

Digital Subwallets and Household Dialogues

FINAL REPORT

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Executive Summary

This document reports the results of a women's financial inclusion intervention in rural Uganda from 2017 to 2019. Two innovations were tested among adult females: (1) a mobile banking service with digital subwallet folders labelled for women and (2) the same service coupled with a course of seven household counselling sessions aimed at equalizing the influence of women and men in the context of family money management.

The theory of change underpinning the project recognized that women's power over their own money, as well as their participation in household decision-making were very limited. Providing married women with greater autonomy and voice in household decision-making, it was proposed, would facilitate achievement of their own financial goals especially those believed to alleviate poverty, such as keeping children in school. The mobile banking service was meant to provide privacy and autonomy, while achieving voice was expected to occur as the result of the couples counselling sessions, which emphasized transparency, sharing, and collaboration. Importantly, the theory of change recognized that women's experience of empowerment necessarily takes place in the context of a struggle against *disempowerment* and often entails group solidarity.

The research was multimethod: a randomized controlled trial (RCT), administration of two scientifically validated psychological scales, bank data on the accounts, two exhaustive surveys, and 100 semi-structured interviews. The sample size was 1,423. The research design had two treatment groups and a control:

- Treatment 1: Mobile banking service coupled with digital subwallets (DSW) and a financial/technical training module.
- Treatment 2: The household counseling sessions, followed by offer of the DSW (HHD+DSW), and the financial and technical training session.
- Control.

Among women, both treatments outperformed the control on the RCT question: "Are you confident in your ability to save?" The HHD+DSW treatment surpassed both the DSW and the control on the RCT question, but also was superior on other relevant measures collected in the surveys. The main predictors were women's ability to make their own decision to open the account, their intention to keep the account private, and their success in doing so. The use of subwallets had no effect.

As evidenced by established psychometric scales, married women's mental and emotional well-being in the HHD+DSW treatment group improved significantly, in alignment with the RCT results, as well as in keeping with survey outcomes on key measures. This finding proves out the concept that psychometrics can be successfully used to measure women's empowerment, as envisioned by the original grant proposal.

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A large number of women signed up for the bank account, increasing their ownership to a level in keeping with men's. According to bank data, however, users generally did not accumulate significant savings.

The HHD+DSW treatment had an important impact on male partner behavior as regard to household budgets, shared financial knowledge, and respect for female financial needs.

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Uptake. Subwallet usage. Independent decision-making. Privacy. Financial goals. Use of funds.

- **Treatment 2: Household Dialogues**

- *Starting conditions. Changes observed in spouse's behavior. Household budgeting. Respect, sharing, trust. Poverty reduction.*

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FINAL REPORT

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July 2020

Purpose

Facilitating women's access to financial services is believed to provide them a better means of keeping and controlling their own income, thus encouraging development outcomes that would not otherwise be achieved, especially education for children.

The purpose of this project was to test the effectiveness of two interventions intended to help poor rural women with male partners maintain control over their own money and achieve a more equal role in household financial decision-making, a mobile banking service and a couples counseling series. This document reports the results.

Theory of Change

Within rural families in developing countries, women are often required to turn earnings over to the male head of household. Knowledge of family finances is often withheld from them. Their own goals and needs are trivialized or ignored—and normally go unmet. Anger usually greets their questions about the finances of the family and violence is often threatened (or used) to force them to turn over their money. When these things occur, the woman cannot decide how her own money will be spent nor influence the household's decision-making.

Since research has long shown that women are more likely to make expenditures that reduce poverty, development goals are less likely to be achieved as long as this situation prevails. Further, when her control over money disappears, the woman cannot spend her earnings on realizing her own goals or making her own choices—nor put together the means to escape abuse.

The theory of change behind these interventions was that providing more financial control for women would support their own empowerment, as well as improving development outcomes. (Appendix 1 contains the original grant proposal, which includes discussion of the theory of change). The theory further hypothesized that women suffered from emotional and mental distress, as the result of the unequal financial conditions, that would lessen if interventions were successful.

The mechanisms for change were two interventions: one would increase the woman's *autonomy* through more private control over money; the other aimed to improve *cooperation* by resolving the

struggle within the household. It was hoped that women would be able to maintain financial privacy using the mobile banking service and that their greater control would increase expenditures toward development outcomes. In addition, the specially-labelled digital subwallets that came with the account would act as a cognitive aid to help women articulate and realize their goals. The household dialogues course was designed to equalize financial decision-making within households. The sessions emphasized transparency and collaboration between couples, as well as greater respect for the women's needs and goals.

The theory, as originally articulated in the grant proposal, also recognized that the circumstances in which the interventions would occur was a setting of struggle and that women's solidarity often features in effective solutions.

Research Questions and Design

Reflecting the theory of change, the basic research questions are:

- Will increased financial privacy for women result in more female control over money spent, especially insofar as development outcomes benefit?
- Will a greater spirit of financial cooperation and respect between couples result in more female voice in how money is spent, especially insofar as development outcomes benefit?
- Will women's own sense of empowerment be affected by more privacy or more cooperation in family financial matters?¹

The study was designed to test two practical interventions that could answer these questions. The first was a mobile banking service with digital subwallets (DSW). The digital subwallets were simply categories ("folders") on the consumer-facing screen that were labelled according to gender-specific goals (obtained by CARE in previous research). The second intervention was a series of seven household counselling sessions, with male partners present, followed by the offer of the same mobile banking service and training (HHD+DSW). In both treatments, a training module, offered to the women only, covering technical use of the phones and basic financial management guidance was included. The financial module, as well as the lessons in the household counseling, emphasized setting a goal, saving for that purpose, resisting impulse purchases until the needed amount had accumulated, and then executing the purpose.

The offering of both interventions was made through Village Savings and Loan Associations, a form of the women's savings groups that, for two decades, have been successful around the world in reducing poverty. The groups have generally been thought to be effective because they give

¹ The research questions have been adapted from the original grant proposal because of changes in the specifics of the intervention implementation as the project evolved. These newer questions are focused, more appropriately, on the theory of change, the intentions behind the actions taken, and the higher-level outcomes, rather than the interventions as such.

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women a way to manage money in a space that is private from observation or interference by men, as well as because they build solidarity among women. In these particular sites, however, the groups were mixed-sex; all were, however, predominantly female.

The design of the research had two treatments plus a control:

- Treatment 1. Mobile banking with digital subwallets and financial/technical training (DSW).
- Treatment 2. Household counseling sessions, followed by the DSW offering and training (HHD+DSW).
- Control.

One difference between the treatments is important to highlight since both included the DSW and the financial counseling. In the HHD+DSW treatment, the mobile banking offer was made *after* the couples counseling sessions—in which the male partners participated—were complete. The content and outcomes of the counseling, therefore, could have had an impact on the reception of the mobile banking service as well as its use among those who signed up for accounts.

Research Methodology

Sampling

The research sites were in a rural section of southwestern Uganda. A sample of 1,423 participants was randomly selected by parish from among the list of Village Savings & Loan Associations (VSLAs) previously qualified by CARE. The three treatment sites were statistically comparable.

The intended beneficiary group was women with a male partner in the home, including women who were legally married, who were in a customary marriage, who were cohabiting with a man, or who were in polygamous marriages. These categories were collapsed and are referred to as “married women” in this report. At the baseline, there were 1,112 women with a male partner in the sample. Also included, for comparative purposes, were 213 women who did not have a male partner in the home, but were divorced, separated, abandoned, widowed, or never married, as well as 93 men.

Over the course of the treatment, however, 187 people dropped out of the study. The most common reasons for departure were changing their VSLA or moving out of the area. As a result, 1,249 people were observed both at the baseline and at the endline. The breakout by gender and marital status remained statistically the same. However, the reduced number of men and unmarried women meant that some specific analyses comparing unmarried women or men could not be done due to small cell sizes. The beginning and ending samples, however, are statistically the same on marital status and gender. A demographic summary is included as Appendix 2.

Methodology

The research was a multi-method study, including a randomized controlled trial (RCT), psychological scales, bank data, two extensive surveys, and a large sample of semi-structured interviews.

The plan for the research was substantially influenced by a pilot test done in the same region, but not the same sites, about a year before the larger study began. The pilot gathered information from 586 people about household practices, through 40 interviews and two surveys, and solicited feedback for both the mobile banking and household dialogue interventions. The pilot found that the household practices anticipated by the theory of change were as expected. Uptake for both interventions was very high. The feedback from the household dialogues was quite positive, as was the reception for the mobile banking product. (Pilot Report is Appendix 3.)

Randomized Controlled Trial. In the RCT, the interventions were expected to show impact on the question, “How satisfied are you with your ability to save?” The question was chosen because it had a history from which the needed sample could be projected and therefore reduced the cost of the study. Notice, however, that the question addressed the general intention of the work, but is not focused on either of the interventions as such. For instance, it does not say “Did the mobile banking product help you save?” or “Does your husband now share important decisions with you?” Neither does the RCT question bring in issues from the theory of change, such as whether the respondent was able to keep the money private. The question doesn’t ask about development outcomes, such as whether more money was made available for school or food. Finally, the question does not address relationship influences, such as increased transparency in the home. These matters were instead addressed by the surveys, the bank data, and the semi-structured interviews; therefore, reviewing the results of all methods is necessary to discern the true import of the RCT results.

Psychometric Scales. A key innovation envisioned by this test was to discern a link between women’s own experience of “empowerment” and the outcomes of an RCT using well established, scientifically validated psychological scales.² As explained later in the report, this part of the study responds to a pressing and long-standing need in the international women’s economic empowerment community.

Several psychometric variables were tested in the pilot and at the baseline. Most of these did not differentiate between women and men, a crucial requirement for work aimed at closing gender gaps. Others showed promise, but eventually had to be eliminated for the sake of time. The scales

² The research to evaluate and select relevant measures from among all available, validated scales was done under a grant by the ExxonMobil Foundation to Professor Linda Scott, while at the University of Oxford and, later, to Professor Scott when she was at the Royal Institute of International Affairs.

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that showed the clearest links to the concerns of the test—having a bank account already, knowing what your husband is earning, and so forth—were used at the baseline as well as the endline:

- The Pearlin Mastery scale, which measures “mastery” — the subject’s belief that they can create and guide their own destiny
- The Kessler Psychological Distress scale, which measures the respondent’s mental and emotional distress, especially depression and anxiety.³

In addition to having been scientifically validated, the Kessler and Pearlin scales help avoid the pitfall of socially desirable responding,⁴ which is a significant concern with direct questions like “Are you more confident as a result of this intervention?” By measuring at both the baseline and the endline, changes in the women’s psychological state could be discerned, as well as comparisons made between married women and unmarried women or women and men.

Bank Account Information. Bank account data for the mobile banking account holders was obtained from the partner bank, Post Bank of Uganda, in hopes of having direct evidence of account use. In accordance with the Ugandan IRB agreement, the data was submitted directly by Post Bank to Datassist in Canada and was not shared with CARE. For the same reason, the data was shared with the DoubleXEconomy research team only after being anonymized and only at a group level.

Informed consent to share customer bank data was obtained from all individuals when they signed up for the Post Bank account. The informed consent forms were vetted by the Ugandan IRB and approved. There was concern by the IRB that the interventions might lead to domestic violence, so response plans were put in place.

Baseline Survey. Between the pilot and the RCT, a revised project plan was submitted and approved (Revised Plan is Appendix 4.) In the RCT/multimethod project that followed, initial

³For the Pearlin scale, see: Pearlin, L. I., & Schooler, C. “The Structure of Coping,” *Journal of Health and Social Behavior* (1978): 2-21j. Also: <https://www.nlsinfo.org/sites/nlsinfo.org/files/attachments/141120/Pearlin%20Documentatio%20with%20IRT.pdf>.

For the Kessler scale, see Ronald C. Kessler, “Stress, Social Status, and Psychological Distress,” *Journal of Health and Social Behavior*, 20(3) (Sept. 1979), pp. 259-272. See also: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5658946/>. And: https://www.hcp.med.harvard.edu/ncs/ftpd/ncs/ftpdir/k6/Self%20admin_K6.pdf.

⁴“Socially desirable responding” refers to a phenomenon in which the respondents in a study answer in the way they think makes them look better or pleases the interviewer or sponsor of the study. Based on field experience and similar reports from other researchers, we believe the number of studies asking the same questions in the rural areas of developing countries (e.g. questions about household decision-making and confidence) has taught participants to give the “right” answer. The advantage of the psychometric questions is that, in this setting, it is not evident what answer is “right” for the circumstances or the preferences of the interviewer or sponsor.

surveys were administered before the interventions were implemented (Baseline Report is Appendix 5).

Semi-structured Interviews. The total number of interviews conducted for the test was 100. The 40 interviews from the pilot were used as the baseline interviews. Another twenty interviews were conducted among married women at the midpoint. The last 40 interviews were conducted after the endline among the women in the HHD+DSW treatment only. The number of interviews conducted in this study is quite large, as compared to typical qualitative work.

Endline Survey. In order to determine whether change had occurred *and* was sustained, the final survey was conducted approximately one year after the interventions were completed. This document constitutes both the report on the endline and the final project report.

Findings

Detailed findings are given in this section, organized by method rather than topic. The RCT results are provided first. Next the results from the psychometric tests will be described, followed by the information provided directly by Post Bank. The findings from these parts of the quantitative data, however, demand further elaboration, especially as to *why* the HHD+DSW showed better outcomes. Therefore, the findings *for each of the two treatments* will be reported next, using both the surveys and the semi-structured interviews as sources.⁵ To aid the reader in framing and assessing the results, however, a topline summary is first provided here.

Topline Summary

- On the randomized controlled trial question, women in the HD+DSW condition outperformed both the DSW treatment ($p = .0031$) and the control ($p = .0079$); the DSW treatment surpassed the control ($p = .00342$).
- The RCT outcome drivers were (1) whether the respondent was able to make her own decision about opening the account, (2) whether she intended to keep it private, and (3) whether she was successful in doing so. Subwallet usage had no effect.
- Psychometric measures showed significant positive results among married women in the HHD+DSW treatment, including both increased mastery ($p = .0001$) and reduced psychological distress ($p = .001$), in alignment with the RCT results. Aspects specifically related to the household dialogues also showed significance values. The same benefits were not seen in the DSW or the control.

⁵ Some survey data has been brought forward to the psychometrics and bank data sections.

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- Bank data confirms that the participants were using the Post Bank accounts, but neither treatment showed an appreciable accumulation of funds overall; the DSW treatment showed more frequent usage.
- Sign-up for the Post Bank account was higher among married women than among unmarried women or me. The vast majority of participants in both treatments reported that they had achieved the financial goals they set at the beginning of the test.
- Survey data and interviews in the HHD+DSW site explained that women living with male partners reported significant and sustained changes in their spouses' behavior, including an important redirection of male income from alcohol toward family goals.

Randomized Controlled Trial

The focal question of the randomized controlled trial (RCT) was “How satisfied are you with your ability to save?” Semi-parametric mixed-effects models were run to account for the fact that ratings clustered within individuals, individuals clustered within groups, and groups clustered within treatment arms. Multiple imputations were used to deal with missing data. The results were as follows:

- Women in the DSW condition increased their satisfaction by 0.63 points to 2.5 on a scale of 1 to 10 where 1 is “Extremely Satisfied.” This difference is statistically significantly more than the control group ($p = .00342$).
- Women in the HD+DSW condition increased by 0.68 points to 2.7 on the same scale of 1 to 10. This change is significantly higher than both the DSW ($p = .0031$) and the control group ($p = .0079$).

The main predictors of the outcome were:

- Whether the woman made the decision to open a Post Bank account on her own.
- Whether the woman intended to keep her Post Bank account private and her success in doing so.
- Whether the woman was able to get her spouse's money deposited into the Post Bank account.

The last driver is based on a question with small cell sizes. Therefore, going forward, the drivers should be understood to be autonomous decision-making with regard to the account, as well as the intention to maintain privacy and success in doing so, but not necessarily getting the husband to deposit into the Post Bank account.

Some factors that were expected to play a role in the RCT's results had no impact. Specifically:

- The financial goal chosen had no effect.
- The frequency of subwallet usage had no effect.
- The duration of subwallet usage had no effect.
- Education also had no effect.
- Marital status had no effect.

That the intended beneficiaries, married women, showed no significant differences, while all women did, is further reason to look more closely at the rest of the data and measures.

Going forward, it is important to bear in mind that the drivers of the RCT outcome are all related to the DSW intervention, even though the HHD+DSW outperformed the DSW only treatment; however, the fact that the DSW intervention was offered after the HHD intervention may have affected the way the mobile banking service was received and used.

Psychometric Measures of "Empowerment"

Rationale. For at least ten years, the international community working on women's economic empowerment has struggled to find the best way to measure "empowerment."⁶ The typical definitions given by international agencies and charities don't lend themselves to measurement because they focus on the *process* of empowerment rather than whether women were actually empowered. For instance, CARE's definition is:

CARE defines women's economic empowerment as **the process** by which women increase their right to economic resources and power to make decisions that benefit themselves, their families and their communities.

