and community; financial management and money tracking; saving, investment, borrowing, and banking; unnecessary expenses and expenditures people regretted making; responses to unexpected expenses; characteristics of hard workers; and the nature and degree of community support for others. The interviews finished with a set of five questions intended to measure specific knowledge, skills, and behavior indicators related directly to the HFHU curriculum. The interview guide used can be found in Technical Annex 2.

The baseline research is designed to provide an initial metric for the final assessment. Because unexpected results are likely to emerge, the methodology used in analyzing the baseline interviews data was designed to provide a rapid assessment of the available data by selecting a balanced sample of 30 of the 68 LII participants who represent the demographics of research participants equally in terms of exposure to the treatment, geographic location, gender, age, and educational attainment. Balance in terms of age and educational attainment was established based on self-reported demographic data at the beginning or end of each interview. Based on this data, participants were divided into groups based on being over or under 40 years old, and whether or not they had completed primary education. In certain instances where the results did not align with those of the transactions data or were deemed particularly important to explore, a second analysis was run on the full set of 68 LIIs. These instances are noted in the text below.

We used NVivo qualitative research software to code and sort participant responses and to compile matrices of participant responses, organized by treatment group and sample segment. First core questions were identified, and participant responses to these core questions and related probes were examined together to avoid losing contextual data. In some cases, answers were coded based on predetermined criteria and simple tallies were used to compile data. In other cases, participant responses were used to create codes representing the range of participant responses, which were applied to the data and compiled to summarize results.

FINANCIAL DIARIES

As noted above, the Financial Diaries are weekly interviews in which respondents are asked to report all their economic transactions (see Box 1). These transactions recorded on simple data sheets (see Technical Annex 4), that log cash outflows and inflows on the front side, and records of barter exchanges, gifts given and received, and food taken out of or put into storage on the back side. Also on the back side of the sheet, field workers record any significant events reported to them by the respondent, including attendance at any trainings.

The field workers attempt to gather a complete record of all transactions performed by the respondents during the preceding weeks. In cases where respondents perform multiple small transactions involving the same good or service, such as the daily purchase of a staple food, the field worker enters one, aggregate record for all the purchases, instead of entering each one individually. In the same way, earnings, especially from business, are not reported per transaction, but are aggregated for the week. Each unique expenditure, on the other hand, is recorded separately.

In addition to gathering information about the amount of a transaction, field workers also record the location of the transaction and identify the other party to the transaction, either in terms of his or her role (vendor, group treasurer, etc) or relationship to the respondent (uncle, friend, etc). In this way, the transactions data coming out of the Diaries can help build a spatial picture of the lives of the respondents as well as identify key networks in which they are embedded.

Once the data are gathered from the field, they are delivered, weekly, to the data-entry clerk in Kampala. The data are then entered into an Access database, exported into an Excel spreadsheet, and sent to a research assistant in the U.S. via email on a weekly basis. The research assistant reviews the data for obvious errors and sends an annotated Excel spreadsheet back to the project manager in Uganda who then follows up on any questions raised by the U.S.-based research assistant. About once every 10 weeks the U.S. team reviews the data in more depth, looking for imbalances in inflows and outflows of cash across

BOX 1: Transactions Reported in Financial Diaries

- Purchases of goods and services
- Sales of goods and services
- Income from employment
- Cash gifts given and received
- E-money remittances sent or received
- Money deposited into any sort of account including informal accounts such as deposit collectors or rotating savings and credit associations
- Money withdrawn from any sort of account
- Money borrowed
- Money lent out
- Loan repayments made or received
- Insurance premium payments
- Insurance pay outs
- Winnings from gambling/lottery
- Barter exchanges, including the exchange of labor for goods/services
- Non-cash gifts given and received
- Food/grains taken from storage or put into storage

multiple weeks and for transactions involving an unusually large or small amount of money given the item – and/or volume of the item – purchased.

CASE STUDIES

An MFO researcher conducted 10 in-depth interviews (IDIs) – five in each study community – in order to unpack the behavioral patterns observed in the Diaries. The IDI respondent sample was drawn from the larger sample of Diaries participants on the basis of patterns of behavior that emerged out of the data. The selection process focused on two variables: deposits into savings accounts and lump sum expenditures. The first variable was intended to distinguish individuals by their relationship with a financial service provider – semi-formal or formal, while the second was intended to distinguish individuals by the cash flow management challenges they faced. We selected individuals who demonstrated different patterns of behavior in terms of these two variables.

In preparation for the in-depth interviews, MFO used the Diaries data to create a profile for each respondent, outlining the nature and frequency of his outlier expenses; the number and distribution of deficit and zero income weeks he experienced; his management behavior; and his use of financial services (Box 2). We used this profile to tailor each interview to the specific circumstances of the respondent.

The first part of the interviews walked through how the respondent coped with outlier expenses, deficit or zero-income weeks, and medical emergencies and if and how he or she planned for these types of financial shocks. The second part focused on the respondent's use of financial services, from banks, to SACCOs, to interpersonal loans and cash gifts. The goal here was to understand when and why the respondent used different financial services and how he might like to change his financial service use. A detailed interview guide can be found in Technical Annex 3.

Box 2: Data Used to Prepare In-Depth Interviews

Patterns of behavior from Diaries

- Outlier sequences
- Group deposit sequences
- Bank transaction sequences
- Weekly balances
- Net income per week
- Socio-economic profile
- Financial networks of relationships
 - Which groups do they belong to?
 - Who do they give cash gifts to?

FINANCIAL LANDSCAPE

The overall goal of the financial landscape survey was to investigate which financial services and products are available to members of our study communities, and which of these do community members use or not use and why. A parallel objective was to determine if there were any environmental factors that might explain differences in savings group and SACCO participation rates between the treatment and comparison communities.

Key informant interviews

As part of the financial landscape survey, MFO's researcher conducted key informant interviews with village leaders (one from each study community), savings group and SACCO leaders (two from each community) and a bank manager at Stanbic Bank in Luweero.

Village leaders

The interviews with village leaders were divided into two parts. The first part of the interview used the Financial Service Matrix (FSM) tool to build a list of financial services available to community members and generate descriptions of community members who are "rich," "doing okay," "poor" and "very poor." The researcher then worked with the village leader to understand what financial services each group of community members uses and does not use and why. In the second part of the interview, the researcher used the Financial Sector Trend Analysis (FSTA) tool to investigate how the availability of and preferences for financial services has changed over time in each study community.

Savings group and SACCO leaders

MFO used a Financial Landscape Analysis (FLA) tool to guide interviews with savings group and SACCO leaders. This tool walked through the "5 P's" —Product, Price, Process, Place, and People —of one savings and one loan product offered by each group or SACCO. The tool is also intended to build a description of the 5 P's of a competitor institution's savings and loans products, but all key informants declined to speak about their competition.

Bank staff

The researcher also used the FLA tool with the Stanbic Bank manager. Compared with the SACCO and savings group leaders, this key informant was reluctant to speak with us and was very strict about keeping the interview under 30 minutes.

We were unable to secure a meeting with a staff member at Centenary Bank in Wobulenzi (comparison community). This bank was always busy, with lines of customers stretching outside of its doors. The bank manager we approached for an interview seemed to be wary about speaking to us and finally told us she simply didn't have the time.

Focus groups

The original research protocol for the financial landscape survey called for four focus group discussions (FGDs) to be conducted with two single-sex groups of 6-8 non-Diary participants from each study community. The goal was to use the FSM and FSTA tools to identify which financial service providers were actively serving the study communities. However, an untimely rainy season made it difficult and dangerous to travel between study villages in order to recruit participants and conduct the FGDs. When our team got into a serious accident while traveling to Senyomo in the treatment community, we decided to cancel the FGDs. None of the team was badly injured.

As a result, we are missing data on the level of activity of savings groups and SACCOs in the treatment and comparison communities. To fill this gap, MFO tasked the field research team with returning to the communities to conduct a census of local savings groups. We also identified a list of SACCOs operating in each community and had the field research team go to the Luweero regional office of the Uganda

Cooperative Savings and Credit Union (UCSCU) to gather data on the level of activity of all SACCOs operating in the vicinity of the treatment and comparison communities.

ANNEX 6. CASE STUDIES

CASE STUDY: 105.2

Harriet, 36, lived in Kiwamerembe with her husband and four young children, aged 11, 7, 5, and 2. Her husband transported charcoal for a living, and she contributed to the household income by occasionally braiding hair. Harriet earned an average of UGX 8,855 per week over the course of the study. Her income pattern, however, changed drastically between the two study phases. In Phase 1, Harriet earned an average income of UGX 3,624 a week and worked in only 44% of weeks, whereas in Phase 2, she earned an average of UGX 18,915 a week and was able to work in 85% of weeks.

Financial service use

Saving

Harriet exhibited limited and irregular savings activity, making five deposits into a home safe and another five with the Basooka Kwavula Savings Group in Kiziba. Most of her deposit activity was concentrated between study weeks 10 and 13, and she made only two savings deposits in Phase 2, one each at home and with her savings group. Harriet tended to save larger amounts at home, or an average of UGX 53,420, compared to an average of UGX 2,820 deposited in her savings group.

Harriet mentioned that she had been one of the first members to join the Bassoka Kwavula Group and had previously been saving with a group of friends under an informal ROSCA-like setup.

She shared that she would like to start saving in a bank because it can be difficult for her to save at home, but she felt she needed more information regarding how to save before she could open a bank account.

Loans

Harriet took out one loan over the course of the study, borrowing UGX 10,000 from a friend in week 9. She explained that she borrowed money only when she had a specific purpose for that money. In this case, she described borrowing the UGX 10,000 to buy hair pieces, but her Diaries do not show any such purchases until the following year. Harriet decided to borrow from a friend in that instance because he/she lived close by, but she added that, in general, she did not like to “burden” her family with requests for loans because she knew that if they had money, they would send it to her.

Cash gifts

Harriet spoke of working closely with her husband to make sure they could pay their children’s school fees and cover general household expenses. Indeed, she received cash from her husband, either in the form of a gift or informal transfer, on an almost weekly basis, presumably to manage household expenses while he was away working.

Harriet also received two cash gifts from her sister – UGX 15,000 in week 9 and UGX 20,000 in week 24, when she visited her parents’ home in Kampala. She shared that her siblings offered her cash gifts because she was the eldest in the family and to allow her to hire workers to dig in the field for her. Her Diaries, however, did not show any records of wage payments.

Harriet received a cash gift of UGX 213,700 from Compassion International, an NGO in Kiziba, in week 12 of the study. She learned about this NGO at the Church of Uganda, where the Canon explained that grants were being offered to help parents with young children increase their earnings. Harriet had planned to invest her grant in salon machines, hair chemicals and rollers but reported ending up having to use these funds to cover medical costs. When we interviewed her after the end of data collection, she had not opened her own salon.

Cash flow management

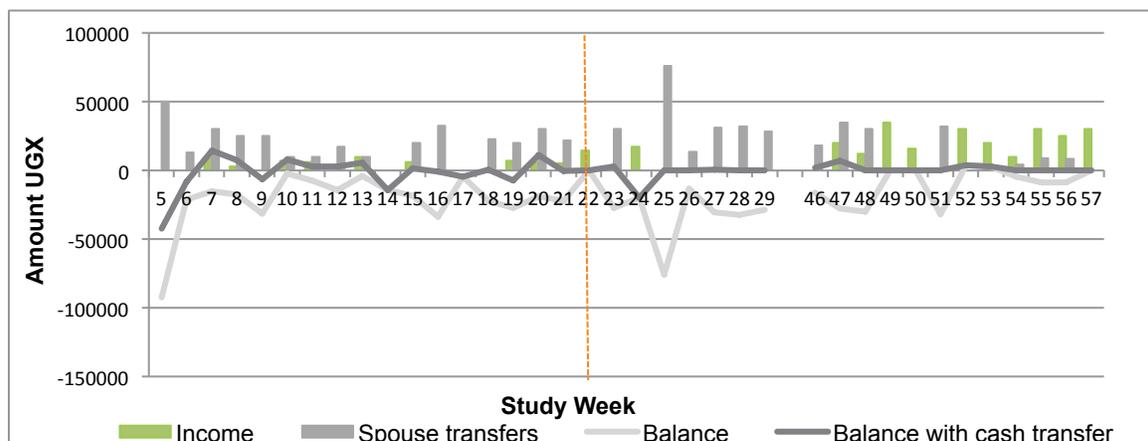
The majority of Harriet's outflows from week to week were for ordinary household expenses, and she was generally able to meet these by patching together her own income and cash transfers from her husband. She incurred large deficits in weeks 5 and 6, when her child was hospitalized for a motorcycle accident and again in week 19, probably as the result of having to pay for a land title in addition to her ordinary expenses. She did not incur any deficits in Phase 2, when she earned a higher and more consistent income.

Harriet reported being able to anticipate weeks in which she would be short on money because her husband informed her about charcoal business cycles or when he would not be able to work, so that she could purchase basic staples in bulk and gather food from the field for storage.