In other definitions, the synonyms used are evocative, but not observable. In particular, "capability," "capacity," "ability," "power," and "agency," all of which are commonly used in definitions of "empowerment," can refer to a wide range of tacit potentialities that may not be observable or manifest in behavior. Further, "rights," another commonly used word in this context, are external to the intervention, formal rather than customary, and unobservable in impact until

⁶Linda Scott, et al, [Advisory Note on Measures: Women's Economic Empowerment](https://seepnetwork.org/files/galleries/1583_Advisory_Note_on_Measures_Womens_Economic_Empowerment.pdf), Said Business School, University of Oxford.

https://seepnetwork.org/files/galleries/1583_Advisory_Note_on_Measures_Womens_Economic_Empowerment.pdf. Mayra Buvenic, "Measuring Women's Economic Empowerment," Washington, DC: Data 2X. https://data2x.org/wp-content/uploads/2019/08/WomensEconEmpowermentMeasures_Overview.pdf

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action is taken by the respondent (and the respondent may not successfully claim the rights at all, for reasons unrelated to the intervention).⁷

In the absence of a consensus measure for “empowerment” itself, those executing women’s economic empowerment projects normally assess the outcomes of the interventions and use those results as a *proxy* for women’s actual empowerment. In other words, the women’s own goals are supplanted by the aims of the implementers, donors, and researchers. This practice, while understandable, risks criticism that the women are being exploited for other purposes, especially when the implementers or sponsors could be seen to benefit—as in the case of a bank offering accounts—from the intervention. Having a reliable way to measure empowerment, as opposed to, say, number of accounts opened, is important for showing an independent impact on the women.

This proxy practice is also a problem because the uptake of an intervention does not necessarily lead to empowerment. To illustrate, research on microfinance showed that a woman may get a loan and still not be empowered—if her husband takes the money, for instance, as often happened. Furthermore, research so far seldom considers that women *need* empowerment in the first place because they are *disempowered*. Others in their family or community may sidetrack or sabotage the intentions of the intervention, rendering the effort ineffective for reasons unrelated to the steps that were actually taken.

Evaluating empowerment from the outcomes of specific projects further leaves no means for comparing *across* interventions, since one project may aim at increased savings while another may aim at more employment, and so on. Finding one or two measures that could be used to evaluate any women’s economic empowerment project has therefore been thought highly desirable as a way to prioritize future investment.

Organizations have been composing their own questions aimed at empowerment, frequently ad hoc queries about “confidence.” Since these questions are neither standardized nor validated, the answers are not necessarily reliable nor are they comparable across interventions. Furthermore, direct questions like “Are you more confident now than before you opened this account” or “Are you and your husband now making decisions together?” are increasingly subject to socially desirable responding, especially as women’s economic empowerment interventions become more common around the world.

⁷ The International Council for Research on Women defines women’s economic empowerment as “A woman is economically empowered when she has both the ability to succeed and advance economically and the power to make and act on economic decisions.” OECD defines it as “Economic empowerment is the capacity of women and men to participate in, contribute to and benefit from growth processes in ways that recognise the value of their contributions, respect their dignity and make it possible to negotiate a fairer distribution of the benefits of growth.”

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Some projects have been using one of several available scales for measuring “subjective wellbeing.”⁸ The issue is that empowerment frequently results in women confronting or breaking established gender norms, which in turn can result in community pushback, even violence. Those events probably do not lead to a subjective feeling of happiness. In contrast, subjective wellbeing may result from taking the path of least resistance. Furthermore, subjective wellbeing was tested in this research and found not to discriminate between women and men at all.

Finally, as recognized in the original grant proposal, the subordination of women evidences a distinct global pattern that *should* be measurable across cultures. There is a need to find measures that work across borders to discern changes made that affect these patterns of inequality.

The research reported here sought to resolve all these issues by basing the measure of empowerment on the woman’s own experience, specifically by using established psychometric scales that have previously been validated through rigorous scientific testing.

Results. The two scales used to assess the mental and emotional impact of the interventions on the women move in opposite directions: the Kessler scale *goes down* when the respondent feels less psychological distress—and up when her stress level rises; the Pearlin Mastery scale *goes up* when the respondent feels more in charge of her life—and crashes when she feels she has lost control. As such, these scales, when used together, measure the direction of both empowerment and *disempowerment*.

The HHD+DSW intervention did result in significant differences—going in the right directions—among married women on both the Kessler and Pearlin scales. In nearly all comparisons, the statistical significance was extremely high.

- The HHD+DSW married women showed a statistically significant *reduction* in psychological distress ($p = .0001$), but the DSW and control groups did not.
- The married women in the HHD+DSW treatment showed a statistically significant *increase* in mastery ($p = .0001$), but the DSW and control groups did not.

Beyond these clear connections, there were also multiple correlations between other key elements, particularly those specific to the household counseling sessions, and the psychometrics. There were no differences that related to the DSW specifically. The following differences were found in the HHD+DSW treatment.

- At the baseline, unequal knowledge of household financial information, specifically their husband’s earnings and savings, produced psychological distress among the women, but

⁸ There are many scales for measuring subjective wellbeing. See <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5930870/>.

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not the men. A woman who knew what her husband earned was less likely to experience depression and anxiety ($p = .0001$). Similarly, women who knew how much their husband had saved experienced less distress ($p = .0001$). At the endline, the women who listed “I now know what money my spouse has” as one of the most important changes attributable to the household counseling showed a statistically significant reduction in psychological distress ($p = .0001$).

- Married women who said they had seen positive changes in their spouse’s behavior as a result of the counseling increased their sense of mastery in the HHD+DSW condition ($p = .0001$).
- Married women who said their spouse now “treats me with more respect” increased their sense of mastery in the HHD+DSW condition ($p = .0001$).
- When women in the HHD+DSW treatment reported reduced tensions about money in their marriage, their mastery score was higher than those who did not report this change ($p = .05$).
- Mastery was also higher for women who reported that their husbands were taking a greater interest in the money needs of their children ($p = .02$). They also had lower psychological distress ($p = .018$).

One improvement was common to both treatments:

- Women in both treatment groups who *did* reach their financial goal experienced reduced mental and emotional stress compared to their score at the baseline ($p = .0001$).

These psychometric results point emphatically to the impact of the household dialogues, rather than the mobile banking intervention, as the mover of change. However, while the psychometric scales underscore the superiority of the HHD+DSW treatment, they also suggest that the DSW treatment was not particularly important in its effect on the women’s sense of control or wellbeing.

Bank Account Information

Implementation adjustments. The pilot test indicated that the mobile banking service would have good reception and high uptake among the participants. The full test confirmed these expectations. Concerns identified by the pilot were that some women were daunted by the technology and that insufficient privacy at sign-up had been provided. There were also reservations about cost.

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In the rollout, therefore, several changes were made. The financial and technical module, which was billed to the VSLAs as a training session on household budgeting for women, allowed a private space for women to hear about the accounts and decide whether to sign up.⁹ That same module provided technical training and it appears to have been successful: at the endline, 95.2% of the DSW women who signed up said the technical training had prepared them to use the account, while 97.4% of the women in the HHD+DSW said the same.

The costs to individuals were minimal, only 5,000 UGX (about US\$ 1.35) was required to open an account. Some participants had to pay additional fees at the time of sign up for SIM cards registered in their own names and for passport photos. However, once the account was active, there were no further costs to users except phone time.

Usage. Bank data provided to the research team confirmed that people in the treatment sites had opened and were using the accounts. There was a significant rise in the number of transactions between 2018 and 2019 because long delays in account activation meant many people were not online until the very last of 2018.

During 2019, however, the numbers using their accounts were healthy and skewed toward the DSW treatment: in that group, there was an average of 10 transactions a month (counting both deposits and withdrawals), while the HD+DSW had only six. In the table below, you can also see that the range in the amount of the deposits was very wide, with the amounts withdrawn lower. However, there is no appreciable difference between treatments.

By the end of the test, survey data showed that most married women who signed up for the accounts *and used them* reported that they were still using these accounts: 97.6% of women in the HHD+DSW treatment said they still used it compared to 91.6% in the DSW treatment ($p = .034$). Interviews indicated that most women felt the account was “in use” as long as it wasn’t closed.

⁹ In this case, “private space” means “same sex space.” The all-female setting of savings groups is widely thought to be key to their success because they provide privacy beyond the interference of men, rather than from other women. It was never envisioned that this intervention would be administered to one woman at a time. However, since the VSLAs in the chosen research area had only mixed-sex groups, another way of providing same-sex space had to be found. The financial/technical training module was the solution devised.

Figure 1

| Bank Data on Test Accounts, 2018 and 2019, Monthly | | | | | |
|--|----------------|-----------------|-----------------------------------|------|--------|
| Average Number of Deposit Transactions | | | Average Number of Withdrawals | | |
| | 2018 | 2019 | | 2018 | 2019 |
| DSW | 1 | 4 | DSW | 1 | 6 |
| HHD+DSW | 1 | 2 | HD+DSW | 1 | 4 |
| Range of Deposit Amounts (UGX) | | | Range of Withdrawal Amounts (UGX) | | |
| | 2018 | 2019 | | 2018 | 2019 |
| DSW | 5,000 - 20,000 | 5,000 - 175,000 | DSW | 144 | 11,281 |
| HHD+DSW | 5,000 - 20,000 | 5,000 - 190,000 | HHD+DSW | 144 | 9,306 |

Savings. There was no meaningful accumulation of funds in the Post Bank accounts during the period, however. The average increase was only about 2,000 UGX more than the 5,000 UGX required for the initial deposit and the median was equal to the deposit.

Figure 2

| Accumulation of Savings | | |
|---------------------------------|------------------|-----------------|
| Pre- to Post-Intervention (UGX) | | |
| | Average Increase | Median Increase |
| DSW | 8,500 | 5,000 |
| HHD+DSW | 7,000 | 5,000 |

We would not necessarily expect to see accumulation of funds from these interventions, however. Through the financial management concepts taught as part of both treatments, the women learned to stash away money for a particular goal, to resist impulse buying until the goal was reached, and then use the cash to execute the goal. Take, for instance, the most common goal, which was to be able to pay school fees. This process would necessarily have meant an account would build up funds until the beginning of term and then flush out to empty. The strategy therefore worked against accumulation for its own sake.

The participants did, however, have other places to put their money and other ways to achieve their goals besides the Post Bank account. In the next section, the experiences of the participants

and what they did with their money will be detailed by treatment, using the survey data and semi-structured interviews to interrogate and explain what this report has already revealed.

Surveys and Semi-Structured Interviews

The two surveys and the 100 semi-structured interviews provide a fleshed-out picture of the impact of each intervention while also explaining the differences in their performance on the quantitative measures just described. In this section, the DSW impact will be analyzed first, followed by the HHD+DSW treatment. Throughout, please remember that the Post Bank offer *followed* the household dialogues in the HHD+DSW treatment.

**Treatment 1
Digital Subwallets Treatment**

The performance of the Post Bank account intervention aligned the theory of change: The primary drivers regarding the desire for financial privacy among married women are clearly reflected in the study results. The drivers for the RCT *were not* a function of account usage or financial goals. Instead, from the perspective of understanding the RCT results, the most important data about the DSW offering is whether the women in each treatment were able to decide to *open an account on their own*, whether they *intended to keep it private*, and whether they *were successful in doing so*.

Uptake. Even in the VSLA uptake of the bank account, the HHD+DSW was the stronger treatment. The VSLAs were asked first to sign up for the DSW accounts as a group. In the DSW treatment, 58% of the VSLAs signed up, while 67% of the VSLAs in the HHD+DSW treatment did (p = .01). Again, there is a suggestion here that the order of offer had an impact: something about the content of or reaction to the household counseling course prompted more groups to accept the Post Bank proposition.

Figure 3

| Bank Account Ownership | | | |
|---|---------------|-----------------|------|
| Percent by Gender and Marital Status | | | |
| | Married Women | Unmarried Women | Men |
| Had a bank account at baseline | 24.1 | 25.1 | 64.5 |
| Signed up for an individual Post Bank account | 55.5 | 53.8 | 53.7 |
| Post Bank Account Sign-up by Treatment | | | |
| DSW | 49.2 | 50.5 | 55.9 |
| HHD+DSW | *63.9 | 58.5 | 50.0 |

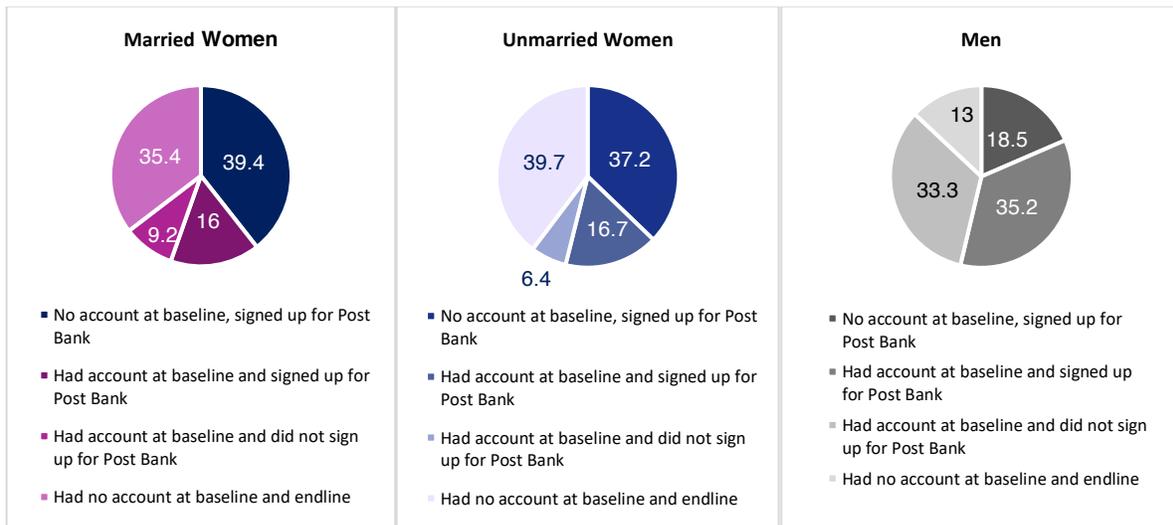
*Married women are significantly different by treatment (p = .01).

Overall, about 54% of married women, unmarried women, and men signed up for the Post Bank account. By treatment, however, the most enthusiastic uptake came from married women in the HHD+DSW group. Those women were significantly more likely than married females in the DSW treatment to sign up (p = .0001, where HHD+DSW = 64% and DSW = 49%).

It’s also notable that quite a few participants of both sexes who signed up for a Post Bank account had another bank account at the baseline. We do not have information to say whether they added a second account or switched from the old account to the new one. Despite these successes, at the end of our work 35.4% of married women and 39.7% of unmarried women were still unbanked, as compared to only 13% of the men.

Figure 4

Overlap Between Post Bank and Previous Bank Account Ownership
Percent by Gender and Marital Status



The pie charts in Figure 4 help visualize both the impact of the DSW intervention and the gender inequality that was already present. For both unmarried and married women, the two largest groups either had (1) no account to start and then signed up for the Post Bank account or (2) had no account at both the end and the beginning. The pie chart for the men, however, is completely flipped, with the two largest groups both having accounts at the baseline. The impact of the Post Bank intervention was sizeable enough to bring women’s bank account ownership equal to men’s.

For both women and men, the reason for not signing up was that they did not have enough money.

Subwallet usage. Subwallet usage did not contribute to the RCT outcome, but 75% of the women who signed up for the account also said they used the labels, across both treatments. Of the 25% who *did not* use the subwallets, the reasons were: technical access issues (37.5%), comprehension problems (37.6%) and feeling no need (3.1%).

Independent decision-making. A large percentage of married women who signed up for the account made the decision on their own (88.1%) and there was no difference between the treatments. However, *all* unmarried women and men made their own decision. Virtually all the married women who *did not* make their own decision said they had to get permission: 81% of the women who did not make their own decision in the DSW treatment; in the HD+DSW, 95% had to get permission. The expectation applied *only* to the married women, not to the men or the unmarried women, and is emblematic of the ongoing inequality of married women in the home. Note, however, that Figure 5 (below) shows the number of women who had to get permission was only 42 across *both* treatment groups.

Figure 5

| Independence of Decision-Making for Bank Account | | | | | |
|--|---------|---------------|-----------------|------|-------|
| Count and Percent by Gender and Marital Status | | | | | |
| | | Married Women | Unmarried Women | Men | Total |
| Opened a Post Bank account | Total n | 308 | 66 | 29 | 403 |
| Made decision to open account on their own | Count | 263 | 65 | 27 | 355 |
| | Percent | 85.4 | 98.5 | 93.1 | 88.1 |
| <i>Did not</i> make decision to on their own | Count | 45 | 1 | 2 | 48 |
| | Percent | 14.6 | 98.5 | 6.9 | 11.9 |
| Had to get permission to sign up for account | Count | 42 | 1 | 2 | 45 |
| | Percent | 13.6 | 1.5 | 6.9 | 11.2 |
| Did not have to get permission | Count | 3 | 0 | 0 | 3 |
| | Percent | 1 | 0 | 0 | 0.7 |

Privacy. Two thirds of the married women who signed up for the account reported that they intended to keep it private and, of those, 68% reported that they were able to do so. By treatment, there was no difference: 66.2% of married women in the HHD+DSW treatment intended to keep it private, as did 63.3% of married women in the DSW.

Figure 6

| Intention to Keep the Account Private, Success in Doing So | | | |
|---|-----|-------|---------|
| Married Women Who Made Their Own Decision to Open an Account for Themselves | | | |
| | | Count | Percent |
| When you opened the account, did you intend to keep your money private? | Yes | 202 | 64.7 |
| | No | 110 | 35.3 |
| Were you able to keep the money private? | Yes | 205 | 67.7 |
| | No | 98 | 32.3 |

A high percentage of married women did tell their spouses about the account, however, which would seem to contradict their claim that they also maintained privacy.

Figure 7

| Others Who Know About the Account | | | |
|---|-------------|---------|------|
| Percent of Married Women Who Opened an Account (n = 308) | | | |
| | Answer | HHD+DSW | DSW |
| Does anyone know you have signed up for this new digital wallets account? | Yes | 95.3 | 89.9 |
| How does that person know? | I told them | 96.5 | 92.3 |
| Does the spouse know? | Yes | 90.9 | 81.7 |

From the interviews, it seems that women considered the account “private” if it was in their name, only they knew the code, they could control whether someone knew what was in it, and only they could deposit or remove funds. These are reasonable criteria for privacy; most people in countries where nearly everyone has been “banked” for a long time would consider their account private if these conditions were met.

This [Post Bank] account is in my name, and I am the one who manages this account, because I am the one who saves directly into it. When he has money sometimes, he gives it to me, and I save on it. Sometimes he is aware of the account balance because I tell him or when he asks about it, I give him the information. Sometimes I don't need to force

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him to withdraw the money because of a certain need because we all know we are saving for a certain set target. —Mary¹⁰

Even if the account was open to the spouse, it did provide privacy from family and friends. Interviews repeatedly showed the women were typically under pressure to lend or give money to others whenever they had any. Being able to say that the money was not in the house helped them to avoid that pressure.

[The financial training] helped me a lot because now I can plan for my money very well by buying relevant things for example. I used my savings to buy land. . . I used to lend my money [out to neighbors, family, friends] but now I no longer keep my money in the house. I either take it to Post Bank or the [VSLA] group. —Margaret

There were several remarkable anecdotes in the interviews to illustrate the women’s inability to maintain control over their own money. In one, a woman told of being made to put cash she had earned on the kitchen table in the evening, in front of her husband and her children. Even her children were allowed just to take it from her and she could not keep any of it. Another woman recounted that her husband had fathered a child with another female and, when that woman left, he brought the child home. She was now paying the child’s school fees.

In virtually all cases, women deposited only their own money into the Post Bank account. It does not appear that sharing between couples occurred in this account.

Figure 8

| Whose Money Is Being Deposited into the Account? | | | | | |
|--|--------------------------|-------------|---------------------------|--------------------|-------|
| | Percent of Married Women | | | | |
| | Only My Own | My Spouse's | Both Mine and My Spouse's | Other or no answer | Total |
| DSW | 75.8 | 2.5 | 11.8 | 9.9 | 100 |
| HD+DSW | 87.6 | 3.4 | 8.4 | 5.8 | 100 |

Saving. Although the data in the table above does not indicate that couples were sharing funds in these accounts and the Post Bank data suggests only small amounts were accumulated, it is nevertheless clear from both the surveys and the interviews that the women had internalized the desire to save. The top reason given for choosing to sign up for an account among women in both treatments was the belief that the service would help them save money (see Figure 9 below).

¹⁰ All the names of the respondents have been changed to preserve confidentiality.

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Quite a large number of the women in the interviews emphasized the importance of “saving with a purpose” and gave examples of how they had changed their financial behavior. Many also itemized the things they have accomplished as the result of this change in their orientation. Many of them assert that, prior to the training, they bought what they could afford with the money they had in their hands at any one time and had never thought to keep some of it for something bigger.

The exception to that impulsive behavior, as we know from data collected in both the pilot and baseline research, is that most of them hid cash at home, specifically from their spouses. At the baseline, 43% of the women hid cash in a secret place at home and only 11% of those told their husbands about it. The women who hid cash had a better sense of control over their lives than those who did not ($p = .02$), but their depression/anxiety level was higher ($p = .02$). In other words, they were in a situation that caused them psychological distress and one of the ways they attempted to handle it was apparently to put money away, which at least gave them some sense of control over the circumstances. In interviews, we were often told that hiding money was “just part of being a woman” —implicitly alluding to the unequal money power between husbands and wives.

Figure 9

| Why Did You Yourself Decide to Sign Up? | |
|--|------|
| Percent of Women Who Signed Up on their Own, Both Treatments (n=308) | |
| Note: Responses Include Multiple Mentions | |
| I thought it would help me save money. | 90.3 |
| I thought I could get loans. | 34.5 |
| I thought I could trust the bank. | 26.7 |
| I thought it would help me budget. | 19.2 |
| I thought I could keep money private. | 18.5 |
| I thought it would help me budget. | 15.0 |
| I thought I would better resist impulse purchases. | 14.6 |
| I trusted the technology. | 8.0 |

Saving money in this way and for this reason is fundamentally different from putting away money for an articulated, concrete purpose, like buying a cow or paying tuition. Instead, this kind of saving is a barrier against disaster, no matter how inadequate the funds may eventually be to protect the saver. The woman who hides cash *from her spouse* is trying to protect herself against things he may do (or fail to do) that could jeopardize her or the family’s wellbeing. She has to do hide cash because he is likely otherwise to take her money and she has no say over what he does with it. But, as we also heard, saving in the house is risky because the husband might find it; not only would the cash be lost, but there might be a violent price to pay.

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We might call this behavior “defensive saving” and earmark it as being a very different kind of saving behavior than what was taught in the financial planning sessions. Nevertheless, defensive saving seems to be of great importance to a significant number of these women. Since the women had neither the mobility nor the money to go to a bank, a mobile banking account offered them the possibility of saving privately and safely, in a formal way, many of them for the first time. Two bits of information from the surveys seem to support the idea that many women wanted the Post Bank account for defensive saving. In each treatment, about 50 of the married women chose to open an account even though their VSLA had not accepted the Post Bank offer (the HHD+DSW group was more likely to do this at $p = .022$). This willingness to step outside the safety of the group to act seems to suggest urgency. And, at the endline, 74.9% of all who signed up deemed the Post Bank account a better way to keep money private than hiding cash (3%).

Given the disparity between the women’s self-reports in the survey as well as the interviews, in comparison to the Post Bank data, we must consider that there was a different kind of saving going on, but also that saving may have been happening through a different vehicle.

The most likely avenue for saving outside Post Bank would be for the participants to have saved in their VSLA accounts. All the respondents already had at least one VSLA account when the test began and virtually all of them kept that VSLA account to the end of the test. That means everyone had an alternative way to save. In addition, we found that it is common for people to belong to more than one VSLA and therefore to have more than one VSLA account. Therefore, there may have been accumulation happening in the VSLA accounts, but not the Post Bank account. That possibility seems particularly likely when you consider that money saved in the VSLAs offers a return, while the bank account did not, that periodic deposits of savings is required, and that there are no costs, including transportation. It seems that the only clear advantage the bank account offered was the privacy benefit: 74.9% of those who signed up rated the bank account the best of available options for keeping money private.

We also learned in the interviews that at least some of the women were “compartmentalizing” their savings through the VSLAs in much the way envisioned for the digital subwallets. In other words, they would save for one purpose in a specific VSLA account and then for another purpose in a different VSLA. In some interviews, the women would point to things they bought with money from this or that place to deposit. However, the fact that the women were already invested in the VSLAs meant they sometimes did not think they had money to put in Post Bank.

I opened this account when I had plans of saving on this account for certain goals. So, I last saved there when I opened it and since then I had challenges that involved finances including paying my grandson’s school fees. I constructed a water tank. I have bought a goat. And I have to again save in my village saving group. So, I found this hard when it came to save to both the bank and the groups at the same time.

—Samantha

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The idea that saving may have been going on elsewhere—or that any accumulations in the Post Bank account were flushed out when goals were reached—is especially supported by the fact that so many reported having reached their financial goals.

Financial Goals. Participants had been asked at the baseline whether they had set a financial goal for the year. Since the VSLAs require members to set annual goals, the questionnaire at the endline could then ask whether the specific goal identified at the baseline was met.

Though a few changed their goals and some failed, the vast majority did achieve the goals they set for themselves in the beginning of the test: 79% of the men and 72% of the women met their financial goals by the end (no statistical difference). Given that men have more money and more control over it in the first place, it's predictable that more of them would achieve their goals, regardless of the impact from the interventions. Having the women come so close to the men's record and having nearly three-quarters of them be successful is an important result. When comparing treatments, the difference between the married women in the two intervention groups is not significant, but it is very close ($p = .06$), with the HHD+DSW again showing the better performance. In the HHD+DSW treatment, 76% of women reached their goal, as compared to 69% in the DSW. Eighty-five percent of men in the HHD+DSW treatment and 76% in the DSW reached their goals.

When respondents did not reach their goals, both men and women said the reason was that they simply did not have enough income to reach it (67% and 65%, respectively, of those who did not meet their goal).

Use of Funds. The ultimate purpose of the interventions was to encourage inflows of funds into development-positive purposes. The financial choices made by the women in the study did indeed confirm the theory of change in the original proposal: they used their funds to help their families, especially their children, and to save for the future.

In the table below (Figure 10), the things women were able to do differently since getting the Post Bank account (but not necessarily *through* the Post Bank account) are detailed. Instead, the top goals were saving for the future and providing better for the children. Notice that “set aside money for emergencies” is the only item for which there is a statistically significant difference between treatments, this time with the DSW treatment performing better than the HHD+DSW. However, there were only a small number in either treatment putting money away for that reason. Unfortunately, 30% of the DSW participants and 23% of the HHD+DSW reported that there had been no change at all, again pointing to the intransigent nature of both the gender inequality and the poverty in the sites.

Figure 10

| Have You Been Able To Do Anything Differently With Money Since Getting the Digital Subwallets? | | | |
|--|------|---------|--------------|
| Percent of Married Women Who Decided for Themselves to Sign Up for a Post Bank Account | | | |
| Multiple mentions: Columns do not sum to 100% | | | |
| | DSW | HHD+DSW | Significance |
| Save for the future | 32.2 | 30.8 | 0.794 |
| Provide better for the children | 30.3 | 28.1 | 0.68 |
| Nothing changed | 29.6 | 22.6 | 0.17 |
| Put aside money for things that are important to my family | 20.4 | 29.5 | 0.071 |
| Set aside money for emergencies | 13.8 | 6.8 | 0.048 |
| Invest in my business | 12.5 | 14.4 | 0.635 |
| Purchase a large asset (furniture, car, television, livestock | 9.9 | 13 | 0.396 |
| Put aside money for things that are important to me | 9.2 | 16.4 | 0.063 |
| Get medical care for myself or the family | 7.2 | 4.8 | 0.378 |
| Buy more/better food | 6.6 | 2.7 | 0.115 |
| Provide personal things for myself (like getting hair done or buying new clothes) | 4.6 | 4.1 | 0.835 |
| Have a treat for myself from time to time | 3.9 | 8.2 | 0.125 |
| General Savings | 2 | 1.4 | 0.686 |

Treatment 2 Household Dialogues

Starting conditions. By the time of the endline data collection, respondents became more candid, making clear to us that the characterization of family practices that had informed the theory of change was accurate, as well as bringing further details into view. The only difference from expectation was that some married couples had fallen into a habit of parallel lives, in which neither of them—male or female—shared economic information with each other. The following list describes the circumstances found:

- There was a great deal of secrecy between marital partners, but more so on the part of men.
- The typical pattern was for the burden of supporting children to fall on the women.
- Men often expropriated their wives’ earnings. In particular, women’s labor on family farms was exploited for their male partners’ purposes.

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- The women were subject to financial burdens thrust on them by family or friends.
- Power over financial information and decision-making was being used by men as a means of controlling and subordinating the women.
- The threat of conflict and violence was the main factor keeping women from asking questions or asserting more influence.
- Men’s consumption of alcohol significantly reduced funds available to the household for more constructive purposes.
- Both genders were likely to hide money, but men did so (in bank accounts their wives did not know about) and women stashed hard cash in secret places in the home, probably because they did not have bank accounts.
- Absorbing the shock of an emergency seemed to fall disproportionately to the women.
- Women’s own needs were not being met, while husbands spent freely on themselves.
- Women suffered mental and emotional stress, as well as an inability to determine the course of their own lives, because of all these conditions.

Changes observed. The HHD+DSW intervention did move family decision-making toward gender-equal practices. Of the married women in the HD+DSW treatment group, 81% said at the endline that they had seen a change in spousal behavior as a result of the sessions and 96% of those testified that the change had been sustained.

Figure 11

| Positive Changes Observed by Married Women in HHD+DSW | |
|---|----|
| Percent of Those Observing Changes (n=199) | |
| My spouse now understands the household finances. | 62 |
| My spouse now shares household financial decision-making with me. | 61 |
| My spouse now understands that I have needs, too . | 60 |
| My spouse now treats me with more respect with regard to money than before.* | 53 |
| I have learned how to make more money. | 50 |
| My spouse and I have learned how to manage our money better. | 49 |
| I have learned what our financial situation really is. | 42 |
| Tensions in the marriage have decreased . * | 35 |
| My spouse now takes greater interest in the money needs of children. * | 34 |
| I now know what money my spouse has. * | 32 |
| I have a better sense of whether we are prepared for the future, including unexpected events. | 28 |
| My spouse is now more interested in putting the money into my business. | 23 |

* Respondents who observed this change showed a significant improvement in psychological wellbeing.

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As can be seen in the table above, married women identified specific changes in their spouse's behavior and in the practices of the family. Changes mentioned most frequently relate to sharing of financial information, collaboration on money-related decisions, and being treated with more respect and consideration. Each of these can be seen as a substantial behavior change, given how entrenched the previous practices were.

As a reminder, several positive changes in the husband's behavior listed in the table above also produced statistically significant improvements in the women's psychic state, from the baseline to the endline (these questions were not asked of the DSW group because spouses did not receive any intervention in that treatment). More than half of the respondents said their spouse treats them with more respect regarding money, which increased their sense of mastery ($p = .0001$); the 35% who said that money tensions had been reduced (.05) also experienced increased mastery ($p = .0001$). Psychological distress decreased when the respondent said she now knew what money her spouse had (32%, $p = .0001$). And when the spouse took greater interest in the money needs of the children (34%), mastery increased ($p = .02$) and distress decreased ($p = .018$). The behavior change among husbands, therefore, provides additional explanation for why the HHD+DSW treatment produced better results than the DSW only.

The interviews give much evidence of men who are leaving most of the responsibility for family needs to their wives. In several interviews, women indicated their happiness that men were taking responsibility for *the family for the first time*:

Yes, after the sessions he learned how to work. He makes good decisions. He learned how to plan for the family. He really became responsible. He takes care of the things at home, takes care of me. He now helps me on the housework. Really my husband changed after the dialogues. Everything moves on well. —Edith

In several interviews done among the HHD+DSW women, the respondents emphasized that these changes could not have occurred had they not been brought in from the outside. The women were emphatic that the men would not have "believed" them if they had attempted to bring the same issues up, effect the same change.

Household budgeting. Perhaps the most important piece of the household dialogues intervention, however, was to introduce alcohol spending into discussion of the budget. The number of women reporting this change and its importance was striking in the transcripts of interviews at the endline.

In addition, there had been multiple mentions of alcohol as an issue in the baseline interviews. Many women knew their husbands were drinking, and even that they were drinking a lot, but they were in the dark about how much money was being spent on it. Therefore, it is understandable

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that the revelation of how much the husband was spending on alcohol (and other personal spending like airtime)—and what could be accomplished for the household if he would repurpose that spending—was game-changing. The testament given below is similar to other responses in the interviews, but this woman also gives quantification of how significant the financial impact on household budgets would be if the money spent on alcohol were redirected.

*There is a big change especially when I compare my husband's bad money habits, that he had before the dialogues, there is a big change. I believe what he picked up from the dialogues has really shaped the way he currently handles money And on my side, I learnt how to save money. . . . I very well remember during some of the sessions, Miss Florence, the lady that trained us, asked my husband how much he spent on alcohol and how much he spent on feeding the family. . . . She advised him to reduce on alcohol expenses which he did. She went ahead to ask him how much he spent on airtime daily which still he answered and again she advised him to reduce or choose one of the two costs to forego since they are both costly. **Because when you add the airtime and alcohol together, it was more than what we spend daily at home for the basic needs.**¹¹ So, the trainer advised that my husband reduces on both alcohol and airtime expenditures so that he saves some money for future use. My husband agreed to reduce on the cost of airtime at least but for alcohol, he did not commit yet, because it was difficult for him to decide yet on reducing this expenditure. By the time we did the next dialogue, he had observed that he was saving 2000 shillings daily as a result of reducing airtime. So, he opted to reduce on the alcohol expenditure. He is still struggling to reduce the alcohol expenditure, but at least, he now takes a bottle less from three daily to two. To me, this is very good progress, and I know with time, he will change completely. —Reva*

Far from being an issue restricted to a few problematic households, this revelation about alcohol use would affect *most* married women. In Uganda generally, but certainly in this region, there is an established community ritual in which the men gather to drink beer together each night.¹² Traditionally, they sit in a circle and suck the beer out of a pot through rubber tubes (the beer is usually not bottled, but home-brewed). This ritual is so well-established that the hotel the research team and CARE stayed in on the first field trip had a larger-than-life statue of the scene in front.

Normally, what the men do is to have one man treat everyone else one night and another man do the same the next and so on. This practice allows all of them to go home most nights and say they were treated by another man to the beer. However, the net result is the same: a lot of money goes for beer. The men themselves may not have realized how much they were spending, precisely

¹¹ Emphasis added by principal investigator.

¹² Professor Linda Scott has been doing research in rural Uganda for more than a decade, as have the other members of the DoubleXEconomy team.

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because the outlays are stretched out over time in their own minds. So, this household budgeting exercise probably gave the men insight as well as the women.

To provide perspective on the potential financial impact: When the woman in the story above says her husband had successfully reduced his alcohol consumption from three bottles a day to two, she is talking about a reduction of 2,500-3,000 UGX every day going out the door for beer. Three bottles daily are equivalent to the average household income in these districts, 5,000 to 7,000 UGX a day. So repurposing beer money would make a huge difference in the amount of money available to cover family needs—and the change would apply in most households.