Harriet independently reported that after attending an HFHU training, she and her husband realized they had been over-spending and started to work to decrease their expenditures and save more, which in turn allowed them to invest in a plot of land and building material. She shared having cut down on unnecessary expenditures such as monthly trips to Kampala to visit family and giving her children money for snacks when she had already paid for school lunches.

Figure 1 illustrates how Harriet managed to make ends meet from week to week. Not only did Harriet become less dependent on cash transfers from her husband in Phase 2, but also, together the couple was better able to manage their household and business expenses during this time.

Figure 2: Harriet - Income and Cash Gifts from Spouse



Planning ahead

Harriet sustained two large expenses in weeks 5 and 25 in relation to her child's motorcycle accident. She took her son for treatment at the Kiggo Hospital in Kikyusa, where her husband later met her to pay the bill. The couple pooled together home savings and the husband's earnings for the day to pay part of the bill (UGX 61,000) in week 5, and Harriet's husband transferred her the remaining balance (UGX 40,000) in week 25.

Harriet described feeling that she could not plan for emergencies, because "*this is something that [came] abruptly.*" She relied on home savings to be able to cope with emergency costs and added that if she did not have enough savings on hand, she could borrow money from her savings group.

CASE STUDY: 115.1

Francis, 30, lived with his wife and baby daughter in their newly constructed house near a trading center in Kikyusa. He earned an average income of UGX 166,699 over the course of the study. In Phase 1, Francis pooled together income from a variety of sources, including land sales, rent income, phone charging fees, and commissions for the social services he provided as a Local Council chairperson, earning an average weekly income of UGX 151,476. In Phase 2, however, he relied mostly on pineapple sales, from which he earned a lower average income of UGX 59,655 a week.

Financial service use

Saving

Francis saved most regularly with the NSUUBI Farmers Group in Senyomo, making almost weekly deposits of an average size of UGX 4,375. He learned about this group while participating in a KAWACOM project to promote organic coffee farming. He explained that members cannot go more than two consecutive weeks without depositing, adding that *“people don’t join this group just because of its name. They have to participate actively.”*

Francis also saved with Share an Opportunity (SAO), a SACCO in Kikyusa. Francis learned about SAO through trainings offered at his sub-county but decided to wait to join until he started to earn large sums of money. Indeed, the three deposits he made into his SAO account fell during weeks in which he received unusually large cash injections (twice from sales of land, once from high pineapple revenues). Francis felt that the SAO SACCO provided a secure place to keep large sums of money and helped him avoid overspending on casual cash gifts and loans to friends by allowing him to keep his savings out of reach.

Between the different groups of which he was a member, Francis deposited more regularly into the Farmers Group but withdrew money from the SAO more often. He explained that he felt motivated to save as much as possible with the Farmers Group because he knew that the more he saved, the more he would earn at share out. Furthermore, he could only withdraw from his group savings once a year.

Finally, Francis supplemented his group and SAO savings with savings he kept at home, making irregular deposits averaging UGX 50,914 in size into a home safe.

Loans

Francis appeared to have borrowed money from a friend(s) and his Farmers Group, and he repaid these loans in installments at different points in the study.

Although he didn’t record having taken out any loans during the course of the study, Francis explained that he generally borrowed money when he had a productive *“goal [he was] chasing.”* That is, he made sure that he could use any money that he borrowed to earn profits.

He explained that when he did not have enough savings to cover either large, business-related expenses or basic household needs, he borrowed money from the Farmers Group. He chose to borrow from the group because he was able to get the money quickly there. He described the process of applying for a bank loan as being long and arduous, involving a lot of paperwork, trips to the local council, a two-week waiting period,

and a visit from bank staff to evaluate one's security. His fellow group members, on the other hand, knew him personally and could trust that he would pay his loan back.

Francis stated in two separate interviews that he wanted to receive training on how to borrow, and he attended HFHU training on debt management in week 21. He mentioned having also attended trainings offered by KAWACOM focused on borrowing to invest in coffee farming but felt that not enough was explained about the costs of borrowing. At the HFHU trainings, he learned that *"in the first phase of a loan, one has to pay 5% interest, and the more phases one borrows, the more the percentage decreases."* Francis was interested in taking out loans to grow his pineapple farming business, which required large outflows of money, and he wanted to make sure he knew how to borrow and manage debt effectively.

Indeed, when asked if he had changed the way he thought about conducting financial transactions over the past year, Francis related that he had started to think more seriously about borrowing.

Cash gifts

Although Francis gave and received a roughly equal number of cash gifts, he received a smaller total amount (UGX 30,600) than he gave out (UGX 59,000). Furthermore, whereas the majority of the gifts he received were from friends, most of those he offered went to family members.

Cash flow management

Francis incurred mostly ordinary expenses for household sundries from week to week, with the exception of five large expenses related to building his new house in Kikyusa. He decided to move his family to Kikyusa after his house in Senyomo was robbed.

He appeared to have financed these large purchases of building material using the savings he kept at the SAO. Francis explained that once he had compiled enough money (in savings and through land sales), he devised a plan for the construction of his new house. Specifically, he planned to construct a house using 16 iron sheets. He estimated how many bricks he would need and budgeted for about 20 bags of cement. He knew that, given his income flow, his budget for 20 bags of cement was very strict and he had to be careful to stay within this number. Francis estimated having spent UGX 3,000,000 on construction as of June 2012, at which point his house had three rooms, a roof, and flooring.

Beyond expenditures on construction material, Francis also incurred a large expense related to a motorcycle purchase in week 20. He withdrew from his savings at the SAO, which in turn derived from the sale of two plots of land in weeks 16 and 19, to pay for the motorcycle. Francis had originally planned to use this money for construction but decided to purchase the motorcycle in order to be able to transport building material between villages.

Francis incurred regular deficits in the latter half of Phase 1 (weeks 14 – 29) and at the start of Phase 2 (weeks 48-50 and 53), despite earning an income in most of these weeks. He explained that he was generally able to anticipate weeks in which his earnings would be low based on the farming seasons. Specifically, earnings were typically low in July, August, and September, but started to increase in November to December. The cluster of deficit weeks he experienced in Phase 1 fell between July and September, and thus appear to have been related to a farming off-season. The deficit weeks he experienced

in Phase 2, however, coincided with large expenses. In both cases, Francis was able to draw down savings (mostly from the SAO SACCO) to cover his ordinary and lumpy expenses during these times.

Planning ahead

Francis did not record any health events during the course of the study. Interestingly, he indicated that he did not generally plan for traditional types of emergency situations such as “death,” but instead prepared for “emergencies” that came in the form of sudden opportunities, such as a rare deal on a land lease. If met with such a situation, Francis expected he would borrow money from friends at no interest, because he was likely to have already borrowed money from his Farmers Group. Furthermore, Francis added that he had begun to invest in livestock in order to put himself in a position to take advantage of unexpected opportunities without having to borrow. He identified the trainings he attended at HFHU as having influenced him to begin investing in livestock. Indeed, he recorded having learned about strategies for investing in physical assets and livestock at an HFHU workshop he attended in week 17.

Francis estimated that it would cost him another UGX 1 million to add proper finishings to his house, and he planned to raise this money by expanding his farming business.

CASE STUDY: 402.1

Ruth, 46 years old and a single mother, lived with her son (aged 9) and grandson in Senyomo. Ruth owned a small grocery stall where she sold various confections and select crops from the garden where she farmed. She earned an average income of UGX 29,308 and was able to earn an income in all but one week during our study. Finally, her average weekly income more than doubled between the two study phases, increasing from UGX 21,016 in Phase 1 to UGX 45,254 in Phase 2.

Financial service use

Saving

Ruth deposited savings at the Bwaavu Mpolgoma SACCO in Senyomo regularly throughout the study. Her Phase 1 deposits were smaller on average but more frequent than her Phase 2 deposits (UGX 8,525 vs. UGX 14,456). What's more, in Phase 1, Ruth tended to save in two weekly installments of UGX 5,300 and UGX 3,300 each. Her deposits in Phase 2 were also made over multiple installments, usually including an increment of UGX 10,300. Ruth saved with the SACCO to help herself be able to deal with unexpected problems and provide for her family's basic needs.

Ruth mentioned that she had started saving with Centenary Bank, but she did not record any bank transactions in her Diaries data. Ruth decided to begin saving at a bank to avoid theft. She found making the switch to saving at a bank to be difficult because opening an account took a long time and required filling out a lot of paper work. However, she was pleased to have a place where she could keep and withdraw her own money, explaining that *"it [was] difficult to ask other people for money, but at the bank, it [was her] money, not anyone else's."*

Loan

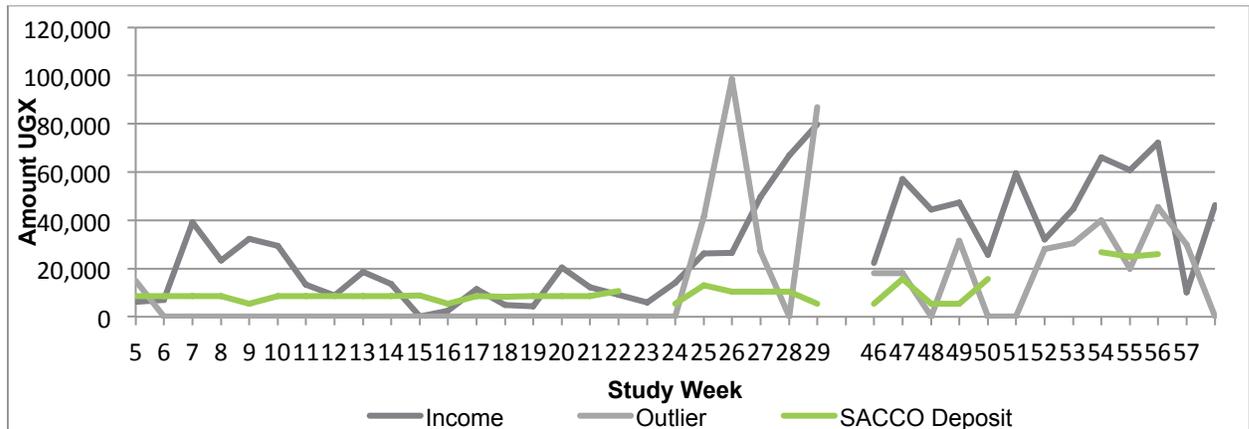
Ruth took out two loans from her SACCO (UGX 80,000 in week 14 and UGX 100,000 in week 51), although it is unclear what she spent these funds on. Her earnings in these weeks were large enough to cover her expenditures, and she seems to have saved the money she borrowed at home, gradually drawing these funds down throughout the course of the study.

Cash flow management

Ruth started to incur large expenses – mostly for purchases of merchandise – on an almost weekly basis at the end of Phase 1 (study weeks 24 – 29) and continued to do so throughout Phase 2. Notably, her average weekly income during this period (UGX 44,800) was significantly higher than her study-wide average (UGX 29,308). What's more, Ruth recorded retrieving food from her garden and home storage on an almost weekly basis during this time, which, as she later explained, she did to help minimize spending on household goods. Ruth mentioned that she used her SACCO savings to make sure she could cover business expenses, and, indeed, her SACCO's share-out period (study weeks 24-25) coincided with the onset of her large merchandise expenditures.

Figure 2 below summarizes Ruth’s income, outlier expenditure, and savings group deposit sequences. She pays for the large outlier expense she incurs in week 26 using the money she earned in the previous two weeks at her SACCO’s share out period, which she had keeping at home.

Figure 3: Ruth - Income, Outlier Expenditures & Savings Group Deposits



Ruth felt able to anticipate months in which she would be short on money based on common agricultural patterns, and she prepared for these months by buying in bulk.

Ruth managed to earn an income in all but one study week, during which she lost a family member. She drew down her home savings to cover her expenses and make her SACCO deposits that week.

Planning ahead

Ruth incurred medical bills in weeks 7, 22, 26, and 57. She was able to use her weekly earnings to pay the first bill of UGX 7,000 and seems to have used a loan repayment from a friend to pay for her UGX 12,000 bill in week 22. The expenses she sustained in weeks 26 and 57 were unusually large (UGX 22,000 and UGX 30,000, respectively), and she withdrew money from her home savings to cover these. Ruth tried to keep a bit of money at home for emergency expenses such as sickness, school fees, death, and travel.

One of the ways in which Ruth prepared for future unexpected expenses was to plant cassava and store it in the soil so that she could harvest and sell whenever she needed cash. She employed this strategy to cover an outlier expense for school uniforms in week 5.

Ruth mentioned that other shop-owners in Kikyusa had inspired her to expand her retail business and that she had begun planting more in her garden in order to be able to invest in her store.

CASE STUDY: 607.1

Isaac, 42, lived with his wife and eight children in Senyomo. Isaac earned an average of UGX 78,361 per week, pooling together income from growing pineapple, trading coffee and pork, burning charcoal, and performing wage work. In Phase 2, however, Isaac's weekly income was persistently lower than it was in Phase 1. During this phase, he started doing more wage work and sold coffee and pineapple in smaller volumes. Isaac explained that his pineapple harvest the past year was hampered by excessive sunshine, so he had to take on more casual labor jobs in order to make ends meet.

Financial service use

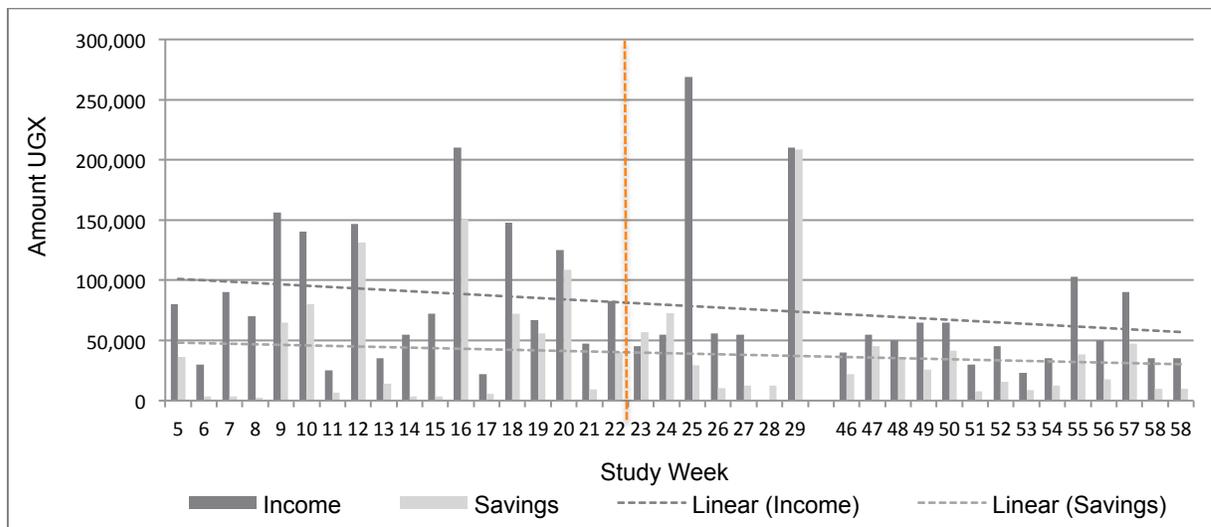
Saving

Isaac saved with two different SACCOs, the Muyizi Kasubwa SACCO and Suluma Farmers Group, making consistent weekly deposits of an average of UGX 6,988. Isaac explained that he saved with these SACCOs in order to be prepared for emergencies and for weeks in which his income was low. Isaac remarked that, even though there are no penalties for missing a weekly deposit, it was important to him to save each week in order to increase his earnings at share-out. This commitment was reflected in the fact that he continued to make deposits every week in Phase 2, despite the decrease in income he experienced. In fact, his Phase 2 deposits were larger on average than they were in Phase 1 (UGX 7,908 vs. UGX 6,419), perhaps indicating an effort to earn larger profits in order to make up for a lower income in 2012.

Isaac also made regular deposits into savings he kept at home.

Figure 3 below describes Isaac's income pattern and savings behavior throughout the study, illustrating that the decline in his weekly savings was less steep than that in his income.

Figure 4: Isaac – Earning Less, Saving more



Loans

Isaac took out four loans from his SACCOs, all in Phase 1 of the study – borrowing UGX 40,000 in week 13, UGX 50,000 in weeks 23 and 24, and UGX 220,000 in week 27. He used each of these loans for business

purposes, to purchase firewood and coffee. Notably, his gross income in the weeks in which he took loans was considerably lower than his average income in Phase 1. Isaac mentioned that SACCOs were the only financial service available to him in his community, and he felt satisfied with this option precisely because he was able to borrow.

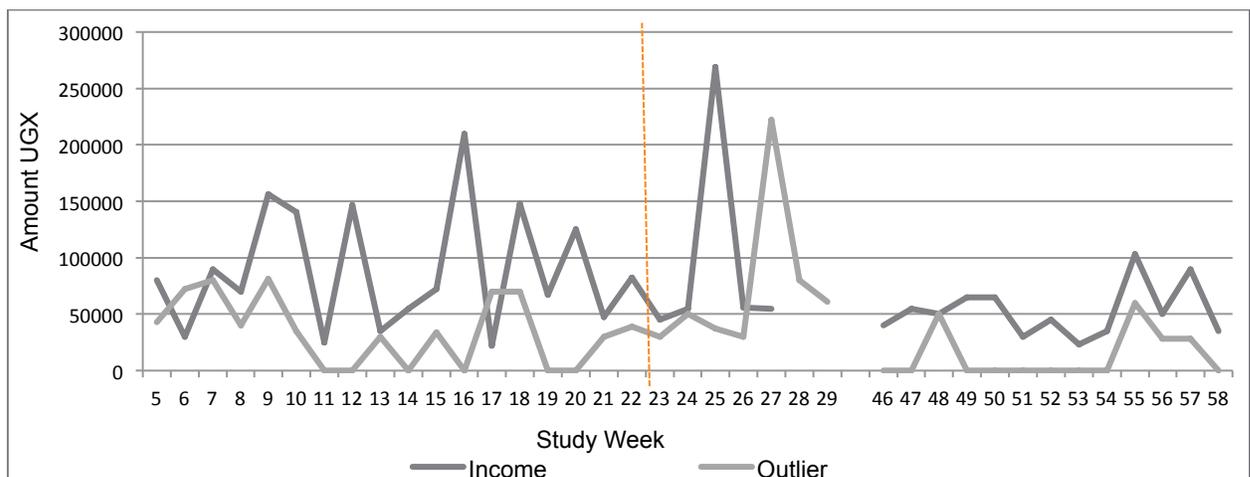
Isaac made three loans, all in Phase 1 and all to friends. Two of these loans were paid back to him in the same week in which they were made.

Cash flow management

Isaac regularly incurred large business-related expenses (bulk purchases of coffee, livestock, meat, and firewood) throughout Phase 1. He was usually able to reinvest revenues from his farm and trading businesses to cover these expenses. He explained that he worked to be able to cover these business-generating expenses by scoping out rich traders so that he could make high profits on his trades. In Phase 2, Isaac incurred only two large business expenses, as he became more reliant on wage income during that time.

Figure 4 below illustrates the close relationship between Isaac’s income and outlier expenditure sequences. Specifically, increases in income generally either coincided or were closely followed by increased spending.

Figure 5: Isaac – Managing Outlier Expenditures



Isaac reported that it was generally “very easy” for him to meet his household’s basic needs, as there were many people in his community looking to hire casual laborers. Furthermore, he felt he was able to anticipate weeks in which he would be short on money. As a trader, when he noticed that he wasn’t earning in a particular week, he would begin to reduce his expenditures, because he anticipated that he would not be able to earn much in the upcoming week. Isaac also mentioned that he stored coffee beans at home, so that he could sell these when his earnings were low, although he did not record this activity in his Diaries. In any weeks in which he sold coffee beans he had been storing, the omission of related transactions data from his Diaries would result in an underestimation of Isaac’s gross and net income and an overestimation of any deficit he experienced.

Isaac shared that working with the fieldworkers to record his transactions each week taught him a lot about how he was spending his money. He joked that previously “[he] could earn UGX 10,000 and [was not] able to keep it for one night!” He found the process of recording his Financial Diary helped him start to save money for future emergencies, so that, as he put it, “[he would not] find himself in a situation in which [he had] a sick child and [couldn’t] pay.”

Planning ahead

Isaac sustained four different medical bills throughout the course of the study, and he seemed to rely on the week’s income to cover his medical expenses.

Isaac related that he prepared for emergency expenses “*continuously*” by saving profits from pineapple harvests and making weekly deposits into his SACCOs.

CASE STUDY: 614.1

Samuel, a 42-year-old single man, owned a retail shop and farmed land he inherited in Senyomo, earning an average weekly income of UGX 277,795, the third highest in the study population. In Phase 1 of the study, Samuel managed his retail and agricultural businesses while dealing with typhoid and malaria.

Financial service use

Saving

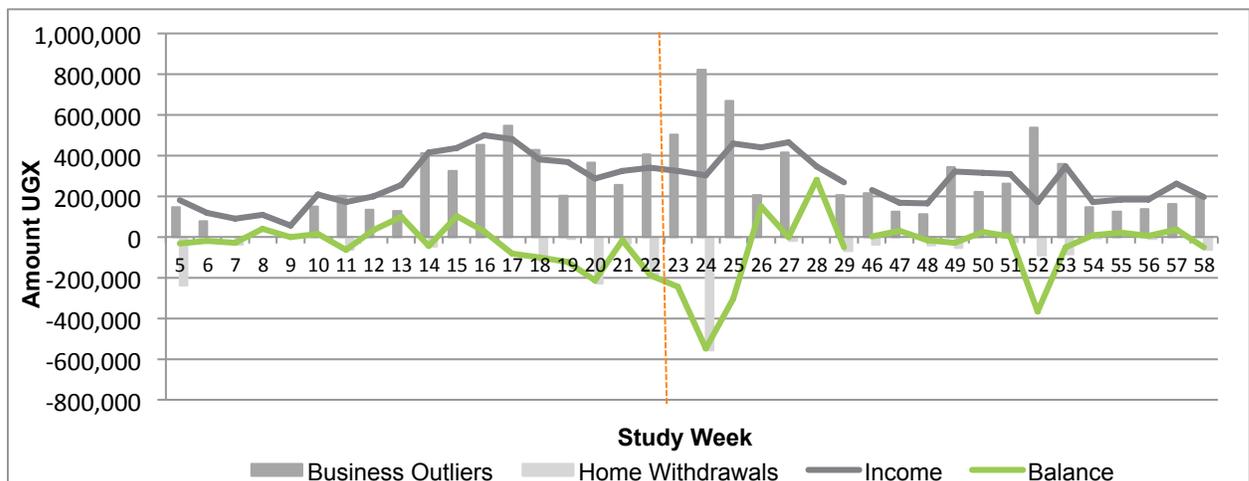
Samuel saved with three different savings groups in Senyomo: the *Bwaavu Mpologama* and *Mezikokolima* groups and another group in Kiwanganzi whose name he had forgotten. He deposited money with these groups in every week of the study, although his Diary does not capture the specifics of his transaction patterns within each individual group. Notably, his average weekly deposits were consistently larger in Phase 2 (UGX 21,592 compared to UGX 14,708 in Phase 1) even though his income was lower on average in this Phase (UGX 239,088 compared to UGX 301,392).

Samuel related that he enjoyed saving with these groups because he was able to earn interest on his savings, which in turn, motivated him to avoid “reckless spending.”

Samuel both earned an income and incurred business-related expenses (usually for the purchase of merchandise) in every week of the study, and he seemed to manage much of this cash flow from his home. Indeed, all of the deposits and nearly all of the withdrawals he made into and out of home-based savings were associated with business purposes, and his Diaries suggested he used his home savings to be able to have cash on hand to pay for weekly business expenses.

Figure 5 below illustrates the close relationship between Samuel’s gross income, large business expenditure, and home savings withdrawal patterns. Samuel re-invested weekly revenues into business inputs, and in weeks in which the latter exceeded the former, resulting in a negative balance, he made up the difference by drawing down his home savings.

Figure 6: Samuel – Coordinating Revenues, Savings, and Business Input Expenses



Beyond his home and group savings activity, Samuel shared that he was considering opening an account with Share an Opportunity Uganda (SAO), a SACCO on the main road. He was interested in saving at SAO even though this would cause him to forgo any interest income he would have earned by saving with his groups because he perceived the SAO SACCO to allow more autonomy. For example, he expressed dissatisfaction with having annual share-out periods in his savings groups because he did not always have a specific use for the large sums of cash he received at those times.

Loans

In week 52, Samuel borrowed UGX 300,000 from one of his savings groups in order to be able to lease farmland. He hadn't planned on leasing this land but decided to take the opportunity to do so because he knew that he could use the land to turn a profit. He decided to finance the land lease by taking out a loan because he needed to produce the funds quickly. Samuel was able to secure a five-year lease from the landlord, and four weeks later, he made his first loan repayment installment of UGX 15,000.

Cash gifts

Samuel gave nine cash gifts over the course of the study, averaging UGX 6,322 in size. Six of these cash gifts were given to his sister in the weeks following her daughter's death. Samuel explained that he gave his sister money when she was in need because he was the only person in a position to do so.

Samuel did not receive any cash gifts during the course of the study. Indeed, he reported having made the decision to stop offering cash gifts after noticing in his Diaries that he was spending a lot of money on these gifts and not receiving any in return.

Cash flow management

Samuel regularly incurred "lumpy" expenses throughout the course of the study. Most of these expenditures were associated with business purposes (either purchases of merchandise or payments of employee wages), but four of them came in the form of medical bills.

Although Samuel was able to earn an income each week, his expenses outweighed his earnings in most weeks. Again, Samuel incurred business expenses averaging UGX 284,179 on a weekly basis. He explained that he covered these business expenses by reinvesting revenues, and, again, he appeared to have handled this cash flow from home, regularly adding to and drawing down savings as he sold goods and purchased merchandise. Importantly, Samuel mentioned that, when faced with large expenses, he would first draw down revenues from his farmland, and, if needed, could fall back on sales revenues from his retail shop.