Respect, sharing, trust. The interviews of women taken at both the midpoint and the endline repeatedly confirm the dramatic effect that the household dialogues had on both the spirit and practices of family money management:

We came to see that we had missed so much as a family before these dialogues, how women were being tortured by men in the way that decision-making in both home and financial matters was one-sided but, thanks be to God, now it is the reverse, everyone takes part in decision-making in a household which was brought about by the dialogues. —Samantha

We had a problem of money. Personally, I didn't want him to know about my finances. After sharing our savings in our VSLA, I would use the money my own way and his money was also his but from the time they started training us, both of us got to know that all the money is meant to be for both of us and we are supposed to always put it on the table. Generally, our relationship before the training wasn't good because we used not to welcome each other, none of us knew how to welcome one another. But now, I don't even know how to describe the situation because since the trainings, all the issues I had got sorted. —Melanie

However, though the counseling does seem to have encouraged the men to respect their wives, the reverse was not always the case. Imagine being in her shoes now. You have just learned, after years of hard work, stress, and self-abnegation that your husband earns far more money than you knew, has money in a bank account you were not aware of, and has been spending it all on his own “treats,” leaving you to cover the family’s needs, including the education of your children, with your own meager earnings. These are not revelations that inspire trust.

Myself, the private saving I had joined is an account with Banyarunguru bank because I discovered a man cannot always be trusted. Otherwise for me I have always managed my money well, but what I picked from our household dialogue is that since my husband earns more money than I do, it is in order for him to present to me his earning and we budget for it as a couple because, before the household dialogue, he would always keep his earnings from me such that I would never know about them. But from the time we

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had the dialogue, he presents his earnings to me and we do the budgeting together. This is because we learned from the training that once we join efforts, we can build our financial stand even much better. —Reva

In the original proposal, the social dynamic, particularly among the women, was mentioned as an important factor in empowerment. In these interventions, there was no significant effort to encourage solidarity, especially since the VSLAs were mixed-gender. Even so, it does seem that the women shared with each other what had happened in the dialogues and likely discussed among themselves the virtues and drawbacks of having a private account. Some women, learning from the experiences of others, may have taken the precaution of opening an account even if their husbands had given them no reason to be suspicious.

Do you plan to tell your husband about your bank account when you open it?

It will be my secret (she looks at interviewer seriously). In this world you don't know what can happen. He might change. . . . what if he chased me from his house? How would I reach my parents' home without transport? People change. I can't completely depend on him and tell him everything. I will reserve some to myself.

Is there anything your husband has done for you not to trust him concerning money matters?

No. Really, I am just doing this to be on the safe side. —Joann

This dynamic may explain why the HHD+DSW women, who were offered the Post Bank accounts after the dialogues were complete, were more likely to decide on their own to open an account.

Domestic violence and alcoholism. Despite the positive response from the dialogues, there were still reasons for some women to want to keep their money quietly. Some husbands were only occasionally in the home, were simply uninterested in the family, had completely abandoned the household, were abusive, or were drunks.

In some of these cases, however, the women felt strengthened by the ability to keep money privately, as well as by the lessons they had through the training module.

He has never got time for the family; besides that, he never went to school and may never know the value of sitting with the family. But he is also a drunkard anyway. . . . The biggest problem I had was my husband being a drunkard, so I wanted to save more and get money at once to plan for my kids like buying them land. I have bought them some already. . . . Actually, I have become much stronger, and actually become more financially independent. I don't bother myself asking for money from my husband anymore like before we

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separated, because I learned how to prepare myself financially and to plan, because everything depends on me now. —Alice

A problem mentioned in each set of interviews (baseline, midpoint, and endline) was that a woman's husband was a drunk. Though not all men became alcoholics as a result of the beer drinking ritual, it's easy to see that the practice would lead to a high level of alcoholism. So, in these cases, the women were trying to keep their money separate so that it would not go to drinking, since in those cases the man would be more likely to bully the woman into giving up her own money (and it was more obvious that a good bit of money was going out the door for beer).

One quiet hope among the staff at CARE Uganda was that this intervention might help reduce the threat of violence in the homes. The research did not measure domestic violence, but there were a few hopeful signs in the both the surveys and interviews that tensions were reduced in some households. Nevertheless, there were also households that were so far into a habit of conflict that "soft" interventions such as this one were unlikely to make a difference. In these situations, the idea of the household dialogue could be inflammatory.

A private bank account could be a life-saver. One woman signed up for both the household dialogues and the mobile banking account. Her husband begrudgingly attended a few sessions and then refused to go further. As the CBTs and IPSOS recorded, "Before the dialogues, the husband was a very hostile person, but after being persuaded by the CBT, he willingly participated. However, the dialogues lost meaning to him shortly and after, he started acting in a cruel way."

This woman's situation at home was dire. Her husband was refusing to buy her food or even to let her eat what grew in her own garden. He was making her sleep outside and would not give her support for basic needs. He was also trying to sell the land under their home. Her daughters-in-law, acting on orders from her husband, pulled up all the cassava she had planted and sold it at the market, giving her husband the proceeds. He drank heavily and would chase her out of the house with a weapon. His menacing behavior continued unabated even *after* he had been given counseling. This woman had opened a Post Bank account, had not told her husband about it, and was quietly moving money she got from her VSLA into it. She feared he was going to kill her and was trying to put together enough money to leave.

In East African culture, it has been a long-standing practice for men to exploit their wives' labor on farms for their own benefit. That exploitation is still considered normal.¹³ However, as the result of the HHD intervention, interviews suggested that this abuse was sometimes lessened also.

I was tired of commands from him and also something changed. Let me tell you this, I used to go in the coffee gardens, harvest it, dry it; you know the long process coffee takes

¹³ Ester Boserup, *Woman's Role in Economic Development* (London: Routledge, 2013). Mary Johnstone-Louis, "The International Women's Coffee Alliance," Said Business School, Teaching Cases, University of Oxford, 2012.

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to the final point of selling, then after selling, would bring all the money to him. Can you imagine having toiled alone in the gardens while he is in bars drinking alcohol and at the end of the day, I have nothing. This was so painful. . . . But then this time changed, like the last coffee season, all the money I got from selling, we sat at the table and this time round discussed on what, how we were going to allocate this money to different development activities in our family. —Mary

Poverty reduction. When asked what they have been able to do differently with money as a result of these sessions, the women listed accomplishments that conform to the development community’s expectation: they prioritized their children’s needs and put aside funds for the future.

Figure 12

| What Have You Been Able to Do Differently with Money Since the Household Dialogues? | |
|--|------|
| <i>Percent of Married Women in HHD+DSW</i> | |
| Single mentions only. Total is 100%. (n = 161) | |
| Provide better for the children | 29.8 |
| Put aside money for things that are important to my family | 20.5 |
| Save for the future | 14.3 |
| Other | 8.1 |
| Purchase a large asset (furniture, car, television, livestock) | 8.1 |
| Invest in my business | 7.5 |
| Nothing changed | 5 |
| Put aside money for things that are important to me | 2.5 |
| Set aside money for emergencies | 2.5 |
| Provide personal things for myself (like getting hair done or buying new clothes) | 1.2 |
| Get medical care for myself or my family | 0.6 |

In comparison to the DSW treatment, however, the HHD+DSW wives acquired full knowledge of the family’s finances for the first time, a jointly agreed plan to manage money more equitably, and sole

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control over the family bank account. Coming out of the one-sidedness of the previous practices, this change was transformational.

DISCUSSION

Let's return now to the research questions to see whether the findings just enumerated provide answers.

- Will increased financial privacy for women result in more control over money spent, especially insofar as development outcomes benefit?
- Will a greater spirit of financial cooperation and respect between couples result in more voice in how money is spent, especially insofar as development outcomes benefit?
- Will women's own sense of empowerment be affected by more privacy or more cooperation in family financial matters?

In each treatment group, about 30% of respondents reported that they were better able to save for the future and to provide for children and family after the intervention. Therefore, development outcomes did benefit from both interventions.

Most of the women in the study, including the married women, were able to make the decision to open a Post Bank account on their own. Most of them intended to keep it private and were, from their own perspective, successfully able to do so. As a result, women in both treatments felt more confident in their ability to save at the end of the test. Most were also able to meet their financial goals. So, for the first research question, we can answer that financial privacy gave women more control over their money and resulted in pro-development saving and spending behaviors.

In the household dialogues treatment, only married women received the treatment. The evidence supports a conclusion that the counseling resulted in better financial management within families and, especially, that women had more participation, including both more voice and more knowledge, in the decision-making as a result of the experience. So, the answer to the second research question is that a program that successfully gave women greater voice in family finances did result in better development outcomes.

In the HHD+DSW condition, there was measurable improvement in two psychometric measures that could be seen as stand-ins for a woman's sense of empowerment or disempowerment. There were no correlations between these measures and the DSW only condition; in fact, all but one of the correlations were specifically related to the features of the household counseling sessions.

We cannot conclude, however, that *cooperation* rather than *autonomy* was the more effective strategy for change. There are two reasons. One is that, while the HHD+DSW treatment produced

better psychometric outcomes related to cooperation, the married women in that group were also more likely to sign up for the Post Bank account and to make the decision on their own—both by a significant margin. The other is that the RCT found the HHD+DSW intervention more effective than the DSW only treatment for women, but not specifically for married women.

This seeming contradiction raises questions about the impact of the HHD+DSW treatment on unmarried women—even though they did not get the treatment specific to that condition. Remember that unmarried women in the HHD+DSW group, like the married women, opened Post Bank accounts much more often than did unmarried women in the DSW only group. Indeed, the VSLAs in the HHD+DSW treatment were statistically more likely to open bank accounts. It is not evident why this effect would have occurred; there is nothing about the interventions on their own that should have caused a difference in uptake among unmarried women in the HHD+DSW. The only aspect of the intervention delivery that might have affected their decision-making with regard to the bank account was the order in which the offer was made in the HHD+DSW condition.

As previously discussed, it seems clear that the response to the household dialogue sessions had an impact on the uptake of the Post Bank account. We cannot conclude, however, that it was only the direct delivery of that intervention that affected uptake because the unmarried women, who would not have been in the dialogues, were affected as well. Nevertheless, the VSLAs, of which the unmarried women were members, would have had to discuss and approve adoption of the Post Bank service *after* the counseling sessions were already complete. Given the apparently dramatic impact of the sessions on people's marriages, the discussion of personal bank accounts in that treatment must have taken on a different tenor. As we have seen, some of what women learned from the household dialogues potentially shook their trust and that may explain why the women were more likely to want a means of private control over money—"just to be on the safe side," as one woman said. Women in the HHD+DSW treatment were also more likely to sign up for an account even if the VSLA rejected the Post Bank proposal, which also tends to suggest greater determination at work.

In short, there may have been a social effect from the VSLA groups on the uptake of the Post Bank account in the HHD+DSW condition that in turn affected the unmarried women, as well as the married ones. We might speculate that some form of solidarity was at work that resulted in more women deciding to take charge of their money by getting an account, getting it on their own, keeping it private, and all the other drivers of the RCT outcome.

If the women were getting the accounts for their own protection, we might also hypothesize that much of what went on in the Post Bank accounts was defensive saving, which in turn would explain why the amounts accumulating there were so small. Indeed, the strength of the defensive saving need would seem to demand a rethinking of the expectations and measures for women's behavior in financial inclusion efforts. Certainly, the phenomenon warrants further data collection in future projects. In any case, however, we can see that the participants were actively saving toward their

financial goals because of their concrete achievements—they just may not have been using the Post Bank accounts for that purpose.

CONCLUSION

Both the interventions evaluated in this study were favorably received by the communities into which they were introduced. Each intervention also produced the results expected by the grant proposal. The best outcome was generated by the combination of the two interventions, however, and it is not completely clear what the interaction was that produced the superior result. Most likely, there was a social dynamic among participants that produced an order effect between the delivery of the household dialogues and the offer of the mobile banking account. In future applications of these successful interventions, it would be wise to collect additional data in order to better understand the reasons behind the order effect on both married and unmarried women.

Similarly, the defensive savings phenomenon seem likely a strong impetus in financial inclusion projects. For the sake of accuracy of results, as well as service to the women, additional data collection is indicated here, as well.

Future rollouts of these interventions are certainly recommended by the research results. In particular, the impact on women's own sense of empowerment makes the combined intervention package especially promising for the future of women's economic empowerment as an international effort.

APPENDIX 1
Original Grant Proposal

Grand Challenges Putting Women & Girls at the Center of Development

Proposal Narrative

We appreciate your interest in submitting a Grand Challenges proposal to the foundation. Please email the Grand Challenges team at GrandChallenges@gatesfoundation.org with any questions.

Answer all of the questions in this Proposal Narrative template and submit it through the WizeHive application portal. Due to tax, legal, and reporting requirements, all proposals must be submitted in English. The proposal must be submitted in Word. PDFs will not be accepted.

This is a proposal shaping document and not a commitment by the Bill & Melinda Gates Foundation to fund the work.

General Information

| | | | |
|------------------------------|--|----|--|
| Proposal Title | Digital Sub-Wallets for Increased Financial Empowerment of Women | | |
| Investment Duration (Months) | 48 Months | | |
| Requested Amount (U.S.\$) | \$2,499,728 | | |
| Total Project Cost (U.S.\$) | \$2,499,728 | | |
| Requested Funding Level | <input type="checkbox"/> Seed grant for \$500,00 USD | OR | <input checked="" type="checkbox"/> Full grant for \$2,500,000 USD |

Prospective Grantee Information

| | | | |
|--------------------------------------|--|-------------------------------|----------------------------------|
| Organization Legal Name ¹ | Cooperative for Assistance and Relief Everywhere, Inc. | | |
| Organization Doing Business As | CARE | | |
| Mailing Address | | Primary Contact Name | Lauren Hendricks |
| Street Address 1 | P.O. Box 7280 | Primary Contact Title | Executive Director Access Africa |
| Street Address 2 | | Primary Contact Email | lhendricks@care.org |
| Street Address 3 | | Primary Contact Phone | +255 784 348474 |
| City | Kampala | Feedback Contact ² | Charu Goyle |
| State / Province | | Feedback Email ² | cgoyle@care.org |
| Zip / Postal Code | | Authorized Signer Name | Helene Gayle |
| Country | Uganda | Authorized Signer Title | President and CEO |
| Website (if applicable) | http://www.care.org/country/uganda/ http://www.care.org/work/economic-development/microfinance | Authorized Signer Email | hgayle@care.org |

¹ Legal Name: will be used in the agreement and should match the name on the bank account that receives the grant funds (assuming fully executed agreement)

² Feedback Contact/Email: The full name and email of the contact whom foundation staff queries for various surveys.

| | | | |
|---|--------------------------|--|---------------|
| Tax Status (if known & applicable) Refer to Tax Status Definitions | 509(a)(1) Public Charity | Organization's Total Revenue for Most Recent Audited Financial Year (U.S.\$) | \$489,581,000 |
| U.S Employer Identification Number (EIN) (If applicable) | 13-1685039 | | |

Submission Information

| | | | |
|----------------------------|---|----------------------------|-----------------|
| Date Submitted | June 1, 2015 | Submitted by same as above | No |
| Submitted by Contact Name | Charu Goyle | Submitted by Contact Email | cgoyle@care.org |
| Submitted by Contact Title | Senior Director, Strategic Partnerships | Submitted by Contact Phone | 1-404-979-9542 |

Proposal Details

The Foundation is prohibited from conducting or funding any lobbying or political campaign activities, as these terms are specifically defined under U.S. tax law. Unlike many of our grantees/vendors who may engage in limited lobbying, the Foundation cannot lobby or fund any lobbying activities carried out by its grantees/vendors. We request that you please review the information at the following link, [Foundation Funds and Advocacy](#), to assess whether any of your proposed activities may constitute lobbying as defined by the IRS. If so, you should revise your proposal accordingly prior to submission.

1. Executive Summary (1/2 page length)

Provide a brief summary of your proposal.

This project is a unique partnership between CARE, a research team from Oxford University and Airtel in Uganda. The project will test an innovative approach to improving women's equitable influence over household financial decisions, utilizing mobile financial technology. The research focus of the project will **generate high-quality evidence** about the marginal impact of each of the innovative interventions both on women's empowerment and other key development outcomes, which may include access to education, food security, and health indicators. The two innovations tested through the study are: (1) **Making mobile money products more relevant to the way that women think about and use money.** Through exploratory research conducted during the start-up phase CARE will work with Airtel to develop named mobile money 'sub-wallets' targeting the most commonly identified needs for women's individual savings. These sub-wallets will be labeled for specific purposes and allow women a secure way to manage household and personal savings. For example the sub-wallets developed may include 'school fees', 'planting', 'pregnancy', 'healthcare', or 'emergencies'. Women can then direct their savings into specifically named sub-wallets and draw down on these when the expenses arise. (2) **Improving equitable household decision making.** CARE recognizes that many economic empowerment interventions have failed to take into account women's roles and relationships within the household. Women's agency needs to be complemented by an environment within the household that is supportive of her being more financially in control of savings and expenditures. CARE believes that by engaging all influential household members in setting and agreeing to household financial goals, women can better save and control financial resources. CARE will develop a series of modules using conflict resolution and gender transformative approaches to align household goals and address gender and inter-generational power balances to lead household members through a series of activities culminating in the development of a household financial plan.