Samuel related that over the past year, he had stopped "*misusing money*" and had begun trying to regulate his spending in order to make sure he was able to make ends meet each week, especially given the fact that he had to "*spend on [his] sickness, and this [reduced his] ability to buy*" commodities. He shared that, for example, whereas he used to eat meat three times a week, he was now able to go an entire month without eating meat. Indeed, he recorded frequent purchases of meat and prepared meals at the end of Phase 1 (study weeks 21 – 29) but only one such purchase in Phase 2.

Samuel identified the process of recording his Financial Diaries with fieldworkers as having motivated him to make these changes. He continued to keep a personal log of his business inflows and outflows after data collection ended and also maintained a deposit book to keep track of all fees paid and deposits made into his savings group.

Finally, Samuel shared that he harvested coffee in September and stored it until January and February, when people could afford to buy at higher prices, in order to be able to meet his expenses during the off-season.

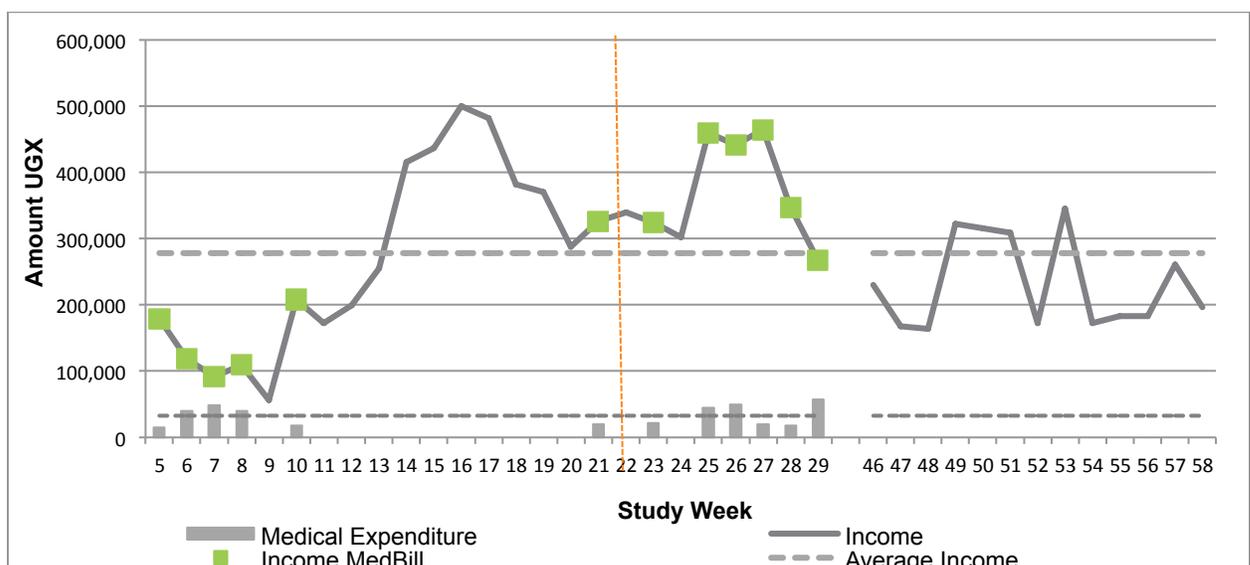
Planning ahead

Samuel suffered from typhoid and malaria during Phase 1 of the study, and he sought treatment at the Kikyusa Clinic regularly in the beginning and end of this Phase (study weeks 5-10 and 21 – 29), incurring twelve different medical bills of an average size of UGX 32,717.

Samuel explained that when he had to undergo treatment, he would work in his retail shop and hire casual laborers to dig his farm for him. Indeed, he recorded expenditures for wage fees in the majority of weeks in which he sought treatment. Samuel related that he used revenues from his retail shop to cover these medical expenses, adding that this is how he usually covers emergency costs.

Figure 6 below illustrates how Samuel’s income was affected during weeks in which he had to seek treatment. Samuel’s Diaries reveal a direct relationship between his income and the size of the medical bill expenditure – his income rose and fell with his healthcare costs. Furthermore, although Samuel’s income during weeks 5-10 was significantly lower than it was in weeks 21-29, there was no corresponding difference in the level of his medical costs between these periods.

Figure 7: Samuel – Managing Business and Illness



CASE STUDY: 307.3

Okello, an 18 year old student, lived at home in Kimwanyi with his mother, two younger brothers, and five young nieces. At the time of our study, he was enrolled in “Senior Four,” the last year of the O-level period of secondary school, at the end of which students take the Uganda Certificate of Education exams. Okello was responsible for paying for his school fees himself, and he performed casual labor and occasionally traded livestock or coffee – earning an average of UGX 43,342 a week – in order to make sure he could cover these.

Financial service use

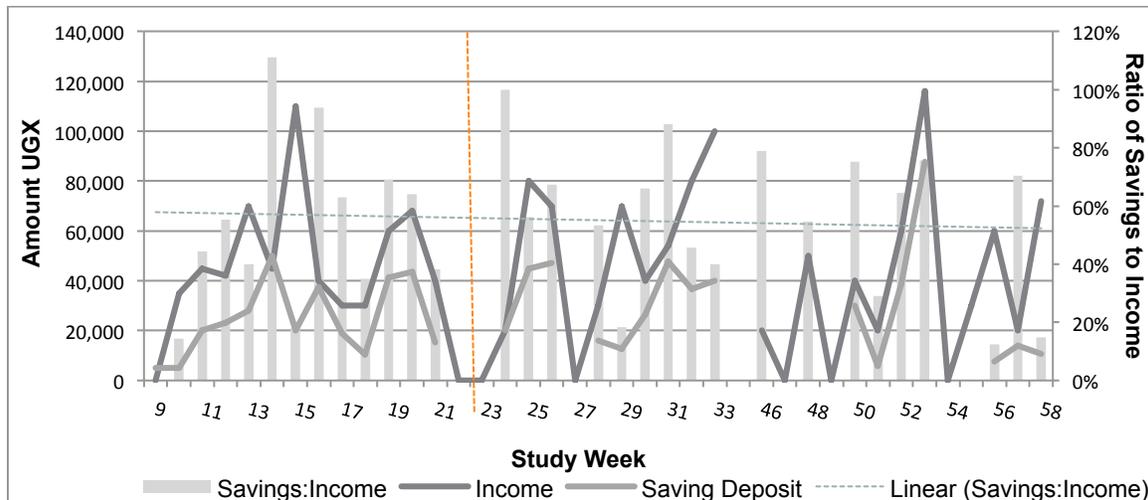
Savings

Okello did not use any formal financial services, instead relying on a home safe and social networks to manage his money.

He recorded weekly deposits into his home savings and later explained that every day he worked, he deposited half of his earnings into his “home box.” He did, however, describe feeling unsatisfied with his home box as a savings tool because he had come home before to find it was stolen.

Figure 7 below describes Okello’s income and saving patterns, illustrating that, for the most part, he was able to stick to his rule of saving half of his earnings.

Figure 8: Okello – Saving Weekly Earnings



Okello shared having heard a radio advertisement for Opportunity Bank and was considering opening an account at its Kawempe branch. The radio ad indicated that it costed only UGX 5,000 to open an account with Opportunity Bank, and he had previously heard that this bank offered loans. Indeed, he went on to explain that he wanted to open a bank account so that he could take out a loan in order to start up his own business. Okello, however, indicated that he wanted to find out more about the bank’s exact location and operating hours so that he could make sure his savings there would be safe and accessible.

Loans & Cash gifts

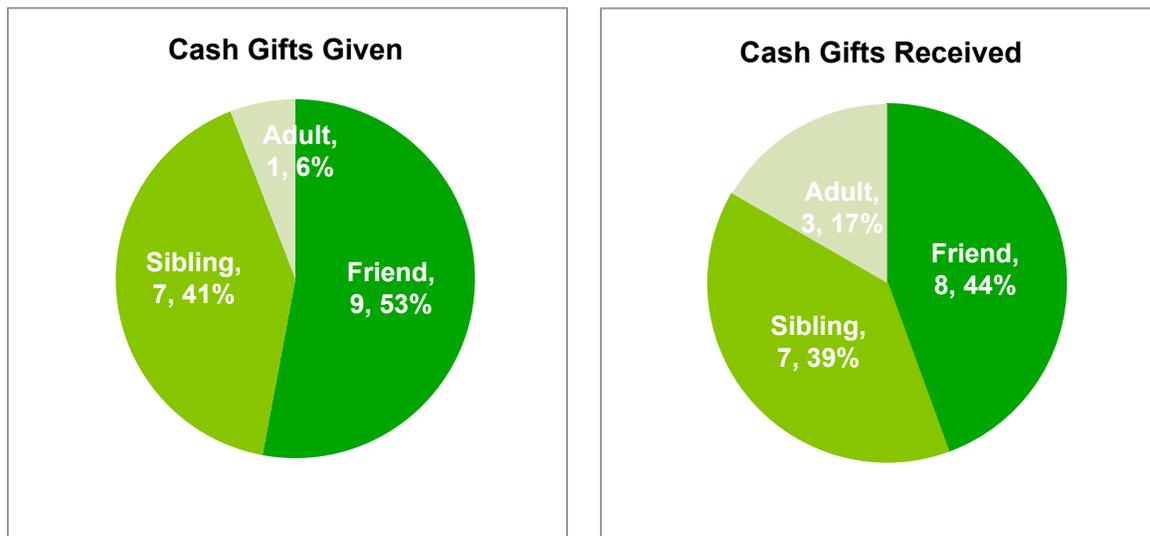
Okello's Diaries data revealed stark contrasts between his cash gift and loan activity, accurately echoing his accounts of the social dictates and personal preferences that governed how, when, and with whom he used these financial tools. Whereas Okello was a net recipient of cash gifts, most of which were frequently and spontaneously exchanged with peers, he was a net "giver" of loans, lending money only occasionally and to family members.

Okello was embedded within a network of friends and immediate family members with whom he regularly exchanged cash gifts. He exchanged a total of 42 cash gifts over the course of the study, receiving slightly more gifts (24 or 57%) than he gave (18 or 43%) both from family members and from friends.

Okello seemed to prefer to exchange cash gifts with peers, as half of his cash gift transactions were conducted with friends and 17 of the 19 cash gifts he exchanged with family members involved his siblings. Indeed, Okello explained that cash gifts were given upon request and somewhat casually, reciprocated on-the-spot to help others purchase prepared foods and various sundries. *"With my friends, when someone has money, he shares it with others."* He added that when deciding whether or not to offer someone a cash gift, he considered whether the person actually had – or, in other words *needed* – the money and how likely the person was to return the favor. *"If I help him, will he help me too when I'm in trouble?"* He mentioned that he usually offered cash gifts to friends, because his friends also gave him money. Finally, he added that with girls, he often simply gave out money with no social strings attached, as he didn't expect them to be able to pay him back. In fact, 6 out of the 8 cash gifts he exchanged with girls were outgoing.

Figures 8a and 8b below summarize the distribution of Okello's incoming and outgoing cash gift activity across friends, siblings, and adults.

Figure 9a & 8b: Okello – Cash Gift Exchanges in a Circle of Friends

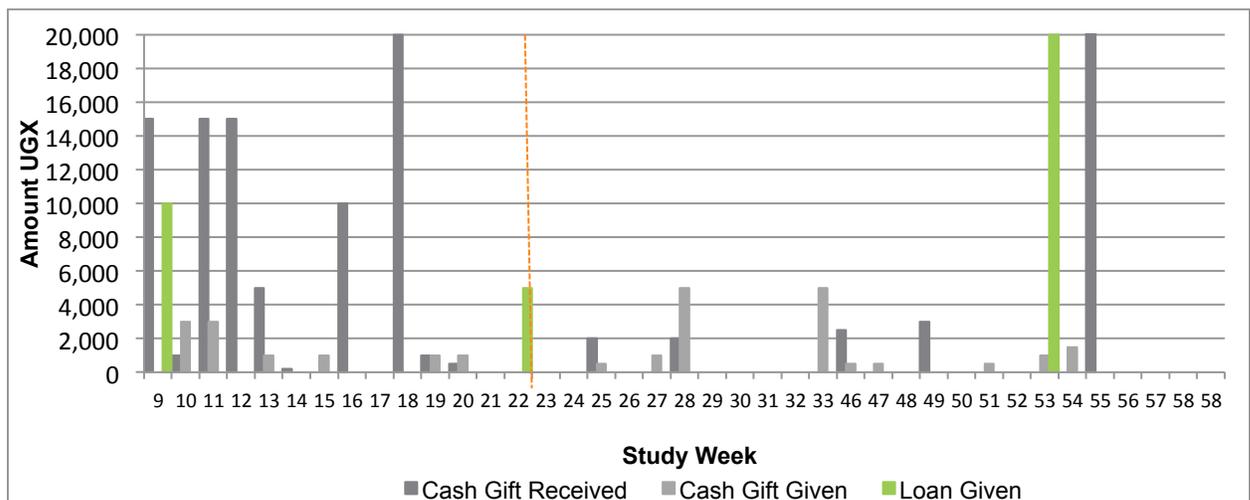


Okello’s loan activity, by contrast, was far less frequent. He described loans as being associated with “problems,” which might explain why he made only three loans over the course of the study, whose average size was nearly four times that of the cash gifts he exchanged (UGX 17,500 compared to UGX 4,533). He did not receive any loans during our study.