The highly successful Village Savings and Loans Association (VSLA) model will be used as the entry platform for this project, targeting women in mature groups established under the former Bill and Melinda Gates Foundation (BMGF) 'Save Up' project. The research team has designed a study that will test the impact of these two interventions, as well as provide explanatory and diagnostic data to illuminate the process of empowerment unfolding. In the first treatment group women will be given access to the mobile sub-wallets, while the second treatment will include the sub-wallets and also the household decision making intervention. A control group will represent the status quo; no services will be delivered to this group, but pre- and post-measures will be taken. This approach will generate evidence of the relevance of mobile money products for women's financial behavior, and of combining this with a household-level intervention relating to financial decision making. **Beyond tracking whether these interventions "work," the research will generate data that will allow triangulation of intervention, subjective states, household events, gender attitudes, and behavioral outcomes. In addition, standard psychometrics ("self-efficacy", "mastery", and "resilience") will be tested against outcomes to determine whether they can stand as a proxy for empowerment. In this way, the research will aim to unpack the process through which women's agency leads to positive development outcomes.**

Describe the charitable purpose of this work. (1-2 sentence project goal)

Note: This will inform the description of the investment, if approved, in any agreement and if posted on gatesfoundation.org.

The goal of the "Digital Sub-Wallets for Increased Financial Empowerment of Women" project is for women to have equitable influence over household financial decisions and to use mobile financial technology to improve their own and their

family's opportunities and lives. The process will better articulate and measure the relationship between financial control and women's agency, and the extent to which that leads to positive outcomes across broader development areas.

2. Problem Statement (1 page length)

Describe the problem, why it is a problem, and who is impacted by the problem. What specific elements of the problem is this proposal trying to address?

Digital financial services are potentially one of the most accessible means for the rural poor to access the formal financial sector. Cellular based services break down barriers to traditional financial services, which have failed to penetrate most of rural Africa, maintaining branches only in distant and difficult to reach urban centers. However, globally, **women have lower adoption rates for digital technology, including mobile banking**, compared to men. Indeed, in low- and middle-income countries, women are 21% less likely to own a mobile phone than a man (Cherie Blair Foundation 2010, 15). Research in sub-Saharan Africa shows that, **even when using mobile money, women are "passive" users**; that is, they receive, but do not send money, probably a symptom of unequal authority over the deployment of funds.

There are two major drivers inhibiting women's ability to take full control over their financial lives:

1. Women use formal financial products less than men. Products and services are not tailored to the ways they think about and use money. Products are largely developed by institutions that are, at best, gender blind. More often than not, they are dominated by men, who design products for 'the mass market.'
2. Within their households women have less decision-making power than other household members including husbands and often in-laws or other male relatives.

CARE and Airtel will develop mobile money products that speak more directly to women's priority needs, aimed at **improving the relevance of mobile money specifically to how women plan and use money**. CARE intends to address the socio-cultural barriers to women's uptake of mobile money services by using existing Village Savings and Loan Association (VSLA) groups as the entry platform for promoting mobile money use amongst women, who form the majority of VSLA members. VSLA has proven to be a financial inclusion approach that cuts across literacy and education barriers to participation and will provide a platform for building on the existing financial literacy of the group for conducting savings and lending transactions. Furthermore, women VSLA members are more likely to already have access to mobile phones than are non-members. CARE's preliminary research estimates that 70% of members of mature VSLAs in the targeted areas already own cell phones.

Current evidence suggests that **addressing gender dynamics is an essential component of financial inclusion approaches**. In "Unlocking the Potential: Women and Mobile Financial Services in Emerging Markets" (GSMA mWomen Global Development Alliance), a study across five dynamic emerging markets, found **women consistently prove to be highly active household financial managers**. In addition to purchasing many daily household items such as food, they can also be responsible for paying bills, sending remittances and storing money for both routine and emergency payments, even if they do not earn the income used to conduct these transactions. **Women are also the key savings engine for the family**, with access to savings groups that help the entire family protect their wealth for emergencies or other lump-sum expenses. Messy and Moticone (2013, *ibid*, 62) found that **men and women adopt differing approaches to household financial management**. For example, women and men employ different strategies when income is insufficient to meet expenses: women were more likely to cut back on spending, while men were more likely to try to increase income.

However, whilst women are implicitly or explicitly responsible for much of the household financial management in terms of meeting bills and basic needs, they do not have equitable power in decisions that affect the household financial planning. Schaner 2015, (Kenya- financial inclusion http://www.dartmouth.edu/~sschaner/main_files/Schaner_ATM.pdf) found that both men and women are most likely to report that **the wife does most of the household's saving, whilst men were more likely to make the household's financial decisions**. The study found that 49 % of men perceive themselves to be the main financial decision maker, compared to 37% of women, while 8% of men perceive their wife to be the main financial decision maker, compared to 19% women. Furthermore, the study found that making women's money more accessible, without addressing her power to control or influence decisions about how money is allocated can have a negative impact. In this study, for example, ATM cards distributed to men and women, may make (female owned) funds more accessible to her husband, because it makes it more difficult to refuse the husbands' request for funds as it no longer requires an extra trip into town plus a large withdrawal fee.

Currently, however, the majority of women's financial empowerment approaches (including VSLA) typically take place outside of the household not recognizing that in reality, many women operate, and need to negotiate relationships, within the household. This can result in interventions that place even more burden for women to negotiate at their already low-power status.

CARE and Airtel will address these barriers through a two-pronged approach:

1. Devise and market mobile money sub-wallets that more closely mimic women's current financial management practices.
2. Engage a sub-set of households using these new products in joint exercises with key HH decision makers to explore HH gender norms and dynamics, assess how these impact women's financial lives and ultimately the wellbeing of the family and then develop joint financial action plans.

CARE will develop household financial planning training modules using **gender transformative approaches focused on intra-household gender norms and dynamics**. This will be used to investigate and align the differing needs of household members aimed at achieving an agreed household vision and financial plan, in which women's needs and goals will be more equitably represented. Following this stage of creating consensus on household long-term vision and financial goals and creating more equitable decision-making on expenditures, women will then be linked to the mobile money sub-wallet products to facilitate savings towards the agreed household goals.

Importantly, use of randomized controlled trials, as well as depth interviews, focus groups, and participant observation, will further **add to the body of evidence and understanding of the interplay between gender, financial inclusion and wider development outcomes**.

3. Scope and Approach (8-10 page length)

- Clearly articulate a "theory of change" for their scope of work (i.e. how their proposed activities will lead to a series of outputs that will drive intermediate and ultimately primary outcomes, both for the specific sector of their work and to gender equality and women's empowerment). Please note, providing only a listing of outputs to be generated or indicators to be measured, without context for their relevance, is insufficient (Refer to the Measurement, Learning and Evaluation Plan guidance document).
- Discuss how their scope of work will build upon, produce, as well as disseminate, high quality evidence that will advance pressing questions about the importance of gender equality and women's empowerment for achieving global health and development outcomes.
- Explain how the work performed in this proposal will lead to solutions that are scalable and sustainable and/or will produce evidence that if successful could permit the intervention to be replicated.
- Highlight the innovation of the work

Note: This should be a narrative description of the principal results the investment would achieve and how those results relate to the problem described above (rather than a list of outcomes and outputs).

Theory of Change

This project is a partnership between CARE, a research team from Oxford University, and Airtel in Uganda. There will be two interventions, tested through a randomized controlled trial (RCT): (1) mobile banking digital sub-wallets with gender-relevant labels and (2) a CARE-moderated household decision-making program.

Beyond tracking whether the interventions work, the research will illuminate the unfolding of "empowerment". Currently, policymakers, donors, activists, and researchers alike are dissatisfied with the poorly-developed theories of change driving programs and, in particular, the lack of an articulated process through which "agency" does or does not materialize as observable outcomes. Further, while there is general agreement that a subjective experience of empowerment ("agency") determines whether resources are used and achievements realized, there is no agreed measure to stand for it. The contribution of the project will thus extend beyond this specific intervention to address the question that currently troubles policy: what does the process of empowerment look like (and how does it tie to outcomes)?

The project will draw its sample from CARE's highly successful Village Savings and Loans Associations (VSLA). These groups and their programs act to build confidence and consciousness as well as economic autonomy. A sample of non-VSLA members will produce a benchmark that will allow the research to discern the effect of group consciousness (thought by some experts to be a necessary precondition to empowerment). From the benchmark, changes in long-term gender attitudes and fluctuations in subjective agency will be monitored to determine additive improvements. The research design will use sample stratification, intermittent questions delivered by text, standardized psychometrics, network analysis, and qualitative methods, including participant observation of the household sessions, to sketch in the process that unfolds behind the scenes of gender equality interventions, in order to tie them, in an explanatory way, to outcomes like increased household decision-making.

The research is also designed to pick up the signs of struggle, something that all theory suggests will happen, but empirical research has given short shrift. We can expect that an expression of agency will sometimes be met with threats of violence or attempts to take away money or constrain mobility. When that happens, the presumed path from intervention to observable outcomes is almost certainly interrupted and frustrated. If the experience of struggle is not built into designs, therefore, outcomes will be *inexplicably* less than expected. Similarly, if an intervention is truly

effecting a change in gender equality, long-term attitude measures about the acceptability of violence should decline. So, the research intends to make a contribution by building struggle, as part of the process of empowerment, into a model the world can use.

The research will also look to document the impact of the interventions—as well as triangulate the processes behind uptake—on key development outcomes such as child education, food security, domestic violence, and health indicators. Making mobile products more relevant to the way that women think about and use money may increase their ability to ring-fence funds for desirable development purposes, such as school fees and prenatal care, as well as for their own personal needs and preferences. CARE will develop a series of modules using conflict resolution and gender transformative approaches to address household power balances, elevating the status of women's needs and goals as legitimate concerns. This intervention will lead household members through activities culminating in a household financial plan. These modules provide a scalable means to funnel household spending toward positive purposes, while reducing conflict and, therefore, violence.

Goal: *Women have equitable influence over household financial decisions and use mobile financial technology to improve their own and their family's opportunities and lives. The process will better articulate and measure the relationship between financial control and women's agency, and the extent to which that leads to positive outcomes across broader development areas.*

The overarching theory of change is illustrated here:



Underlying assumption: When women have control over money, it is more likely to go to positive uses such as food, education, and health and thus should be able to be traced to positive development outcomes.

The research design (described in more detail below and in the next section) will test the incremental impact (if any) of each of these key variables to determine which combination of approaches meets the desired impact goal, as well as unintended consequences of the project, but will also use the interventions as a platform on which to build a more sophisticated, and global, theory of change.

Innovation

The key innovation in the project design is **linking targeted female-friendly mobile money products to equitable decision making at the household level**. Specifically, two innovative approaches will be tested:

1. Mobile money sub-wallets targeting women's priority needs.
2. Household financial planning modules targeting gender and intergenerational conflict resolution.

Most digital financial inclusion interventions are gender neutral and even those, like CARE's VSLA work that are focused on women's financial inclusion often draw a line between enhancing women's agency and addressing relationships or structures. This project goes beyond that to assess the relative added value of household level interventions. It also introduces a new set of financial products specifically designed for women. Women specific digital products are a new innovation for the market.

CARE will partner with a world class research team (see Section 6) from Oxford University to measure the impact of linking improved access to and utilization of mobile financial technology with improved equitable financial decision making at the household level on key development outcomes (which may include education, health, and / or food security) as well as against measures of women's agency and decision-making power. The research approach will primarily use Randomized Control Trials (RCTs) supported by other methodologies (detailed in the next section).

Approach

The interventions will be designed to target members of mature VSLA groups (defined as groups that have been operational for 1 year or more). Only existing VSLA group members will be targeted, no new groups will be formed under this initiative. CARE currently reaches of 700,000 VSLA members in Uganda, over 70% of whom are women.

The project will **build on the previous BMGF funded 'Save Up' financial inclusion project with CARE in Uganda**. Under this project, a study was conducted using Randomized Control Trial methods to establish the impact of VSLA on its members. The study revealed the following findings; that VSLA:

- Increases access to financial services among financially excluded communities/populations by 10%.
- Improves business outcomes for women from 8% to 14%.
- Increases influence on household decision making by women 4% higher than those not involved.
- Provides an opportunity to respond to economic shocks-4 times higher than those not involved.
- Improves food security among member households.
- Increases education and health financing among members through loans and investments.

These findings are highly consistent with CARE's experience with VSLA across Africa: VSLA is a powerful tool both for improving financial inclusion and improving women's agency at the individual level. VSLA group members are typically better off than their peers in the community (as evidenced by improved food security, increased investment in education and healthcare). VSLA is therefore a powerful platform from which to target both expanded financial inclusion and intra-household gender dynamics around financial decision making.

CARE intends to develop a multi-level approach that builds on the success of the VSLA platforms for economically empowering women. VSLA as a group platform targets women outside of their household. Whilst VSLA membership alone has been shown to marginally improve women's role in household decision making, current VSLA interventions do not specifically target the household as a unit, but rather targets women separately to their household. The proposed interventions will aim to 'close the loop', building on VSLA member's increased financial independence and individual empowerment by working at the household level to address the cross-generational intra-household gender dynamics that impact household financial decision making.

This will be linked to savings products (sub-wallets) specifically targeting women's identified priority needs for themselves and their households. VSLA has proven that everyone can save, overcoming traditional notions that those living in poverty do not have resources to save. Having already established a savings culture amongst the target group CARE aims to address the deeper issues of wider financial inclusion, and particularly access to mobile money, and equitable decision making at the household level. The interventions will target VSLA group members at the individual level, allowing them to grow their savings beyond the current confines of the group mechanisms, which set limits of the maximum level of savings for group members. Linking individual group members to the sub-wallet technology will allow for greater control and privacy over individual savings for women, while adoption of mobile money technology will deepen their financial inclusion.

Description of Project Components

The project design is focused on two innovative approaches to improving women's financial empowerment through mobile money. The research plan (described below) is designed to test the incremental impact (if any) of these two approaches:

Village Saving and Loan Associations

VSLAs are self-selected, community based, and require little to no infrastructure to form. Groups of 15 to 30 people (typically women) meet on a weekly or biweekly basis to save into a common fund. The common fund is used to support loans within the savings group as needed, with the loan interest used to provide a return on the invested savings. At the end of a set cycle (typically 9-12 months), the savings, with accumulated interest, are "shared out" amongst the group members and a new cycle begins. VSLA addresses both supply and demand constraints that limit savings rates at financial institutions, overcoming factors such as poverty, low education, financial illiteracy and informal sector economic activity coupled with distance, cost, poor service, safety concerns and lack of trust associated with formal financial institutions.

1. Digital Sub-Wallets

Rationale: Research shows that many of the world's poor find it difficult to put saving plans into action (Collins et al. 2009). Saving technologies using soft or strong commitment mechanisms have been found successful in encouraging the poor to save. Soft commitment saving technologies rely on the mental labeling it facilitates, whereas stronger commitment saving technologies (i.e. savings can only be used for a pre-specified purpose) focus on overcoming time-inconsistency as a constraint to saving. Research in Kenya showed that mental labeling (in this case, group savings allocated to a separate pot for healthcare) is preferred to locking in savings for a specific purpose, in particular when income shocks are common (Dupas and Robinson 2013).

Hypothesis: This project builds on this existing evidence base. The main purpose of this RCT is not to compare different designs of saving technologies. Rather, it builds on existing evidence that "mental labeling" (allocating funds for a specific purpose, but not restricting them to that purpose) of savings accounts in a VSLA setting facilitates saving by the poor. The novelty of this intervention, however, is to provide women largely excluded from the formal banking system access to a new saving technology in the form of individual mobile sub-wallets. These will be explicitly labeled (though not restricted) for specific purposes (pregnancy, school fees, agriculture, etc.) building on the successes of the mental labeling approach.

Currently, mobile money transactions are not designed around women's financial habits and needs. This project will develop sub-wallets that better meet women's financial behavior. Through labeling of mobile sub-wallets, women would increase their individual saving deposits.

Approach: CARE will work with Airtel to establish mobile money products that are directly relevant to the identified priority needs of women. During the start-up phase CARE and Oxford University will conduct exploratory research aimed at identifying the priority financial needs of the target group. These might include, for example, pregnancy, healthcare, school fees, agriculture, building (home improvement), funerals, festivals and emergencies. CARE will then work with Airtel to develop sub-wallet products on the mobile money platform that specifically target the top five priority needs identified through the exploratory research. Therefore rather than deposit money into one central mobile wallet women will be able to choose where to direct their savings against specific needs by selecting one of the sub-wallets. This will help to make the mobile wallets more relevant to the ways that women manage and spend money and will therefore give the technology a more specifically female-friendly interface.

- a. **Product Development.** Through field-based research with all three partners, sub-wallets will be identified and prioritized. We anticipate rolling out no more than 5 sub-wallets during the project phase. Once wallet characteristics are designed, Airtel will make the platform changes needed to roll-out the products. It will be critical that accounts are designed in such a way as to allow us to monitor their use, in terms of deposits, withdrawals and account balances. Products will go through a series of user-tests before being rolled out more widely.
- b. **Marketing and Training.** Marketing and training materials will be developed for mobile money agents and VSLA clients. Training will be provided through community based trainers initially, with on-going support provided by agents.
- c. **Usage.** Usage will be monitored on a monthly basis. Usage patterns, such as high dormancy or low account balances, will be assessed in quarterly partner meetings in order to identify and address challenges.

2. Aligning household members towards joint financial goals and planning

Rationale: Research suggests that financial inclusion of women can be ineffective if gender norms are not taken into account. For example, providing women access to ATM cards in Kenya *reduced* account usage by women with low bargaining power in the household (Schaner 2015b). The ATM card made female-owned funds more accessible to her husband, therefore making it more difficult to refuse the husband's request for funds. By opting out of using her ATM card, the wife was able to retain her bargaining power. Moreover, couples often choose saving levels non-cooperatively, which can result in individually suboptimal saving strategies (Schaner 2015a).

Hypothesis: This intervention tests whether addressing inequitable gender norms at the household level mitigates these unintended consequences of financial innovations, in our case mobile sub-wallets, targeted at women and improves their influence on household decision making. This is achieved by first understanding the diversity of goals that may exist within the household and aligning them into a joint vision, elevating the status of women's needs and goals and resulting in improved development outcomes at the household level. In this context, improved gender equity and improved financial outcomes are mutually reinforcing.

Approach: CARE will work at the household level to address the gender barriers to women's equitable access to and

control of household financial resources. Gender norms are addressed through engaging male and female household members in financial goal setting by first understanding the diversity of goals that may exist within the household and aligning them into a joint vision. The gender transformative approach will question and challenge the unequal distribution of power, resources, opportunities, benefits, and exercise of rights. Based on the learning from the exploratory research data CARE will develop a series of modules targeting financial planning and decision making that encourages equity amongst all household members. The training will target all key household members that influence decision making, such as male and female heads of household, in-laws and other relatives - uncles, aunts, siblings - that reside in the household and, ideally, children, and will lead the household through five key specifically developed training modules:

- a. **Participatory visioning:** working individually the household members will be facilitated to map out their dreams and goals, for example: What does the ideal future look like? What are the key priorities for the household? What would define success?
- b. **Household discussion:** working as a group the household members will be lead through a participatory discussion process looking at the different goal, priorities and dreams of the different household members. A critical element of this process will be discussing values and needs among household members and how these are reflected in the individual needs and priorities. Conflict resolution approaches will be used to work through the conflicting needs and priorities of different household members. Conflict resolution approaches will focus on gender / power dynamics within the household unit, which may go beyond just the male / female power dynamic but also, for example, the power that the mother-in-law exerts over the daughter-in-law.
- c. **Align the visions:** following the discussion the household members will work together to align the different dreams, goals, needs and priorities of all of the household members to agree on a central vision and associated goals for the household's future. Conflict resolution approaches will continue to be used to work through conflicts between different interests of the household members, ensuring that traditional dominance is not asserted, e.g. of in-laws over married couples, or of husbands over wives.
- d. **Develop financial goals:** Having agreed on the central vision and goals for the household the group will be led through a process for converting these into financial goals that will enable the household to achieve their vision for the future.
- e. **Financial planning:** In the final stage the household will develop a household financial plan linked with the mobile sub-wallets balancing income and agreed expenditures and savings goals. This will reflect the core needs and priorities of all household members.

Scalability / Sustainability

The VSLA model was developed by CARE International in Niger in 1991 and has spread to at least 61 countries in Africa, Asia and Latin America, with over 6 million active participants worldwide.¹ The vast majority of these (5,511,117) are concentrated in Africa. In Uganda there are at least 879,100 recorded members of VSLA groups, with CARE alone having supported groups comprising more than 700,000 members. In line with CARE's experience in other countries, the BMGF supported Care Uganda 'Save Up' project confirmed that the VSLA methodology was highly sustainable, finding that 85% of groups were still active four years after they were formed.

Using VSLA as a platform for gender equity and financial inclusion is therefore highly scalable both within Uganda and across the 37 other countries on the continent that already use the VSLA approach for economic empowerment. Using VSLA as an entry point, CARE will design an approach that can easily be packaged as a value-add to mature VSLA groups. The project will aim to demonstrate that by linking *women's* economic empowerment through VSLA back to the household through gender-aware financial decision making modules, coupled with targeted and accessible mobile money products, women can achieve increased equity in financial decision making and increased financial participation. The research team will produce high quality evidence demonstrating the combination of tested interventions that has the highest impact across a range of development and women's empowerment indicators.

The designed approaches also have potential for scalability to other types of financial groups, such as the traditional Rotating Savings and Credit Associations (ROSCAs) and other informal savings groups common across much of Africa. If the interventions tested prove to be successful in the VSLA setting, then testing the same approaches in other group settings could be an exploratory phase of the potential scale-up of the approaches.

Airtel is a signatory to the Linking For Change Savings Charter, co-sponsored by CARE and Barclays Bank. This is a

¹ VSLA Associates: <http://www.vsla.net/outreach/INGO-CMMF-Global-Outreach.2012-06.xls>

global commitment by Airtel to develop and disseminate products for savings groups, and we believe that if this project is successful in Uganda, Airtel will scale it across other markets in Africa.

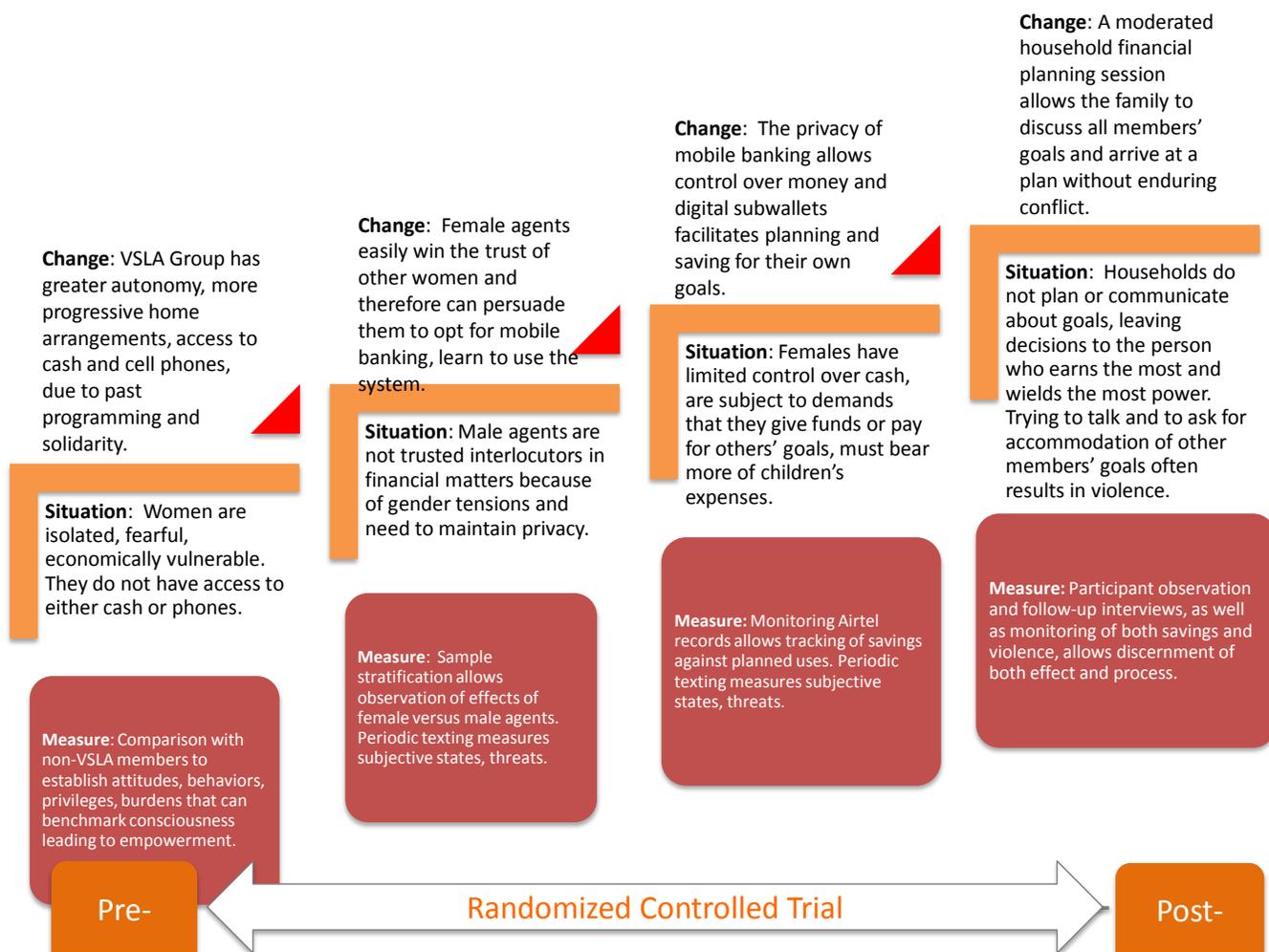
Research Plan

CARE is partnering with a world class research team from Oxford University to set up a system of experiments that will test the impact of the two innovations: digital sub-wallets for banking and a household financial management program. The research team has designed the test and will construct the measures in a way that will allow them to benchmark, monitor, and measure the interplay between “empowerment” and the means by which it may be either facilitated or frustrated. The research will use a multi-method approach, but with a randomized controlled trial (RCT) as the central feature.

The RCT will occur only after preliminary qualitative research, a stage that will purposely allow respondent input. Throughout the RCT, the research team will use periodic text messaging to monitor, for instance, the perceived threat of violence or social disapproval, as well as changes in attitudes and felt “agency”. Participant observation and follow-up interviews will be done to discern the interpersonal dynamics resulting from an intervention designed to change household priorities. And, at the end, the research team will conduct further qualitative research to help interpret the factors behind the results.

The multi-level RCT design is illustrated on the next page:

Study Design



The study is designed to break down the core components of the intervention to answer the following key research questions:

- What is the impact of soft labelling of financial services on women's ability to achieve their financial goals?
- Can a joint forum for household financial planning help women have their own goals and values recognized in the household?
- Can a combination of psychometrics and behavioral outcomes be triangulated into a measurable model of the process of gender empowerment?

(1) Literature Review: The work will begin with a literature review. Note that the research team already has substantial experience conducting research specifically on women's economic empowerment and is generally quite familiar with the literature as well as having conducted exhaustive reviews recently on related topics. However, the literature grows rapidly, is augmented by authors from many different sources, and this study has some unique applications. Therefore, the team will undertake a comprehensive updating in the first few months, as accounts are being set up and personnel brought on board.

(2) Preliminary Research: The first formal undertaking will be a multi-stakeholder meeting to gain buy-in and advice for the research among government and other authorities in Uganda. This input will be written up as part of the qualitative research. The next stage will be to confirm sites and proceed to do interviews (50 men and 50 women, total) in each site. The interviews, multi-stakeholder input, and site observation data will be used to develop the questions and protocols. The team will work closely on the ground with local CARE Uganda staff to ensure that all communications with respondents will occur through intelligible messages, translated into the appropriate local language. There will also necessarily be a significant set-up period, during which distribution of cell phones, design of sub-wallets, training to facilitate household level

visioning and financial planning, and data gathering with Airtel, and other key logistical arrangements will occur. This initial start-up period, which lays the essential groundwork for the RCTs, including engagement of authorities, the qualitative data collective, the writing and translation of instruments, design of sub-wallet technology, and the arrangement of logistics, is expected to take one year from the time funds are transferred. (A detailed time schedule is included below.)

(3) Randomized Controlled Trials: The randomized controlled trial will begin at the opening of year two and will continue for 24 months until the end of year 3. The RCT will have two treatments and a control. Treatment 1 will receive only the digital sub-wallets. The full treatment (right column in the table below, Treatment 2) will consist of digital sub-wallets and household financial planning. The control (left column) represents “business as usual” in rural Uganda:

| | Control | Treatment 1 | Treatment 2 |
|-------------------------------|---------|-------------|-------------|
| Sub-wallets for women's needs | | X | X |
| Household financial planning | | | X |

The **control group** represents the status quo. No specific interventions will be targeted at this group, which will continue with their routine VSLA activities and will not be targeted for any additional specific support. During the inception phase and the final data collection phase the research team will also collect data from non-VSLA women in the targeted communities to determine the specific profile of VSLA group members compared to other women in the community.

The second level (**Treatment 1**) introduces a new savings technology targeting women VSLA members at an individual level (rather than at the group level of VSLA). The VSLA members will be given digital sub-wallets under the mobile money platform, which will allow them a specific labeling mechanism that may improve their ability to compartmentalize and protect money to serve their own and their household goals.

In **Treatment 2** individual women VSLA members will be part of a household-wide visioning and financial planning process as well as being linked to the digital sub-wallet technology. The theory here would be unless we disaggregate “households” to understand the diversity of individual goals, and address male control over financial decision-making, the effect of the technological intervention will be limited. Thus, we will expect more positive savings and decision outcomes as compared to Treatment 1.

In addition to comparing the two treatment groups, which essentially represent the two levels of innovation in the intervention, the research will also consider other key variables that impact on the empowerment and development outcomes, as well as possible outcomes beyond those directly intended by the project. These will include, for example:

Impact of female versus male mobile money agents: Each of these treatment groups will be stratified to also take account of the impact of the gender of the mobile money agents providing services to the women. Current thinking suggests that women’s uptake of mobile financial services may be improved if the services are delivered through female agents.

Impact of individual savings on VSLA activities: The analysis will also specifically look at the interplay between the individual savings and the VSLA group behavior. The intervention design assumes (based on CARE’s experience) that women in mature VSLA groups have additional savings needs that are not met by the limitations of the group mechanisms. However, it is also possible that some of the savings currently directed into the group savings pot may now be substituted into the individual savings mechanisms. This is in line with similar measures that aim to link women VSLA members on an individual basis to external microfinance opportunities, which in turn may replace the woman’s relationship with the VSLA group for small scale loans. The intermediate objective in both cases is to increase women’s participation in formal financial systems. Part of the learning that arises from this study may indicate whether or not this is consistent with continued participation in VSLA activities or if at a certain level the group migrates towards individual savings and borrowing through more formalized financial systems. Changes to the VSLA dynamic would therefore not necessarily be viewed as a negative outcome if it arises as a result of women’s increased financial literacy and individual agency, reducing dependency on the group setting. Rather it could demonstrate that VSLA is a powerful platform through which women can ultimately achieve improved financial and empowerment outcomes on an individual basis.

Data Collection and Analysis

Throughout the RCT, periodic inquiries will be made via text messaging to the respondents’ phones. Via this method, we will try to monitor self-reports of agency and violence indicators (see risk mitigation in section 5) as they occur in real time.

These self-reporting mechanisms will be validated through participant observation and follow up interviews on the household financial visioning as well as periodic focus groups with VSLAs during the middle two years. An intermediate measurement will be taken midway through the RCT, at the end of year 2.

At the end of year 3, a final measurement will be taken in both of the RCT treatments and the control group. Then, in year 4, the research team will undertake extensive qualitative interviewing and focus groups, with the intention of reaching 100 men and women in each site, in order to flesh out explanations of outcomes. Interviews for the pre-RCT and post-RCT stages will be translated and transcribed. Data will have been cleaned and checked as collected. However, the team anticipates that this massive amount of data will take a long time to analyze and bring into alignment with the qualitative. Therefore one full year has been allocated to execute the final qualitative work, analyze the data, and write the report. Dissemination will be done through a comprehensive report in the last month of the study.

In line with the most recent thinking on levels of measurement, the learning will be structured at three levels:

- (1) Outcomes directly affected by the program (uptake of mobile wallets, household financial plans)
- (2) Intermediate outcomes and ongoing impact monitoring (perception of threat, subjective experience of agency, volume of sub-wallets over time)
- (3) Final outcome indicators, measuring the intended principal effect of the program. (influence on household decision-making, incidence of violence, increased income, children out of school, increased savings / size of sub-wallets, reduced hunger)

The detailed research plan is summarized below:

| | Year 1: <i>Start-up and exploratory Research</i> | Year 2 <i>Implementation and Quarterly Psychometric Measurements</i> | Year 3 | Year 4 <i>Data analysis, interrogation and reporting</i> |
|----|--|--|---|--|
| 1 | | Delivery of hh financial planning, Instructions on mobile banking and subwallets, and baseline measures will all occur simultaneously in the appropriate site, but this will be done on a rolling basis over two months. | Data cleaning, checking, analysis for RCT at 12 months. | |
| 2 | Transfer of funds, hiring of staff, literature review | | | Data cleaning, checking, analysis of RCT data. |
| 3 | | | Fourth psychometrics and violence survey. | |
| 4 | Multi-stakeholder meetings, site selection | 30 days after setup, sites will be visited to ensure logistics have worked, women understand instructions, and so on. | | Preliminary conclusions from RCT. Questions formulated for last qualitative phase. |
| 5 | | Trouble-shooting and monitor of RCT setup. Initial data cleaning, checking, analysis of RCT baseline. | | Qualitative research (includes transcription and translation). |
| 6 | Qualitative research | Psychometrics and violence indicators measured via texting. | Fifth psychometrics and violence survey. | |
| 7 | Begin logistical work | Data for psychometrics and violence cleaned and analysed. Revisions made as needed. | | Interrogation of data, quantitative and qualitative. |
| 8 | Translation and transcription of qualitative interviews | | | |
| 9 | Continue logistical arrangements | Second measure of psychometrics and violence. (Continues quarterly.) | Sixth psychometrics and violence survey. | |
| 10 | Draft of survey instruments and protocols | | | Report-writing. |
| | Finalize logistical arrangements | Field visits by CARE staff to refresh household financial planning | | |
| 11 | Negotiation and translation of instruments and protocols | | | |
| 12 | Pilot of surveys | Intermediate measures taken for RCT (household decisions, purchases, etc.) | Final measures taken for RCT. | Dissemination. |
| | Set up of RCT | Third psychometrics and violence. | | |



4. Measurement and Evaluation

List the specific learning/evaluation questions that you hope to answer through this investment. Be sure to include which of the priority learning questions (identified in the general feedback letter) you plan to address and what aspects of those questions you plan to assess.

The research design will specifically address the following priority learning questions for this Grand Challenge:

Understanding the relationship between gender programs and priority health and development outcomes

The project will explore the link between women's empowerment and other development outcomes. The Oxford team will use various psychometrics as proxy indicators for women's empowerment measures. As it stands, "women's empowerment" research is still rooted heavily in development studies and almost all the work has been done in a handful of developing countries. Yet, there is clearly a global pattern in women's subordination and being able to discover a metric that would indicate agency across multiple contexts would be hugely useful. Importantly, there is a whole battery of standard measures in psychology that might work to test for agency: there is not only a scale for "self-efficacy", but also for "mastery", "confidence", "grit", and "resilience", all of which could plausibly indicate "agency". Further, there is even a scale called "the Personal Progress Review", that has been used successfully to test for "women's empowerment" in a domestic battery setting (Johnson et al, 2008). Because this test would allow us to compare conditions that could reasonably be expected to jar the gender norms, the responses on these scales could provide a sense of the parameters of these measures' applicability to rural poor women. The research team will therefore **utilize a combination of psychometrics that can act as proxy measures for individual agency**. The aim will be to not only measure a difference in the experience of agency but also show how it varies with outcomes.