According to Okello, social norms in his community required that a person explain his “problem” when asking to borrow money. Not only did he describe normally going to friends for loans, but he also mentioned that he was careful to choose friends who wouldn’t gossip about his problems. Okello added that family members may not lend money after one had shared one’s problems with them, even when they could afford to. He, on the other hand, claimed to always help relatives when they had problems.

Figure 9 below summarizes the dynamics of Okello’s cash gift and loan activity, illustrating the different frequencies with which he used each type of financial tool.

Figure 10: Okello – Timing of Cash Gifts and Loans



Cash flow management

For Okello, deficit weeks, or weeks in which his earnings could not cover his personal and business expenses and financial outflows, tended to coincide with zero-income weeks. On five out of six occasions, he was able to withdraw home savings to cover his sundry expenses. He reported being unable to anticipate weeks in which he would not earn any income because of the erratic nature of casual labor. That said, he didn’t earn any income in the first two weeks of September and indicated in his Events data that he had begun taking exams during that time. He later explained that he made sure he would be able to cover his basic needs during exam periods by paying for school lunches at the start of the term, so that his food expenses were covered throughout.

All of Okello’s lumpy expenses were associated with his studies – either normal tuition fees, optional class trip fees, or investments in assets made in order to finance his studies. Okello knew and could clearly describe his school fee schedule. His school year was divided into trimesters, and tuition fees of UGX

60,000 were due every term. What's more, he articulated a careful plan for how he balanced his school and work responsibilities. He tried to work more often during holidays, setting a goal for himself of earning between UGX 100,000 and UGX 200,000 before the start of the school year. Unfortunately, however, our Diaries could not track his progress toward meeting this goal, because the hiatus in data collection overlapped with the school holiday season.

Okello supplemented his wage income with investments in livestock and cash crops. He incurred large expenses for a pig in week 32 and for coffee in week 33 of the study. Okello explained that he had invested in the pig to resell it in order to, in turn, be able to pay for the coffee. He had planned to purchase the coffee because he knew he was starting Senior 4 and would have less time to do casual labor.

Okello shared that he had begun to spend his money more sparingly over the past year. For example, he described having cut down his spending on things like trips to Nakaseke to eat out with his friends after realizing that, for example, when he earned UGX 10,000, he could easily spend UGX 3,000 on transportation and UGX 4,000 on muchono, or roasted goat meat.

Planning ahead

Okello incurred a medical bill of UGX 15,000 in week 12 of the study, when he sought treatment for severe head pains at the Nakaseke Hospital. He was able to use wage money he had earned earlier that week to cover these expenses.

Okello explained that he did not think about or plan for emergencies because he "*cannot know what will happen,*" and, as a result, "*cannot prepare the money in advance.*"

CASE STUDY: 315.1

Assimwe, aged 57, lived with his wife and two children in Kibowa. He was employed as a school teacher and supplemented his government salary with revenues from his family farming activities. Assimwe received salary payments averaging UGX 351,250 in size every four to five weeks. The income he earned from selling produce and livestock from his garden came slightly more frequently, and averaged UGX 135,638 per sale. Taken together, Assimwe earned an average weekly income of UGX 117,175.

Financial service use

Saving

Assimwe saved with Centenary Bank in Wobulenzi as well as with two savings groups and a SACCO.

He held both a personal bank account and a joint account with his wife at Centenary Bank. Assimwe indicated that he was required to open a personal account in order to receive his salary payments and explained that he did not normally deposit into this account himself.

Assimwe indicated that he and his wife used their joint account to save money that their family worked together to earn from their garden. They opened this account to be able to save for emergencies, so that “*in the future, [he would] know where to run to.*” Furthermore, the couple and their children decided as a family when and how to use these savings.

Assimwe made seven deposits, averaging UGX 14,000 in size, with the NGINA Savings Group, all in Phase 1. He explained that he had been a member of this group, which operated as a “*money round,*” for ten years. At first, NGINA functioned more as a social activity for members, but it had since evolved into a more serious financial service.

Assimwe joined a Teacher’s SACCO in Kibowa in 1983. At that time, teachers had low salaries and did not typically have bank accounts or access to bank loans. He and ten other teachers started the SACCO after attending a workshop where they were taught they could pool their money together and lend it out to one another. Assimwe described using his savings with the Teacher’s SACCO as a sort of retirement fund. He explained that money was automatically deducted from his salary and deposited there. Beyond these deductions, Assimwe made two additional deposits into the SACCO in weeks 19 and 20. He explained that he had extra money at the time and that he was trying to make an effort to save with the SACCO because he was nearing retirement and anticipated that he would have to wait as long as six months before he received his pension package.

Finally, Assimwe opened an account with a SILC in Kibowa in July of 2011. He explained that he was generally not able to attend group meetings, but that he left an envelope of money with the SILC and instructed members how much to deposit in each week that he missed a meeting.

When asked how he managed his use of these three financial services, Assimwe responded that he saved with the Teacher’s SACCO in order to be able to take out loans for business purposes. He added that “*the method of keeping money there [was] very friendly; it [did not] strain you,*” and, in turn, the savings he

accumulated there acted as a guarantor when he applied for loans. In terms of the SILC, Assimwe described depositing small amounts of money there each week. He hoped to save between UGX 300,000 – UGX 500,000 there by the end of the year and planned on investing this money in his farming business. Finally, Assimwe explained that he did not save a lot of money with the NGINA group, and he used the little money he kept there to cover household expenses or small business ones. Assimwe explained that he felt encouraged to save more money at the SILC than at NGINA because at NGINA he could withdraw his savings at any time.

Loans

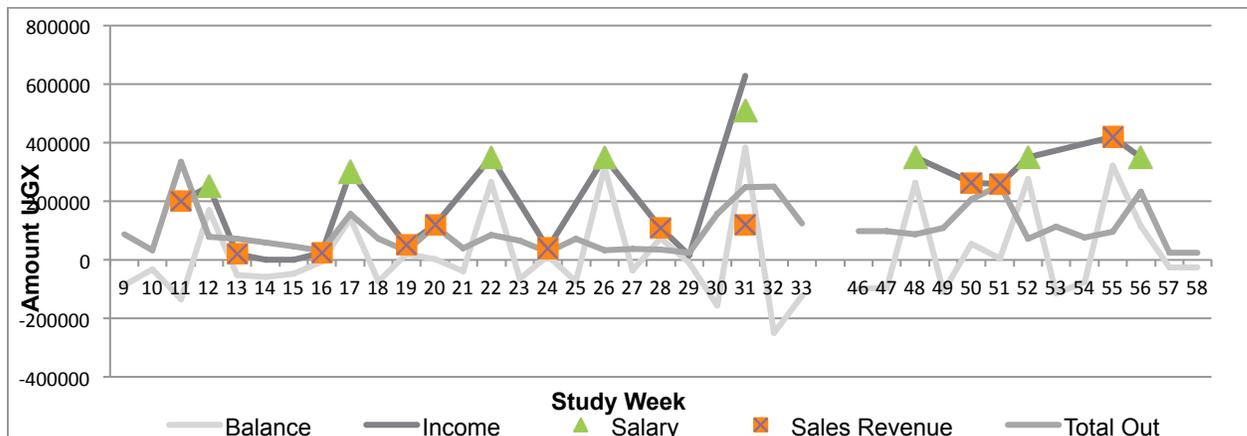
Assimwe took a loan of UGX 200,000 in week 10 and UGX 30,000 in week 17, borrowing from a friend both times. He didn't earn any income in week 10 and used his loan to cover his ordinary expenses that week, which included a funeral contribution and deposit to the NGINA group. He received a salary payment in week 17 but also sustained two unusually large expenses for bed sheets and a taxi fare.

Cash flow management

Assimwe regularly incurred deficits between weeks 9 and 16, which fell between June and July of 2011, months in which he later explained were spent harvesting.

Figure 10 below summarizes Assimwe's earning and spending patterns throughout the study.

Figure 11: Assimwe – Patching together a Salary and Sales Revenue to Meet Expenses

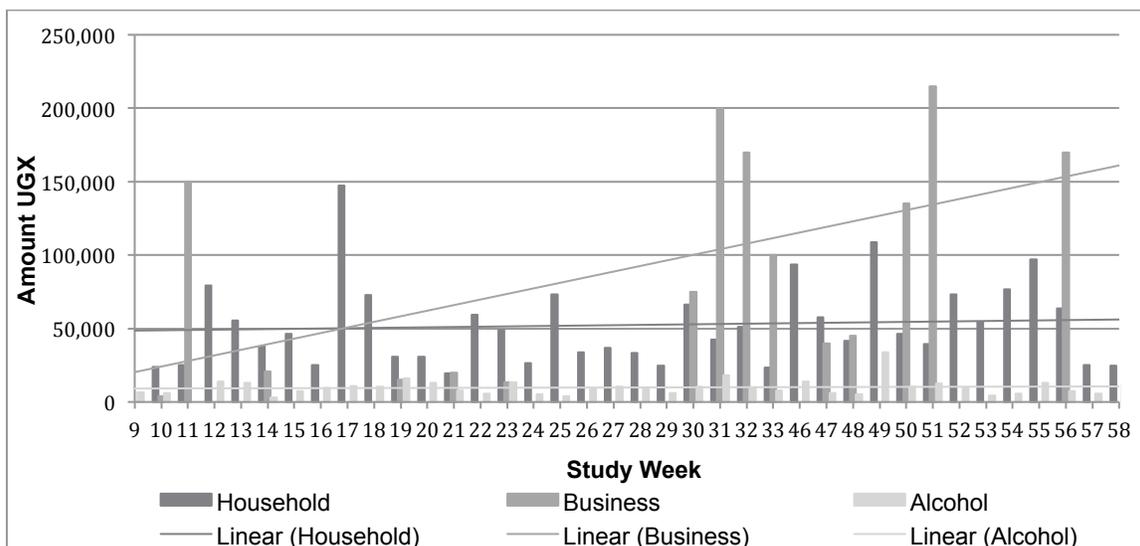


Assimwe began incurring regular lumpy expenses at the end of Phase 1 and continued to do so throughout Phase 2. Interestingly, Assimwe told us that his Diaries would reveal a change over time in how he spent his money. He indicated that the process of recording and analyzing his weekly cash inflows and outflows helped him to identify “*priorities*” for the first time, or to recognize areas where he should spend more money and those where he could afford to cut his spending. Assimwe described conducting an analysis each month in which he compared how much he had spent on beer, on his garden, and on household items. “*I [began] saying, if I spent less here and put that here...you would be better off than, you know, spending it the way you were spending it.*” Indeed, while Assimwe consumed beer and other local brews on an almost weekly

basis throughout the study, he spent considerably less – both in total and on average – on these items in Phase 2 than he did in Phase 1.

Figure 11 below aims to recreate the budget analysis Assimwe described conducting, summarizing his weekly expenditures on household items, business inputs, and alcohol. Assimwe’s Diaries data show a sharp increase over time in his spending on business inputs for his garden, further evidence of the preparations he was making for his upcoming retirement. Furthermore, Assimwe kept his household expenditures at relatively constant levels over time throughout Phase 1, and these rose only slightly in Phase 2. He described finding it easy to plan for household expenses, as he knew that he would receive his salary at the end of the month, and usually bought a month’s supply of household supplies from a group of regular vendors. Finally, Assimwe’s Diaries data show that his spending on alcohol actually increased over time, although very slightly.

Figure 12: Assimwe – Auto Analysis of Spending on Household, Business, and Alcohol



Planning ahead

Assimwe incurred two medical expenses, one for UGX 12,000 in study week 25 and another for UGX 50,000 in week 54. He didn’t earn any income in either of these weeks and withdrew from both his bank- and home- savings to cover medical and other household expenses.

He shared that he thought about emergencies, such as illness and damage to his house, crops, or livestock. He tried to prepare for these types of emergency expenses by saving money at home.

Assimwe indicated that he was preparing for his upcoming retirement. Specifically, he intended to expand his poultry and piggery businesses as well as to invest in a few cows. He decided to invest in livestock after retirement because he wanted to be able to work from home. Finally, he anticipated that his poultry and piggery businesses would be able to expand themselves and planned to use revenues from his coffee crops to purchase one or two cows.

CASE STUDY: 801.1

Olivia, a single mother aged 52, lived at home with her 17-year-old daughter and four younger grandchildren. She reared livestock (mostly poultry) for a living, earning an average weekly income of UGX 473,584 over the course of the study, the second largest income in the study population. What's more, Olivia was able to earn an income from her livestock business in every week of the study, and her income increased from an average of UGX 452,962 in Phase 1 to one of UGX 511,654 in Phase 2, representing an 86% increase.

Financial service use

Saving

Olivia conducted the majority of her savings transactions from home, depositing into or withdrawing from these funds on an almost weekly basis.

She began to make regular deposits at Centenary Bank in Wobulenzi towards the end of Phase 1 and also made somewhat random deposits with various savings groups. Specifically, Olivia made one deposit with the Akwata'empola Savings Group in week 11, another with the Basooka Kwavula Savings Group in week 19, five others averaging UGX 20,600 in size at a SACCO in Kasangombe in intermittent weeks during Phase 1, and, finally, one deposit of UGX 30,000 with a SILC in Kibowa in week 52 of Phase 2. Olivia explained that the two savings groups were becoming inactive and that she stopped saving with the SACCO when she realized staff was swindling member money. She reported that she joined the SILC three months before the close of the study, after learning about the group in Church. Olivia related that it was important to her to save with the SILC every week so that she could earn a high interest.

Loans

Olivia took out a loan from Mednet, an MFI, in study week 22 for business purposes. She experienced her largest deficit and incurred a large expense for chicken feed this same week. She was able to repay the principal amount of the loan in three roughly monthly installments.

Olivia explained that Mednet functioned as a bank and was part of World Vision, a Christian relief and development organization that was very active in her community. She decided to apply for a loan from Mednet as opposed to the bank because it was close by and she found the application procedures there to be more straightforward. She used the loan she took out in week 22 to expand her poultry business, adding that she normally borrowed money when she had a specific business-related purpose from which she could turn a profit and repay the loan.

Cash gifts

Olivia was a net receiver of cash gifts, mostly from her daughters. Her cash gift activity was centered on weeks 11 – 18, during which time she earned lower than average income and regularly took items from storage.

Olivia also received three remittances from her daughter, and the timing of these remittances coincided with weeks in which she either incurred a deficit or a medical expense.

Cash flow management

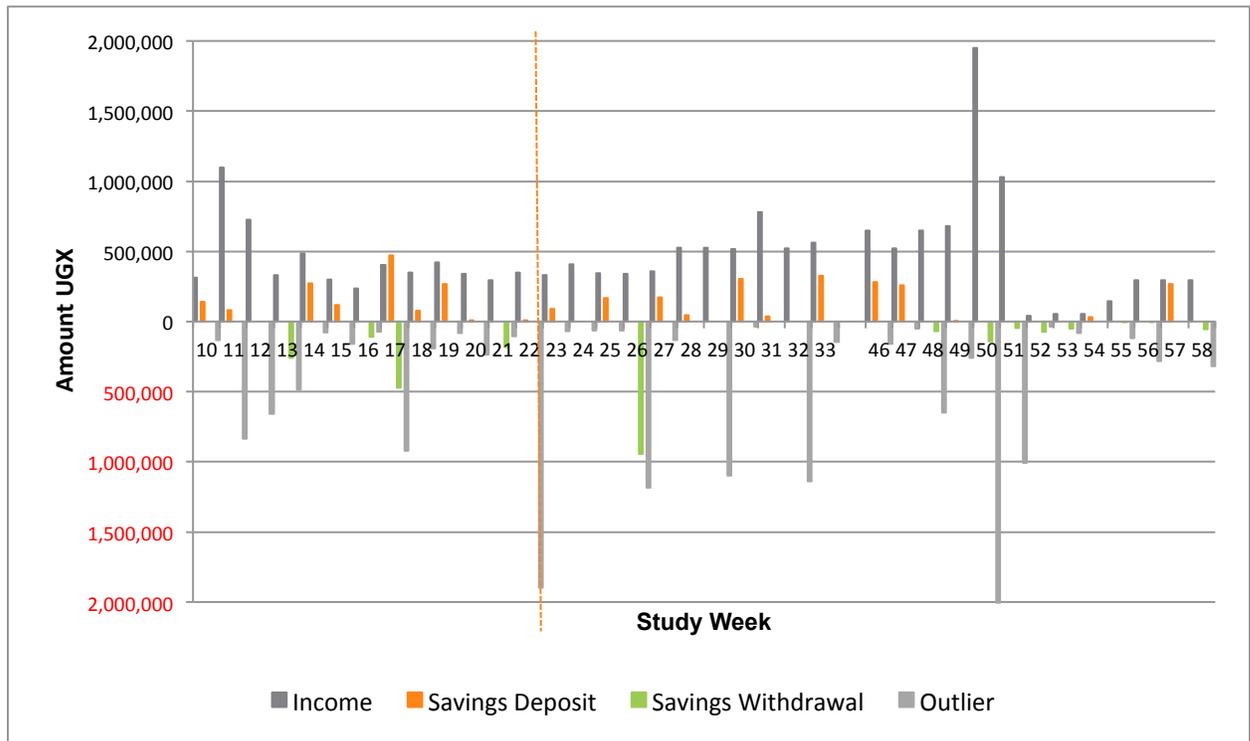
Again, Olivia was able to earn income in every week of the study and experienced relatively few deficit weeks. In Phase 1, her deficit weeks were spaced about a month apart, whereas in Phase 2, she started to incur deficits every week. She incurred large, mostly business-related expenses in each week she experienced a deficit and seemed to use her revenues to purchase merchandise while withdrawing from home savings to cover household expenses during this time.

Olivia related that her business cash flow followed a predictable pattern. The amount she earned daily depended on how many chickens were feeding and how many were laying eggs. Furthermore, she knew that chickens generally laid eggs for ten months, and, after that period, she would have to sell them in order to buy younger ones. This logic allowed her to be able to anticipate weeks in which her earnings would be low, and she prepared for these by saving at home and with the SILC.

Olivia consistently incurred large expenses, most of which were related to her poultry business. Beyond purchases of chicken feed from Wobulenzi and Nakaseke, about once a month, she incurred an additional transportation fee for traveling to buy feed in bulk from a distributor in Kampala. Olivia explained that the feed in Kampala was of higher quality, as it contained mukene and fish.

Figure 12 below describes how Olivia managed her income and savings in order to be able to meet regular lumpy expenses. She tended to reinvest revenues to purchase business inputs from week to week, drawing down her home savings whenever her income was insufficient.

Figure 13: Olivia - Meeting Regular Lumpy Expenses



In addition to large expenditures for business inputs, Olivia (again, a single mother of five) incurred four large expenses for school fees. Olivia was aware of and could clearly articulate her children's school fee schedules. Every term, she paid UGX 100,000 in lunch fees and UGX 200,000 for school supplies (books, uniform, etc.) per child. She indicated that she used profits from her chicken business to pay for her children's school fees and had never failed to make a payment. Olivia planned for school fee payments by saving at Centenary Bank. She knew that she could use her savings there if she was unable to pay for school fees using business profits.

Beyond her business expenses and school fee obligations, Olivia also incurred a large expense for a Gomesi, or a traditional Ugandan dress, in study week 23. Olivia explained that she bought the dress for a specific occasion and had made a plan for herself for buying the Gomesi, whereby she made sure she saved a little bit of money in each month coming up to the event.

Planning ahead

Olivia incurred eight medical bills throughout the course of the study. The size of these bills was relatively small, averaging at UGX 5,650. She was able to use home savings or the week's income to cover these medical expenses.

Olivia shared that she always kept some savings at home because she knew emergencies could crop up unexpectedly, adding that one of the reasons she saved with the SILC was to be able to cope with emergency costs in the future.

CASE STUDY: 902.1

Lillian, a 44-year-old divorcee living on her own in Kibowa, farmed and ran a small retail shop for a living. She earned an average income of UGX 70,092 over the course of the study, but her earnings decreased drastically between the two phases, falling from an average of UGX 103,220 to UGX 6,358 per week, due to the failure of her coffee crop. Not only did Lillian earn less in Phase 2, she also earned less frequently. Whereas in Phase 1 she was able to earn an income every week, in Phase 2 she earned an income only every three weeks. Lillian explained that she moved her shop to Kampala at the start of Phase 2, after realizing it had stopped earning money. Indeed, she incurred a large expense for transportation in week 46. Lillian hoped that moving her store to Kampala and hiring someone to manage it for her remotely would allow her to concentrate on expanding her garden.

Financial service use

Saving

Lillian made low volume, intermittent deposits with the Basooka Kwavula Savings Group in Kibowa. Her deposit activity was limited to Phase 1 and concentrated around weeks 15 – 18, a time during which she was earning a consistently high and positive net income.

Lillian joined the Bassoka Kwavula group, which functioned as a ROSCA, in 2005. She and other women in her community formed this group to help each other improve their homes – each month the group would work to purchase household items or pool together cash for two beneficiaries. Lillian pointed out that in Phase 1 she used to do more farming and therefore made sufficient earnings to be able to contribute to each payout leading up to her own “turn.” She and other group members, however, had to stop activities because they were “*so poor that they couldn’t save,*” but Lillian hoped that they would be able to pick up again once the next coffee harvest began.

Lillian also deposited UGX 10,300 with a SACCO in Senyomo in week 22. She attended a training offered by the SACCO staff and decided to open an account there because, whereas she had to wait until her payout term to receive money from her savings group, at the SACCO she was able to borrow as and when she needed. However, as with the savings group, Lillian stopped saving at the SACCO because of her low earnings.

Loans

Lillian did not borrow or lend any money during the course of the study. She related that, in general, she borrowed when she was faced with a problem, and she mostly borrowed from friends because her family did not live nearby and, similarly, she would incur transportation costs in traveling to the SACCO to apply for and take out a loan.

Lillian indicated that she would like to be able to borrow money but found the interest rate on SACCO loans to be prohibitive. She indicated that once one considered the steep protocols as well as the cost in interest on these loans, “*when you do the calculation, you realize that it is not profitable to take a loan from the SACCO.*”

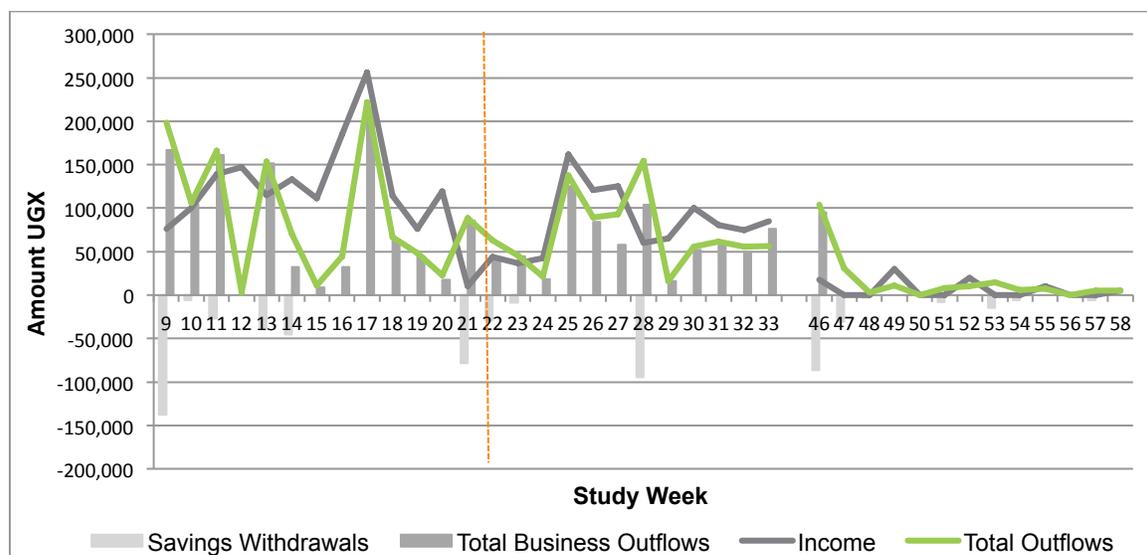
Cash flow management

The majority of the deficits Lillian sustained were concentrated in Phase 1 of the study, during which time she regularly incurred large expenses for merchandise purchases. She was able to rely on her home savings to make ends meet for both her ordinary, household and large, business expenses during these weeks.

In Phase 2, Lillian regularly experienced weeks in which she did not earn any income, and she often relied on her garden for food during this phase.

Figure 13 below illustrates the dramatic changes Lillian experienced in her income and spending activity between the two phases of this study.

Figure 14: Lillian – Adjusting Spending and Savings to a Lower Income



When asked what she did to manage during weeks in which she didn't earn enough to cover her basic needs, Lillian replied, *"it's the same way like when you get malaria and you don't have money to pay for treatment. You have to fight on until the problem subsides."* She later added that she sometimes used merchandise from her store to avoid spending on household items, as is illustrated in Figure 13 by the frequent coincidence of her business and total outflows. Additionally, when she did earn money, she tried to buy essential household goods in bulk.

Finally, Lillian indicated that even before joining the Diaries study, she kept track of her spending and earning, and she found that doing so helped her use her money carefully.

Planning ahead

Lillian paid UGX 6,000 to treat a snakebite at the Nakaseke Hospital in week 9 and another UGX 12,000 for her granddaughter's treatment at a clinic in Kikyusa in week 22. She used her week's earnings to cover both medical expenses.