Financial inclusion outcome measures will take place at three levels:

- a. Women's uptake of digital sub-wallets;
- b. Volume of individual sub-wallets over time (money transferred into and out of digital wallets, broken down by type of wallet, e.g. school fees, pregnancy, emergency wallets); and
- c. Change in total savings.

Women's **influence on household financial decision making** can also be measured through changes in specific expenditure patterns for women's so-called 'luxury' items, such as sanitary pads, creams and toilet soap in the past four weeks. Changes in these consumption patterns can help to illustrate women's increased influence on financial decision making in the household through her ability to channel expenditure towards her own needs. Conversely, the project will also measure negative patterns such as money being taken from women against their will.

Other development indicators will be informed by the preliminary research and the specific sub-wallets developed in response to this. So, for example, if one of the wallets relates to school fees an associated measure could be children out of school due to non-payment of fees. If pregnancy wallets are selected measures could include the proportion of women accessing clinic assisted births as a proxy for maternal outcomes. Food security or nutrition measures could be included if agricultural sub-wallets are selected.

Understanding unintended consequences of programs that aim to empower women and girls (e.g. household conflict, decision making, time allocation)

The ongoing qualitative interrogation of data embedded in the research plan throughout the study period will also help to establish unintended consequences (if any) of the interventions. Potential unintended consequences will also be tracked through the quantitative processes. For example, as noted above, as well as women's increased equitable influence on household financial decision making (the intended consequence of the action), for example, the study will also track whether money is taken from women against their will (unintended consequence).

Understanding the costs of gender programs

Through the stratified treatment groups described in the previous section, CARE will also be able to measure the incremental cost of delivering project activities to each treatment group, which can be compared to the different levels of outcomes attributed to each intervention. Specific cost data will be generated for delivering the mobile sub-wallets as a stand-alone intervention and for adding the additional layer of household financial planning. This will give an indication of the incremental costs compared to the incremental benefits of each of the different levels of intervention.

If you are planning a formal evaluation, describe when it will be conducted during the investment, who will conduct it (external/third party or not), the anticipated design or approach, and how the main audiences will use the findings.

A separate final evaluation is not planned. Final outcome measurements are all embedded within the research plan

outlined below.

Describe the resources you will allocate (financial, technical, human) to ensure that the monitoring and evaluation data (including cost data) are of high quality.

The research team from Oxford University described in Section 6 below will be the lead on the research plan, ensuring that data collected under the project meets the highest standards for research. In-country, the project will be executed under the Women and Youth Financial Inclusion Program (WAYFIP), and will be managed by a full-time Project Manager who will be supported by the WAYFIP Program Manager. Two Program Coordinators who, amongst other duties, will ensure proper selection of study groups and respondents and compliance to study requirements throughout the research. Thus, they will ensure that respondents are able to understand and use the texting survey mechanisms, which will be repeated quarterly through the two years of implementation. The project will also share a Management Information Systems & Monitoring Coordinator to oversee in-country data collection, processing, and monitoring at the activity level. A Project Accountant will take the lead in establishing project costing systems that differentiate intervention costs for each of the treatment groups, generating incremental cost data for the different variables being tested. Technical support will be provided by CARE's Access Africa Executive Director and Gender Senior Technical Advisor.

5. Risk Mitigation (1/2 page length)

As needed, describe any significant risks to the success of this project and how you plan to address them.

Specific risks associated with the proposed approaches include:

- a. **Increased risk of gender based violence associated with participation in the project.** CARE recognizes that all interventions into gender norms risk violence. Mitigation: This will be one of the core elements monitored quarterly by the project and CARE Uganda will put in place a protocol for responding to identified GBV incidents or threats that will include, as a minimum, referrals to comprehensive services. This will include, for example, linking women to the national hotline for gender based violence. CARE Uganda will also use approaches for engaging influential male community role models during the inception phase to support the initiative, which CARE has found in the past to have a positive impact on wider male support for gender transformative initiatives.
- b. **Household members refuse to participate in household financial planning:** CARE's current engagement with the target population is with women outside of their household unit, whilst this intervention aims to include the women's relationships at the household level. Mitigation: As with the approaches outlined above, CARE's experience in engaging men and boys in gender programs suggests that engaging influential men in the community from an early stage can help to ensure the participation of men in the wider community.
- c. **Pace of technological development may overtake project design:** Technology changes rapidly and no more than in the cellular telephone sector. There is some possibility that the ways in which mobile financial services are delivered may have changed from those envisaged during the design phase at the point where the project is ready to start implementing. However, currently mobile money providers are focusing on increasing reach of their existing products and aligning them with the needs of consumers, which is in line with one of the core goals of this project. Mitigation: CARE will work closely with Airtel to ensure that the project goals continue to be aligned with any new developments in the technological platforms used to deliver mobile financial services.

6. Organizational Fit and Capacity (1 page length)

What experience does your organization have to implement the proposed project? Explain the technical and administrative capacity of your organization to undertake the proposed project.

The partnership of CARE, a research team from Oxford University, and Airtel brings together leaders in the fields of economic empowerment, gender focused research, and cellular service provision in Africa:

Lauren Hendricks is the Executive Director of CARE's Access Africa initiative. As the Executive Director she is responsible for developing and implementing a strategy for increased financial inclusion for 30 million people in sub-Saharan Africa. That strategy includes strategic partnerships with the private sector and research institutions. Ms. Hendricks currently serves on the Board of Directors and Investment Committee for MicroVest, a capital management firm investing in microfinance institutions.

Data compiled by VSL Associates in September 2014 showed that roughly half (48%) of the 8.4 million savings groups members in Africa joined under a CARE Access Africa led program. As at March 2014 more than 4 million individuals had joined VSLA groups established through Access Africa in 41 countries across Africa.

Theresa Hwang is CARE's Gender Director, providing strategic guidance for integrating gender into program design, implementation, learning and evaluation across diverse technical programming areas. She designs and facilitates gender trainings, curriculum, and tools on gender and empowerment. She has managed multi-country projects and research focusing on gender across Asia and Africa. She was a visiting professor at Emory University co-teaching a graduate seminar on "Gender and Development".

Linda Scott is DP World Chair for Entrepreneurship and Innovation at Saïd Business School, University of Oxford. Professor Scott has a recognized research stream focused on market-based means of empowering women economically, especially in developing countries. She has worked with private sector partners (Procter & Gamble, Goldman Sachs, ExxonMobil, Vodafone, Walmart, MasterCard) on projects aimed at empowering females in developing settings, as well as with major NGOs and multilateral agencies (CARE, Plan, The Cherie Blair Foundation for Women, UNICEF). Linda will be supported by **Anna Custers**, a doctoral candidate in Management Research at the University of Oxford. Anna holds a Master's degree in Development Studies from the London School of Economics. She worked as a Research Manager, managing RCTs, with the Jameel Poverty Action Lab (J-PAL) for three years in both India and France.

CARE Uganda has been active in Uganda for 46 years and currently engages over 700,000 clients (mostly women) through the promotion of the VSLA model. CARE's VSLA outreach accounts for nearly 70% of the total VSLA groups in the country (source: www.vsla.net). CARE Uganda's Women and Youth Financial Empowerment Program (WAYFIP) is one of three core program approaches within the CARE Uganda portfolio. The design and implementation of the proposed interventions specifically builds on CARE's implementation of the BMGF supported 'Save Up' project, which expanded the reach of VSLAs, specifically targeting the marginalized members of communities who are often excluded from social platforms.

Airtel Uganda Airtel is the second largest cellular telephone services provider in Uganda, with over 7 million clients, and 39% market share. Airtel has previously worked with CARE and the Grameen Foundation to develop products for savings groups. Airtel is also already a partner of the BMGF in expanding digital financial services in rural Uganda, which includes identifying more women to act as mobile money agents. This project is supported by Chidi Okpala, Director and Africa Head, Airtel Money. As a signatory to the Linking For Change Savings Charter, co-sponsored by CARE and Barclays Bank (a global commitment by Airtel to develop and disseminate products for savings groups) it is likely that if this project is successful in Uganda, Airtel will scale it across other markets in Africa.

7. Geographic Areas to Be Served

List all countries and regions/states that would benefit from this work and associated dollar amounts. If areas to be served include the United States, indicate city and state. Add more locations as needed. More information about Geographic Areas to Be Served can be found [here](#). If the project is not focused on a specific geographic area, please indicate the location as "World".

| Location | Foundation Funding (U.S.\$) |
|----------|-----------------------------|
| Uganda | \$2,499,728 |

8. Geographic Location of Work

List all countries and regions/states where this work would be performed and associated dollar amounts. If location of work includes the United States, indicate city and state. Add more locations as needed. More information about Geographic Location of Work can be found [here](#).

| Location | Foundation Funding (U.S.\$) |
|-------------------------|-----------------------------|
| Western Uganda | \$1,313,931 |
| Dar-es-Salaam, Tanzania | \$180,184 |
| Atlanta, Georgia | \$155,613 |
| Oxford, UK | \$850,000 |

Budget

Sub-awards

List all sub-grantees or sub-contractors involved in this investment. (Add more rows as needed)

| Organization Name | Country | Total Amount (USD \$) |
|-------------------|---------|-----------------------|
| Oxford University | UK | \$850,000 |
| Airtel | Uganda | \$80,000 |
| IPOs | Uganda | \$150,000 |

Budget Summary

In the table below, provide high level budget breakdown by dimension(s) that align with the project and describe your budget appropriately. (see below for definition of dimension). If your application is selected you will be asked to submit a comprehensive project budget to the foundation for further consideration.

- Please enter all figures in U.S. dollars (USD).
- The total amount requested including indirect costs should *not exceed* your requested funding level indicated on Page 1, but keep in mind you should only submit a budget that is appropriate for the next steps of your project.
- For further instructions on acceptable indirect costs, refer to the Bill and Melinda Gates Foundation [Indirect Costs Policy](#).
- It is recommended to always include “other” as a dimension within the dimension break-down to accommodate costs that cannot be cleanly allocated to a specific budget dimension. If you find that the vast majority of budgeted costs fall into the “other” dimension, you probably need to either redefine your dimension break-down or reconsider the value of budgeting by an additional dimension. For readability, please keep the wording short.

Definitions

Budget dimension: depending of the nature of the project the budget dimension could be a specific objective, outcome, geography, product candidate, or projects within a portfolio.

| Budget Dimension | Year 1 | Year 2 | Year 3 | Year 4 | Total Amount (U.S.\$) |
|------------------------------------|------------|-----------|-----------|-----------|-----------------------|
| Objective 1: Sub-Wallets | \$198,129 | \$189,504 | \$193,321 | \$149,103 | \$730,056 |
| Objective 2: HH Financial Planning | \$132,086 | \$216,576 | \$220,938 | \$223,654 | \$793,254 |
| Objective 3: Research and Learning | \$330,215 | \$135,360 | \$138,086 | \$372,757 | \$976,418 |
| Total | \$ 660,430 | \$541,440 | \$552,345 | \$745,513 | \$2,499,728 |

Results Framework

Use the table below to describe the logically-related set of primary outcomes, intermediate outcomes, and outputs for this investment. Guidance on developing quality results and indicators to complete this table can be found in the general feedback letter. [link to the letter]. Note, there is not a set number of required outcomes and outputs so add or delete rows from the table as needed. If possible, also include potential indicators and data sources for each result. If you do not yet have enough information to include the indicator and data source, leave those sections blank.

| Primary Outcomes | Intermediate Outcomes | Outputs |
|--|--|---|
| <p><i>The overall change(s) in technologies, systems, populations or behaviors the investment seeks to achieve within the context of the investment timeframe</i></p> | <p><i>The changes in technologies, systems, populations or behaviors that need to be achieved in order to realize the primary outcome(s)</i></p> | <p><i>The goods, services, events or deliverables produced during an investment</i></p> |
| <p>PO 1 Women have equitable influence over household financial decisions</p> | <p>IO 1.1 Women's increased individual agency</p> | <p>Output 1.1.1 Household financial planning modules developed</p> |
| <p>Indicators: 1. Women self-report changes in decision making influence in the household 2. Changes in expenditure patterns for women's 'luxury' items (e.g. sanitary pads, creams, soap)</p> | <p>Indicators: 1. % change in mastery / self-efficacy / Personal Progress Review scales (specific tools to be developed) 2. % change in women reporting that money has been taken from them against their will</p> | <p>Indicator: # of men and women participating in household financial planning sessions</p> |
| <p>Data Source: Self-reporting by women (measured at baseline, midline, endline and quarterly throughout the implementation period)</p> | <p>Data Source: Self-reporting by women (measured at baseline, midline, endline and quarterly throughout the implementation period)</p> | <p>Data Source: CARE activity monitoring reports</p> |
| <p>PO 2 Women utilize mobile financial transactions for their own and their family's needs</p> | <p>IO 1.2 Gender based violence does not increase</p> | <p>Output 1.2.2 (no specific associated output; this is to be monitored part of Output 1.1.1 above)</p> |
| <p>Indicators to be informed by exploratory research and sub-wallet design</p> | <p>Indicators: 1. % change in perceived threat of violence 2. % change in actual incidence of violence 3. Changes in attitudes about acceptability of violence</p> | <p>Output 2.1.1 Sub-wallet technology developed to address women's financial needs and behavior</p> |
| <p></p> | <p>Data Source: Self-reporting by women (measured at baseline, midline, endline and quarterly throughout the implementation period)</p> | <p>Indicator: Sub-wallets developed</p> |
| <p></p> | <p>IO 2.1 Women using sub-wallet technology</p> | <p>Data Source: CARE activity reports / Airtel data</p> |
| <p></p> | <p>Indicator: % of target population that actively use the technology</p> | <p>Output 2.1.1 Sub-wallet technology developed to address women's financial needs and behavior</p> |
| <p></p> | <p>Data Source: Airtel</p> | <p>Indicator: Money transferred into and out of digital wallets (by sub-wallet type)</p> |
| <p></p> | <p>IO 2.2 Women use mobile money technology to make and receive payments</p> | <p>Data Source: Airtel</p> |
| <p></p> | <p>Indicator: Money transferred into and out of digital wallets (by sub-wallet type)</p> | <p></p> |
| <p></p> | <p>Data Source: Airtel</p> | <p></p> |

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Digital Subwallets and Household Dialogues

Appendix 2: Demographic Summary of Gender and Marital Status

| Gender (Baseline) | | Frequency | Percent | Average age |
|----------------------|--------|-----------|---------|-------------|
| | | Male | 93 | 6.5 |
| | Female | 1343 | 93.5 | 41 |
| | Total | 1436 | 100.0 | |

| Marital Status (Baseline) | | Female | | Male | |
|------------------------------|---------------------------------------|-----------|---------|-----------|---------|
| | | Frequency | Percent | Frequency | Percent |
| | married, legally or in a church | 452 | 33.7 | 47 | 50.5 |
| | Married, customary | 555 | 41.3 | 34 | 36.6 |
| | Cohabiting, not married | 105 | 7.8 | 8 | 8.6 |
| | Never Married | 18 | 1.3 | 3 | 3.2 |
| | Divorced | 9 | 0.7 | | |
| | Widowed | 162 | 12.1 | | |
| | Separated | 36 | 2.7 | 1 | 1.1 |
| | Abandoned | 6 | 0.4 | | |
| | Total | 1343 | 100.0 | 93 | 100 |

| Marital Status (Endline) | | Female | | Male | |
|-----------------------------|--------------------------------------|-----------|---------|-----------|---------|
| | | Frequency | Percent | Frequency | Percent |
| | Married/Cohabi ting Monogamous | 780 | 66.8 | 77 | 95.1 |
| | Married/Cohabi ting Polygamous | 136 | 11.6 | 4 | 4.9 |
| | Widow | 178 | 15.2 | | |
| | Divorced | 39 | 3.3 | | |
| | Abandoned | 23 | 2.0 | | |
| | Never Married | 12 | 1.0 | 2 | 0 |
| | Total | 1168 | 100.0 | 83 | 100.0 |

| Head of Household (Baseline) | | Female | | Male | |
|------------------------------------|-------------------------|-----------|---------|-----------|---------|
| | | Frequency | Percent | Frequency | Percent |
| | Self | 322 | 24.0 | 88 | 94.6 |
| | Spouse | 954 | 71.0 | 5 | 5.4 |
| | Other, male | 48 | 3.6 | 0 | 0 |
| | Other, female | 13 | 9.6 | 0 | 0 |
| | No one in particular | 5 | 0.4 | 0 | 0 |
| | No Answer | 1 | 0.0 | 0 | 0 |
| | Total | 1,343 | 100.0 | 93 | 100 |

APPENDIX 3
Pilot Report

DOUBLEXECONOMY

Digital Sub-Wallets for Increased Financial Empowerment of Women

Pilot Report

May 24, 2017

Linda Scott, Founder, DoubleXEconomy LLC, and Emeritus DP World Professor, University of Oxford

Anna Custers, Doctoral Candidate, University of Oxford

Catherine Dolan, Reader, School for Oriental and African Studies, University of London

PILOT REPORT

Digital Sub-Wallets for Increased Financial Empowerment of Women

SUMMARY OF FINDINGS

58% of female VSLA members applied for a Post Bank digital banking product when it was offered. During the pilot, both phone ownership and bank account ownership among women showed statistically significant increases in the test site. Actual bank account activation among women, however, was much lower than sign-up (32%) and subwallet activation was even lower (16%).