Lillian expressed feeling that she could not plan for emergencies because they came up abruptly and unexpectedly. While she tried to save on a regular basis, this savings was not specifically for emergencies.

CASE STUDY: 914.1

Evans, 39, lived with his wife and seven children – three girls and four boys – in Kibowa. He earned a living working as a farmer and driving a Boda boda, pooling together an average weekly income of UGX 152,016.

Financial service use

Saving

Evans distributed his savings activity between a home safe, Centenary Bank, a SILC, and a MTN Mobile Money account.

Evans began saving with the Mukama Asubola SILC towards the end of Phase 1 (week 29) and continued to save UGX 10,000 in all but one week for the rest of the study. He later explained that members were required to make weekly deposits, and that he did so not only to avoid incurring a fine, but also to increase his interest earnings at share out.

Evans described using the SILC as a sort of retirement fund. He shared that he often thought about the fact that he would one day grow old and no longer have the energy to work, so he tried to save in the SILC to provide for the future.

Beginning in week 11, Evans made 12 intermittent deposits averaging UGX 39,167 in size into an account at Centenary Bank in Wobulenzi. Evans shared that he saved at Centenary Bank because it offered more security than home-based savings. He went on to explain that he used his bank savings to help cover his expenses during agricultural off-seasons and to prepare for emergency expenses. *“When I save my money in the bank, it is still my money, and I can get it any time I have a problem.”*

Evans received 11 remittances of an average amount of UGX 22,545 over the course of the study, and he always withdrew the full amount of the remittance on the same day he received it.

He learned about the MTN remittance service from his brother, who sent him money to pay for his nephew’s school fees. At first, his brother sent this money with taxis, but he and Evans soon realized that the taxi drivers were pocketing some of the remittance funds. His brother told him to register with MTN, which he did in 2010.

Evans indicated that he used his mobile money account to save, send, and receive money. As a boda boda driver, he stored money in his MTN account in order to be able to cover any expenses he incurred while away from home. Evans’ Diaries, however, did not show any deposits to this account.

Cash gifts

Evans received a UGX 160,000 grant from a school in week 19. He and his fellow SILC members applied for this self-development grant as a group, and each year, an individual member received a share. Evans planned to use his grant money to purchase pesticides and was able to stick to his plan, investing the entirety of the grant in his garden.

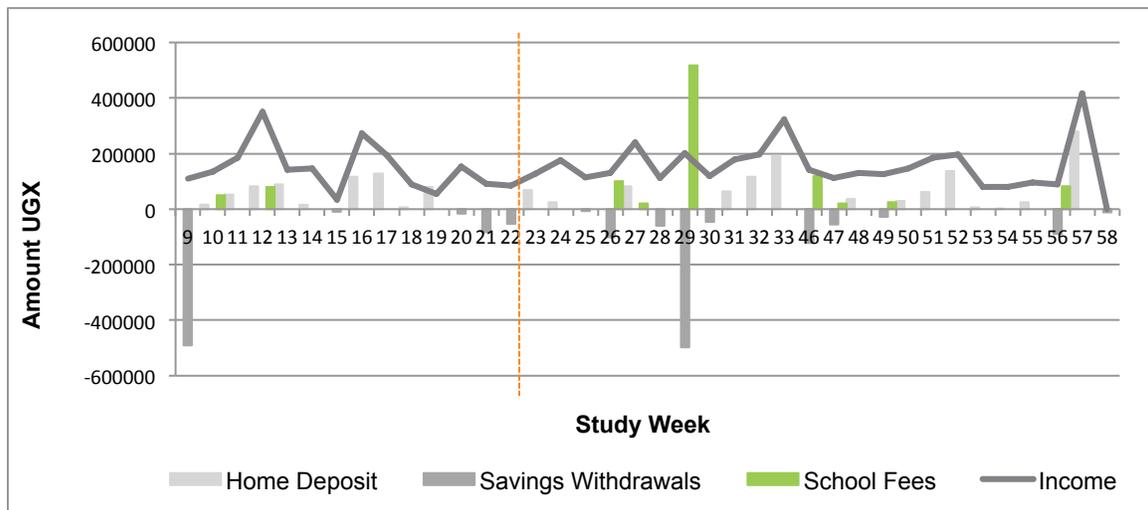
Cash flow management

The majority of Evans' expenditures were for ordinary household expenses. He incurred only four lumpy expenses throughout the course of the study, and three of these were for school fees. Evans shared that he relied primarily on his farming activities to make sure he could pay for his children's school fees, but, if needed, he could earn additional money by driving his boda boda.

Evans related that he planned for his children's school fees, especially given that his children attended different schools and had differing fee schedules. During harvest seasons, he stored crops from his garden so that he could earn the money needed to pay their school fees before the start of each term. He also made sure to get receipts for the payments he made to help him keep track of his school fee obligations.

Figure 14 below attempts to recapture how Evans managed his children's school fee expenses. The Figure suggests that Evans did indeed plan to meet these expenses by saving at home, as, in most cases, he drew down from his home savings to cover these.

Figure 15: Evans – Planning for Children's School Fees



Planning ahead

Evans incurred a medical bill of UGX 4,600 when his child fell sick in week 22. He was able to rely on money he had previously withdrawn from his bank account to cover this expense.

TECHNICAL ANNEXES



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Technical Annex 1. HFHU Learning Objectives

HFHU Learning Objectives by Curriculum Chapter and Session

Chapter 1: Savings: You Can Do It!	
Session 1: Savings: What are They and Why Save?	Savings and reasons to save are defined, including expected and unexpected future events, optional expenditures, and basic needs in the event of job loss.
Session 2: Set Savings Goals and Increase Your Savings	Reasons for setting short-term and long-term goals are discussed, along with the importance of tracking savings.
Session 3: Save for Emergencies and Decide How to Save	Internal and external influences on savings are discussed. Emergency funds and steps that can be taken to increase savings are presented. Participants calculating the amount needed in an emergency fund
Session 5: Compare Savings Services	Formal, semi-formal, and informal savings options are defined, with examples and a discussion of the risks associated with each.
Session 6: Select Savings Products	Short-term and long-term savings are defined, and examples of formal products for short- and long-term are explained.
Session 7: Make a Savings Plan	Savings plan are defined as a way to discuss and prioritize needs and future goals by accounting for income and expenses. Participants create their own plans.
Chapter 2: Budgeting: Use Money Wisely	
Session 1: Set Financial Goals	Pressures on finances are discussed. The benefits of creating a financial plan to decrease this stress are presented
Session 2: Examine Your Money Management	Participants learn how to list, group, and add up household expenses and income sources, both regular and irregular.
Session 3: Describe the Importance of a Budget	The term “budget” is defined and its importance is explained; participants assess their money management strategies.
Session 4: How to a Make a Budget	Participants learn the steps to making a budget, make their own budget, and share budgeting ideas with each other.
Session 5: Make Spending Decisions	Participants learn how to prioritize expenses and categorize them into regular and future costs to improve spending decisions.
Session 6: Stay within your Budget	Defines how to address difficulties in staying within a budget, and explains what can be done to cut spending.
Session 7: Track	Participants practice using daily income and expense tracking sheets and discuss how

Daily Income and Expenses	they can use these on their own
Session 8: Track Monthly Income and Expenses	Participants practice putting daily income and expenses into a monthly summary and learn how tracking money can improve their cash flow.
Chapter 3: Bank Services: Know Your Options	
Session 1: Household Financial Needs	Participants learn to identify and categorize “expected” and “unexpected” expenses and how they can use financial tools to prepare for them.
Session 2: Sources of Financial Services	All sources of financial services are defined and classified as formal or informal, and their advantages and disadvantages are discussed.
Session 3: Financial Products and Financial Needs	Participants learn to meet financial needs with the best financial products, including savings, payment services, and insurance.
Session 4: Advantages of Using Banks	Benefits discussed include security, liquidity of savings, reliability, privacy, interest, loans, financial advice, and credit history.
Session 5: Choosing an Account	Current and time deposit accounts are defined and the importance of understanding an account’s specific terms is explained.
Chapter 4: Debt Management: Handle with Care	
Session 1: My Money and Someone Else’s Money: Managing the Difference	Debt is defined; reasons for and responsibilities of borrowing are identified.
Session 2: Good Loans/Bad Loans	Good loans and bad loans are defined in terms of their effect on the borrowers’ overall financial standing and the consequences of default.
Session 3: The Costs of Borrowing	Direct and indirect costs of borrowing are identified and participants learn to apply these in evaluating loan terms and conditions.
Session 4: Borrowing Choices	Different sources of credit are identified and the advantages and disadvantages of each are explained; participants discuss their preferences and learn what questions to ask before taking a loan.
Session 5: How Much Debt Can You Afford?	Participants learn to assess their ability to take a loan based on their calculations of income and expenses.
Session 6: Delinquency - What Is It and How Does It Happen?	Delinquency is defined as making late loan payments, and the penalties of delinquency are discussed.

Session 7: The Dangers of Over-Indebtedness and Default	Participants discuss the consequences of default and learn to recognize what leads to over-indebtedness and default and avoid it by questioning lenders.
Session 8: Take comparison of Your Debt!	Participants learn the steps to comparison debt and develop skills needed to successfully schedule their repayments.
Chapter 5: Financial Negotiations: Communicate With Confidence	
Session 1: What is Financial Negotiation?	Financial negotiation is defined as communication among two or more persons to achieve agreements on financial issues, with examples.
Session 2: Prepare for Financial Negotiation	The steps of negotiation are identified and participants practice preparing to negotiate
Session 3: Negotiating Techniques	Good and bad negotiating techniques are discussed and participants identify the techniques that they or others have used in the past.
Session 4: Practice Negotiation	Participants learn to analyze a negotiating situation, practice negotiating, and identifying what they could do differently in future.
Session 1: What is Financial Negotiation?	Financial negotiation is defined as communication among two or more persons to achieve agreements on financial issues, with examples.

Technical Annex 2. Locally-Informed Interview Guide

SOCIOECONOMIC PROFILE

Respondent ID:

Date/Time:

Place:

General information	
Gender	
Age	
Education [codes]	
Marital Status [codes]	
Are you the head of your household (Y/N)?	
HH information	
Total # persons in HH	
For other members of HH, please list relation to you and their age:	

Total # persons in HH earning money in the past year	
For those earning money, please list relation to you and their job:	
Respondent Information	Employment
Engaged in any type of farming activity in the past year? (Y/N)	
Engaged in any type of wage employment in past year? (Y/N)	
<i>If yes, was it part-time or full-time, steady or temporary?</i>	

Engaged in self employment or business activity (other than farming) in past year? (Y/N)	
<i>If yes, type of SE or business [codes]</i>	
Education/financial institutions	
Have you participated in any financial education programs offered in your community in the last year?	
<i>If yes, what institution offered the training?</i>	
Do you have any outstanding loans? (Y/N)	
<i>If yes, what is the source of the loan(s) [codes]</i>	
Does anyone owe you money?	
<i>If yes, who?</i>	
Do you have savings? (Y/N)	
<i>If yes, where do you keep your savings?</i> <i>[codes]</i>	
Are you a member of a ROSCA (Y/N)	

Are you part of a community welfare society to which you make regular contributions? (Y/N)	
<i>If yes, what type of welfare society?</i>	
Do you have any insurance? (Y/N)	
<i>If yes, what type of insurance do you have? [code]</i>	
Have you used a mobile-banking service in the past year? (Y/N)	
<i>If yes, what kind of service?</i>	
Asset Questions	
Do you have a secure title to the house in which you live? (Y/N)	
Do you own any buildings other than your house? (Y/N)	
<i>If yes, please list them</i>	
Do you use any of these buildings to run your own business? (All, Some, None)	

Do you own farmland? (Y/N)	
<i>If yes, how many acres?</i>	
Do you rent any of the buildings or land you own to others (Y/N)	
<i>If yes, how much do they earn you per month?</i>	
Do you own any livestock? (Y/N)	
Do you own an oxcart (Y/N)?	
Do you own any other large or expensive farm equipment? (Y/N)	
<i>If yes, please list equipment</i>	
Do you own a cell phone? (Y/N)	
Do you own a stove of any kind? (Y/N)	
Do you own any large pieces of	

furniture? (Y/N)	
<i>If yes, please list</i>	
Do you own a television? (Y/N)	
Do you own a car or motorcycle? (Y/N)	
<i>If yes, is the car/motorcycle mostly for business or personal use?</i>	
Do you own a bicycle? (Y/N)	

CODES:		
Education	Type of Formal Financial Institution:	Location of Savings:
No Schooling0	Commercial bank =1	Bank =1
Some Primary school1	MFI =2	Other FI =2
Primary completed.....2	Credit Union/Cooperative =3	NGO =3
Some Secondary school3	Other FFI =4	Home =4
Secondary completed..... 4		With Friend =5
Some University.....5	Source of loans:	ROSCA =6
Finished University6	Bank =1	Other (specify) =7
Some training college7	Other FI =2	
Finished training college.....8	Relative =3	Type of Insurance:
	Friend =4	Livestock =1
Marital status:	Moneylender =5	Health for Self =2
Married Monogamously = 1	Employer =6	Health for Family =3
Married Polygamously = 2	NGO =7	Funeral =4
Single = 3	Input Supplier =10	Property =5
Widowed = 4	Producer-Processor Lender =11	Life for respondent =6
Divorced or Separated =5	ROSCA =12	Life for spouse =7
		Other (specify) =8
Type of Business		
Services.....1		
Manufacturing.....2		
Trade.....3		

Technical Annex 3. In-Depth Interview Guide

General Instructions:

1. Listen carefully to answers. Probe thoroughly whenever you hear any financial knowledge, skill or behavior mentioned. We have provided probe questions, but we also expect you to ask your own.
2. Whenever possible, follow-up questions should focus on explanations, asked in terms of why and how.
3. There is no need to spend time on a particular question if the question was already answered thoroughly in response to an earlier question.
4. The final five questions should be asked just as they are written, even if the answers came up earlier in the interview. There is no need to probe on the answers to these questions.
5. Do your best to keep the tone of the interviews formal but friendly. You do not want to the participants to feel like they are part of a government survey. The best answers will come when participants feel comfortable.

1. Let's talk about this community. Imagine I had never been here before. What kinds of people live here?

2. Who are the richest people in this community?

PROBES:

- a) What makes them different from other people?
- b) If you met one of these rich people for the first time—say, in another village far from here—would you know they are rich? How?

3. I'd like to hear more about your family. What are/were your parents like?

PROBES:

[If parents are deceased]

- a) Did they leave you any inheritance?
- b) How did you use the inheritance?
- c) Are you happy with the way you used the inheritance? Why?

4. Do you consider yourself to be a "self-made man/woman"?

PROBES:

- a) Why or why not?

[If respondent has children]

5. Tell me about your kids. What are they like?

PROBES:

- a) What are your goals for your kids?
- b) How do you think you can help them achieve that?
- c) How do you think your children's lives will compare to yours? Why?
- d) How would you describe yourself as a parent?

6. Is becoming rich goal in life for yourself?

PROBES:

- a) Why/why not?
- b) How would someone like you go about becoming better off?

7. Are you happy with the way you manage your finances?

PROBES:

- a) Why do you say that?
- b) Can you give me an example of someone who manages money better than you? Please explain.
- c) Can you give me an example of someone who manages money worse than you? Please explain.

8. Do you invest your money? Tell me a bit about this.

PROBES:

- a) How/where do you invest it?
- b) Why do you feel investing is important?
- c) What are the best investment opportunities available in this area? Why are they the best?

[If yes on saving somewhere other than a bank]

9. Tell me a bit about your savings practices.

PROBES:

- a) Why do you feel saving is important?
- b) What are the best ways to save in this area? Why are they the best?

[If yes on bank account]

10. Tell me about your bank account.

PROBES:

- a) Why do you feel saving in a bank is important?
- b) When did you open it?
- c) Why did you decide to open it?
- d) Why do you choose to save there, as opposed to, for example, saving in your home?

11. I want to talk about any money you borrow.

PROBES:

- a) In what circumstances do you borrow money?
- b) What is it about these circumstances that lead you to borrow money?
- c) What are the best ways to borrow in this area? Why are they the best?

12. How do you keep track of your money?

PROBES:

- a) If they mention the Diaries, ask them if there was a way they kept track of their money before the Diaries, and then ask how the Diaries changed the way they keep track of the Diaries.
- b) *If YES to keeping track of money, ask: Why do you feel it is important to keep track of your money?*
- c) *If NO to keeping track of money, ask: Why don't you feel it is important to keep track of your money?*

13. Do you ever spend money in ways that you regret? Tell me a bit about this.

PROBES:

- a) What kinds of things do you buy?
- b) Why do you end up regretting these purchases?

14. In your mind, what is an "unnecessary expense"?

PROBES:

- a) Why do you think it is an "unnecessary expense"?
- b) Does everyone in this community agree on what kinds of expenses are unnecessary? Why/why not?
- c) Do you always regret expenses that are unnecessary? Why/why not?

15. When a large expense comes up unexpectedly, where do you usually go for the money?

PROBES:

- a) Why?
- b) Do you wish you had other options available to you? Like what? Why?

16. How do you distinguish between a hard worker and a lazy person in this community?

PROBES:

- a) Are you a hard worker? Why/why not?

17. Is it ok for people to sometimes depend on others for money?

PROBES:

- a) Why is it ok? Why is it not ok?
- b) Does it matter if the person is depending on relatives rather than other members of the community? Why?

18. Do you think it is important to help others in the community?

PROBES:

- a) Why is it (not) important?
- b) What is the best way to help others in the community?
- c) Do all people in this community help others? Why/why not?

“Just a few more short questions before we end the interview....”

If you kept \$100 in a savings account that earned 5% annual interest, how much would be in the account after one year?
Is it more expensive to borrow from a moneylender or from the bank?
Do you have enough saved (in cash and/or bank) to cover the cost of a funeral or a wedding (Y/N)?
Do you know how much you earned and how much you spent last month (Y/N)?
Have you entered a bank and conducted any kind of service in the last six months (Y/N)?

Technical Annex 4. Financial Diaries Data-Collection Sheet

SECTION C BARTER, GIFTS, STORAGE

Transaction where **NO** money changed hands

(1) Day	(2) Item or Service given	(3) Pur- pose	(4) Quantity		(5) Estd. Cash Value	(6) Item or service received	(7) Quantity		(8) Estd. Cash Value	(9) Member of HH making exchange	(10) Exchange		
			a) Num ber	b) Unit			a) Num ber	b) Unit			a) where	b) with whom	c) gender

SECTION D EDUCATION

Question	Answer
Did you attend any education programs this past month?	
Which institution provided the training?	
What form did it take (classroom training, etc.)?	
What did it cover?	

SECTION E EVENTS

Important events during the week

Summary Description	Detailed Description

Technical Annex 5. Endline Qualitative Research Protocol

Research list of respondents listed in Sample sheet in Patterns.xlsx:

1. Patterns of behavior from Diaries
 - a. Outlier sequences
 - b. Group deposit sequences
 - c. Bank transaction sequences
 - d. Weekly balances
 - e. Net income per week (use Income query in Income, No Cash Gifts.accdb or see the various Income columns in the Cash Flow sheet in Patterns.xlsx)
2. Socio-economic profile
3. Networks of relationships based on Diaries data (use the Financial Transactions table in the Financial.accdb database)
 - a. Which groups do they belong to?
 - b. Who do they give cash gifts to, who do they get them from?
4. Responses to locally informed interview questions
 - a. Calculate knowledge change based on answers to questions at end of LIIs
5. FE Attendance from Events data – both Habitat for Humanity FE and other organizations’ workshops etc...

INTERVIEW GUIDE

Introduction

Remember the theoretical framework laid out in the baseline report:

1. Day-to-day cash flow management, which includes: making ends meet for both ordinary expenses and “lumpy,” large expenses (behavioral), keeping track of your cash flow and budgeting (cognitive), understanding the difference between necessary and unnecessary expenses (cognitive), and avoiding unnecessary expenses (behavioral);
2. Planning for the future, which includes: making contingencies, such as saving up or buying insurance, for future emergencies/risks, including a time when one can no longer work, or opportunities (behavioral), as well as the cognitive process of articulating to oneself what those might be and developing a strategy for making such contingencies;
3. Financial service use, which includes: choosing the right financial tool (savings, loan, insurance, or grant/gift) for the right occasion (behavioral), based on an understanding of the costs and benefits of each (cognitive), and choosing the right financial service provider of each of these (behavioral) given the choices available (environmental).

Or you can use this grid:

	Cognitive	Behavioral	Environmental
Day-to-Day Cashflow Management			
Planning for the Future			
Financial Service Use			

Given this theoretical background, we want to understand how people manage their day-to-day cash flow challenges, plan for the future, and make and implement financial service use decisions.

Given the extensive background we have on each respondent, we can tailor our questions to their particular circumstances using the data in the Patterns.xlsx file and the various databases.

Cash Flow and Planning Ahead

1. Outliers:
 - a. How did you pay for x?
 - i. How did you decide to buy x when you did? Probes such as:
 1. Was it something you had been planning to buy?
 - a. How did you develop this plan, and what did you do to make sure that you were able to implement it?
 - b. Did things work out as planned or did you run into any problems?
 2. If they indicate that the purchase was not part of a plan, ask again how they decided to buy it.
 - ii. Why did you purchase x?
 - b. REPEAT FOR y, z, a, b, c....
 - c. Or, if making regular outlier payments, how do you make sure you have enough money for x?
 - i. What do you do if you do not have enough money?
 - ii. Why do you purchase x?
 - d. Have you changed the way you manage your money so that you can pay large expenses over the past year?
 - i. If yes, what prompted you to change? [CHECK TO SEE WHETHER THEY WERE INFLUENCED BY ANY OUTSIDE GROUP, INCLUDING HfH)
 - e.
2. Deficit weeks (when total outflows, including group deposits, exceed income) and zero-income weeks
 - a. How do you manage in weeks when you do not earn any income?
 - b. Are you able to anticipate weeks when you are going to be short of money?
 - i. If yes, how do you know this?
 - ii. If not, how do you make sure that you will be able to cover your basic needs?
 - c. Ask about a particular week, or set of weeks when they had zero income, or were running a deficit.
 - d. If they are a contributor to a SACCO or savings group ask: Is it ok for you to miss a payment into your SACCO or Savings group?
 - e. Have you changed the way you manage your money so that you can survive during weeks when you have no income over the past year?
 - i. If yes, what prompted you to change? [CHECK TO SEE WHETHER THEY WERE INFLUENCED BY ANY OUTSIDE GROUP, INCLUDING HfH)
3. Risk Management – medical emergencies
Use the Transactions data and the Events data to identify instances when the respondent faced a medical emergency. There may be situations when someone faced an emergency without incurring a medical expense, because they chose not to seek treatment. There may also be cases where they were able to get free treatment and incurred some expenses to travel to a clinic. And there are also other situations when they did incur an expense and it shows up in the Transactions data.
 - a. In cases when they chose not to seek medical treatment ask: You reported that [describe illness], but it looks like [sick person] did not go to a clinic to get medical treatment? Why not?
 - i. If they say they did not have the money, ask why they could not get money from family or friends or from some other source.
 - b. In cases where they did incur some expenses, ask: How did you pay for these expenses?
 - i. Is this how you normally manage emergency expenses?

- ii. How do you make sure you have money for emergencies
- c. Have you changed the way you manage your money so that you can pay medical bills over the past year?
 - i. If yes, what prompted you to change? [CHECK TO SEE WHETHER THEY WERE INFLUENCED BY ANY OUTSIDE GROUP, INCLUDING HfH)

Financial Service Use

Use the Financial Transactions table and the Grp-Sacco Deposits and Bank Transactions sheets in Patterns.xlsx to get a good understanding of the individuals' financial service use patterns including inter-personal cash gifts and loans, and in-kind loans.

1. Transactions labeled "Organization" in the Level field of the Financial Transactions table:
 - a. When did you first start using these financial services?
 - b. How did you learn about them and how to use them?
 - c. Have you ever thought about using another financial service or increasing the use of one service you already have and decreasing the use of another?
 - i. If yes, why did you think about doing this? [CHECK TO SEE WHETHER THEY WERE INFLUENCED BY ANY OUTSIDE GROUP, INCLUDING HfH)
 1. Did you actually make the switch?
 - a. If not, why not?
 - b. If yes, was it easy? Are you happy with your switch?
 - ii. If no, probe to see whether they are aware of the alternatives, and ask if they are happy with their existing services.
2. For transactions labeled "Individual" in the Level field of the Financial Transactions table:
 - a. Review their transactions sequences – are they a net recipient or giver of cash gifts/loans or in-kind loans?
 - b. Ask: Before you ask for a cash gift or loan (cash or in-kind) what factors do you consider?
 - i. What makes you choose to ask one person over another, and when to ask them?
 - ii. How do you determine how much to ask for?
 - iii. How do you choose to ask for a cash gift or a loan?
[I AM NOT SURE HOW THIS WILL TRANSLATE, BUT THE POINT OF THE QUESTION IS TO TRY TO UNDERSTAND IF THEY THINK STRATEGICALLY ABOUT WHO THEY ASK FOR MONEY, HOW MUCH, AND WHEN]
 - c. Ask: Before you ask give a cash gift or loan (cash or in-kind) what factors do you consider?
 - i. What makes you give to one person over another?
 - ii. How do you determine how much to give?
 - iii. How do you choose to give a cash gift or a loan?
[I AM NOT SURE HOW THIS WILL TRANSLATE, BUT THE POINT OF THE QUESTION IS TO TRY TO UNDERSTAND IF THEY THINK STRATEGICALLY ABOUT WHO THEY GIVE MONEY TO, HOW MUCH, AND WHEN]
 - d. Have you changed the way you think about cash gifts and loans with other people over the past year?
 - ii. If yes, what prompted you to change? [CHECK TO SEE WHETHER THEY WERE INFLUENCED BY ANY OUTSIDE GROUP, INCLUDING HfH)