Uptake of the household counseling among those who were offered participation was very high (99.6%) and the feedback positive.

Several aspects of delivery were not aligned with the purposes of this women's empowerment intervention: offering of the Post Bank product in a mixed gender setting, generic labelling of the digital sub-wallets, gender bias in dialogue facilitation, and failure to have a gender-based violence referral system in place were the most important problems. With these barriers, the development outcomes expected in the grant proposal, which stipulated an underlying assumption that women who *control* their money will spend to benefit children and communities, could not be expected to appear.

Initial experience with psychometric variables indicated that such measures discriminate between outcomes and risk groups better than the empowerment measures currently in common use. New indices for familial and financial stress were devised and were shown to have a strong relationship to the psychometric variables.

Important and useful information was gathered about the demographics of the population and their use of financial products and digital technology.

Clear indications of gender limitations emerged, all of which were consistent with existing research. The women in the test generally had limited knowledge about their husbands' financial situation, had trouble controlling their own money, wanted a way to keep it private, and were secretly hiding cash, especially from their husbands. They expressed a clear desire to have a way to save that could be kept safe from expropriation by others. They also had mobility constraints and, being considerably less educated than the men, were more intimidated by the subwallet technology.

There appears to have been a misunderstanding that the bank accounts would give recipients access to loans or even cash grants and this may have affected uptake rates.

PILOT REPORT

Digital Sub-Wallets for Increased Financial Empowerment of Women

Linda Scott, Founder, DoubleXEconomy LLC, and Emeritus DP World Professor, University of Oxford

Anna Custers, Doctoral Candidate, University of Oxford

Catherine Dolan, Reader, School for Oriental and African Studies, University of London

May 24, 2017

This report summarizes the findings from a pilot study of two interventions intended to promote gender equality, a mobile banking innovation and financial counseling for households, in western Uganda between September 2016 and March 2017. The study was designed and analyzed by DoubleXEconomy. The interventions were implemented by CARE Uganda in partnership with Post Bank, Uganda. The data were collected by IPA Uganda.

Purpose

The purposes of the pilot were:

- Produce an empirically-based estimate of uptake rate, to inform sample size estimates for a randomized, controlled trial (RCT) that was expected to follow
- Get experience delivering treatments and working with partners, in order to identify problems that could be sorted out before an RCT would be undertaken
- Get better information on respondents that may be important to outcomes, specifically:
 - Current mobile and bank account ownership
 - Demographics
- Get experience with new measures proposed under the grant, especially psychometrics
- To see whether an uptick of domestic violence is a serious risk from the household counseling intervention
- Get experience working with the banking partner in gathering and analyzing usage data from their records

Description and Delivery of Interventions

The interventions outlined in the Grand Challenge proposal were to include the following:

- Female mobile money agents, on the expectation that, given the existing norms about gender and money, women would be more likely to trust females in the field.
- Mobile money with gender-specific digital subwallets, on the expectation that the privacy allowed by mobile technology and the mental labelling provided by the subwallets would help women save toward their chosen goals.
- Household financial counseling, on the expectation that guided discussions would lead women toward more power in household decision-making, as a result of bringing their goals and dreams into consideration during joint planning and budgeting.

The first intervention implemented in the pilot was to offer a Post Bank account that was accessible through mobile technology and had pre-labelled digital subwallets (Post Bank is a well-known bank in Uganda, but it has previously been a branch bank). As planned, the design

of the product required that each VSLA open a group bank account and then individuals could do the same, with their accounts linked to the group account. Each respondent had to have a bank account in order to access the mobile technology. The product was offered by a team from Post Bank, along with CARE’s community-based trainers. Most members of the delivery teams were male. In each case, the offering was made to an entire VSLA group at a regular meeting. All VSLAs in the test area were mixed sex. It was learned, after the intervention was delivered, that Post Bank had only provided their own version of the subwallets, so the gender-specific categories were not part of the pilot. Thus, the two primary mechanisms for women’s empowerment were not present in the piloting of the intervention: privacy and specially-labelled subwallets. Furthermore, the respondents were required to present extensive documentation in order to open the account. There was also a long time lag (1) between signup and acceptance of documentation and (2) between acceptance of documentation and activation of the mobile interface. Thus, the expected usage and saving activity had not yet had a chance to develop by the end of the pilot.

The second intervention was a series of counseling sessions offered to the VSLAs in a group meeting, but delivered at the household level. There were seven sessions in total. All the sessions were delivered by community-based trainers (CBTs), and the teams were of mixed gender. Initially, the sessions were only to be offered to households with a couple consisting of one wife and one husband, though other members of the same household could attend. Polygamy was not anticipated nor were households with a single head (widowed, divorced, or single). In execution, however, some variability appeared, which made results difficult to interpret. Though violence was raised as a concern by several parties who evaluated the grant, including the local Uganda Institutional Review Board, no gender-based violence referral system was actually put in place nor were incidents reported to the research team.

Research Design and Delivery

Methodology: The pilot took place in two districts in Western Uganda, Bushenyi and Rubirizi, selected by CARE for socioeconomic and demographic comparability to each other and to the general area in which the RCT is expected to be conducted. In each district, the pilot was conducted with all VSLAs in one parish. Bushenyi received the digital subwallet intervention (n=287) and Rubirizi received the household dialogues (n=299).¹ Summary statistics of the VSLAs and respondents are presented below. The total sample was 586. The pilot was delivered over a four-month period.

| | Bushenyi | Rubirizi |
|------------------------------------|-----------|-----------|
| Number of VSLAs | 15 | 18 |
| Average # members per VSLA | 19 | 17 |
| Average number of women | 15 (78%) | 13 (76%) |
| Average number of men | 4 (23%) | 4 (24%) |
| Total number of respondents | 287 | 299 |
| Total number of women | 222 (77%) | 228 (76%) |
| Total number of men | 65 (23%) | 71 (24%) |

¹ At baseline we interviewed 624 respondents in total, 310 and 314 in Bushenyi and Rubirizi respectively. At endline, 20 of these respondents were found to not be VSLA members. The remaining 18 respondents were not surveyed because 8 respondents had changed location (3 in Rubirizi and 5 in Bushenyi), 6 respondents we were unable to identify at endline (5 in Rubirizi and 1 in Bushenyi) and 4 refused/unable to meet us (3 in Rubirizi and 1 in Bushenyi).

In addition to the surveys, qualitative interviews were conducted with a sample of individuals who received the baseline survey. Forty-seven qualitative interviews were conducted before the treatments (39 females and 8 males) were introduced. Of the 47 interviewees, 29 received the treatments and were interviewed at the endline (27 females and 2 males).

Finally, a trained observer attended the household counseling sessions of 11 families.

Limitations. It is very important to bear in mind that the pilot did *not* intend to assess the impact of the interventions. The timeframe was too short to judge impact. Indeed, many of the e-wallet respondents were still awaiting activation at the end of the test. Because there was no impact measurement intended, several commonplace measures, such as household decision-making metrics, were not included in the pilot, but will appear in the final test.

It was outside the scope of this study—as well as this project—to assess the impact of broader national and institutional influences, such as legal restrictions, access to education, or contraceptive availability. However, it is noted where some institutional and cultural barriers, such as the documentation required to open a bank account or the inability to leave home without male permission, seemed to block the female participants' ability to take up the interventions offered.

Detailed Findings

Demographics and Existing Inclusion

The survey data showed that the districts were not, in fact, comparable to each other. Rubirizi is wealthier than Bushenyi (significant at $p < 0.01$), with the main differences being electricity and piped water in the house, as well as television and refrigerator ownership (each significant at $p > 0.001$).

The selection of sites for the pilot was made by CARE, based on their knowledge of the communities and their judgment that these sites were generally similar. Since economic data granular enough to pick up the differences among parishes is not available in Uganda, the wealth discrepancy could not have been known in advance. In a scaled-up test, the randomization should eliminate this problem for purposes of analysis. In what follows, averages are presented for the sample studied at large. These averages are informative for the characteristics of the population the scale-up test intends to study, which too will have some variation across sites.

At baseline, women were more likely to be widowed, separated, and abandoned than men, while men were more likely to be married than women. Ages were similar, but men had more education.

- Marital Status
 - Married, 58% women, 74% men
 - Widowed, separated or abandoned, 24% women, 3% men
 - 24% of married women have co-wives
- Age
 - Average age is 41 for both women and men

- More young men than women: 30 or younger = 32% male, 25% female)
- Education
 - Never went to school, 19% women, 3% men
 - Higher than high school, 3% women, 9% men

Mobile phone ownership was skewed toward men, but both genders were higher than expected. However, bank account ownership was low, with a strong skew toward males. Most of those who had bank accounts could use them privately.

- Mobile phone ownership: 70% women, 86% men
- Bank accounts in own name: 5% women, 21% men
- Mobile phone and bank account in own name: 4% women, 21% men
- 71% of women and 69% of men with bank accounts have no one else accessing their account.

Psychometrics

Two frequently-used measures for confidence and wellbeing were tested to see whether, in comparison, the psychometrics, specifically mastery and mental health, were better able to discriminate. Confidence was measured using the Rosenberg Self-esteem scale.² We measured wellbeing using a simple question from the Afro-barometer.³ The psychometric scales used were the Pearling Mastery Scale⁴ and the Kessler Mental Health Scale.⁵

Importantly, neither the self-esteem nor the wellbeing measure, both commonly used to assess women’s empowerment interventions, showed any differences between men and women. However, the new measures tested did show important differences at baseline, as we describe in this section.

“Mastery” is the perception that you can control your own destiny. Not surprisingly, the men had a significantly higher average mastery score compared to women ($p < 0.01$). Women who were separated, divorced, or abandoned, when compared to married women, those who were cohabiting, or widowed, had both a significantly lower average self-esteem score ($p < 0.05$) and had a significantly lower average mastery score ($p < 0.05$).

“Mental health risk” is the name we gave to a well-recognized test (Kessler’s Mental Health Scale) that measures both depression and anxiety. In this study, women had a statistically significantly higher mental health risk ($p < 0.05$) compared to men. Specifically, women felt more hopeless ($p < .05$), restless ($p < .01$), and depressed ($p < .01$) than men. However, the average

² <https://www.wwnorton.com/college/psych/psychsci/media/rosenberg.htm>

³ In general, how would you describe your own present living conditions? From: http://www.afrobarometer.org/sites/default/files/questionnaires/Round%206/uga_r6_questionnaire.pdf

⁴ <https://www.nlsinfo.org/sites/nlsinfo.org/files/attachments/141120/Pearlin%20Documentation%20with%20IRT.pdf>

⁵ https://www.hcp.med.harvard.edu/ncs/ftplib/k6/Self%20admin_K6.pdf. And for more information: https://www.hcp.med.harvard.edu/ncs/k6_scales.php

absolute score for both genders was low.⁶

Importantly, the mental health score varied significantly with indicators of economic empowerment.

- Women who have their own mobile phone had a higher average mastery score ($p < .01$).
- Women who have their own bank account had a higher mastery score ($p < .01$) and lower mental health risk ($p < .05$).
- Women who earn money have a higher average self-esteem ($p < .01$) and mastery score ($p < .05$), as well as a lower risk of mental health ($p < .05$)

Attitudes, Relationships and Financial Vulnerability

A bank of “patriarchal beliefs” tested in an earlier study (Yoon et al. 2015) done in a developed country was adapted slightly for the setting.⁷ The items were further collapsed into three types of belief for analysis. We measured these items at endline and tested the correlations between each subgroup and the psychometrics already collected.

Institutional Dominance

- I would feel more secure with a male president running the country than a female.
- I prefer to have men lead village meetings, rather than female.
- When men and women are doing the same work, it is okay to pay the men a bit more
- Banks should not give credit to women, but only lend to their husbands.
- It is more important for boys to have formal education than girls.
- Men do some jobs that should not be done by women.

Men are far more likely to believe in the statements on this scale than are women (significant at .000). Of the other psychometrics, only mastery showed a relationship to this set of items. The correlation showed that the higher the belief in this scale, the lower the mastery score was, regardless of gender. This means that people who agreed that men should dominate across all these settings were less likely to believe in their own ability to affect their future. Essentially this equates to an inverse relationship between a traditional view of established power and the belief in one’s own sovereignty. When analyzing women only, the relationship with mastery was even stronger, from a statistical perspective. In other words, the more women believe in institutional male power, the less they believe in their own ability to set and achieve goals.

Private Dominance

- It is acceptable for a man to physically reprimand his wife.
- Women are less able than men to manage money.
- Police should not intervene in domestic disputes between a husband and his wife.
- Men are inherently smarter than women.
- A man has the right to have sex with his wife even if she may not want to.

⁶ A frequently used cut point is the middle of the scale (Kessler et al. 2010, p. 7). At baseline, respectively 77% of the women and 87% of the men in the pilot had a score below the cut point.

⁷ Yoon, Eunju, Kristen Adams, Ingrid Hogge, John P. Bruner, Shruti Surya, and Fred B. Bryant (2015), “Development and validation of the Patriarchal Beliefs Scale,” *Journal of Counseling Psychology*, 62 (2), 264–79.

Men were much more likely to believe in these “private dominance” items than women (significant at $p < .001$). There was no statistical correlation between agreement with these items and any of the psychometrics, except that, for women, there was a negative correlation between mastery and these private dominance items (significance $p < .017$). What this means is that the more a woman believes a man may dominate her privately, the less she believes in her own ability to determine her future.

Traditional Sex Roles

- A man should be the head of the household.
- A man should control the household finances.
- A woman should be the one to do the housework.
- A man should make the rules of the house.
- A woman should be the primary caretaker for children.

On average, there were no differences between men and women on agreement with these items describing traditional gender roles at home, nor was there any correlation with any of the psychometrics. It is notable, however, that, despite the averages, 55% of men agreed, to some degree, with ALL the items, while only 40% of women agreed with all of them.

In sum, these scales do seem to be providing a link between the beliefs held in the community and the women’s perception that they can decide their own destiny. It also seems likely these scales would be sensitive to changes produced by the interventions, since the items covered are directly relevant to the changes being enacted. In the pilot, these measures were only taken at the baseline.

Given the evidence provided by these measurements of belief, it is not hard to see why the qualitative interviews suggested that it is not customary for women in these sites to make independent decisions, or to contribute to household decisions on financial matters. For instance, 50% of female respondents reported they did not even know what their husbands earned (compared to 25% of men, $p < 0.0001$). Qualitative interviews further revealed that these women often informed their husbands of their own earnings or turned them over to him entirely.

Overall, the women were positive about their VSLA group and the savings/earnings potential it offered. But most also claimed that their husbands and/or other family members knew the amount in this account. In quite a few cases, husbands were controlling both the deposits the wife made and the loans she took out.

Women in the two pilot sites experience a lack of privacy and control over savings, both within and outside of VSLA groups. Their main means of controlling money is to hide cash in a physical secret space. Respondents indicated that this practice was common among all women in the area. Indeed, 69% of women reported to save cash secretly. Nearly all of those are keeping the savings secret from their husbands (91%).

Qualitative interviews revealed that women in these sites cannot leave home without permission, a finding consistent with our own experience of practice elsewhere in Uganda as well as studies conducted elsewhere in the developing world. One respondent remarked that she had never heard of any woman leaving home without permission. This comment may indicate that the behavior is rare or that, if it happens, the act is extremely furtive.

Given also the nature of the financial relationship with their husbands, it is further not

surprising that women were not only less likely than men to believe that their spouse trusts them ($p < .01$), they also were significantly less likely to feel they can trust their spouse to help them if needed ($p < .001$). On the other hand, they did report they feel equally important as a family member.

The qualitative interviews indicated that household dynamics and gender norms, especially combined with the women’s lack of financial privacy, were causing a high level of financial anxiety in some cases. Based on these observations, as well as our familiarity with the existing literature on women’s subordination, we compiled a list of risk factors to combine into an index that could be correlated to both psychometrics and financial behavior. These items were intentionally chosen to reflect conditions specific to women. We measured these at the endline and found the following distribution.

Gendered Financial Distress Factors

% of Respondents

| | |
|---|------|
| There is more than one wife. | 23.7 |
| Her in-laws are negative toward her. | 10.7 |
| If she needed to leave, her birth family would not take her back | 7.0 |
| Her husband has never paid bride price. | 24.3 |
| She has no sons. | 7.6 |
| Husband has other children. | 48.9 |
| At least one of her children is under five. | 47.4 |
| Her husband has hit or otherwise hurt her physically. | 33.0 |
| There are no women's groups in the area she can meet with. | 28.5 |
| Her husband drinks all or most of the time. | 16.7 |
| She does not have a bank account in her own name. | 91.5 |
| She is not able to make the decision on how to spend her own earnings. | 11.2 |
| She does not earn an income. | 8.7 |
| She does not know how much her spouse earns. | 52.4 |
| She does not know how much wealth her spouse has accumulated. | 37.3 |
| She has no adult children to give her money. | 36.6 |
| She saves cash secretly. | 63.4 |

Though the levels of incidence for some of these items were low, we had always intended to analyze them as they occurred in multiples. We found, for instance, that more than 60% of the women in the sample had two or more of the described situations. These items were then subjected to a factor analysis and the resultant loading produced two subsets of important factors. One set we grouped into “family stress factors”: her husband has hit or otherwise physically hurt her, her husband drinks, and she has a birth family that would not take her back. Then we grouped another set we called “financial distress factors”: knowing how much her spouse earns, knowing how much wealth he has, and saving cash secretly.

The two groups were then analyzed for their relationship to the psychometrics. We found that the “family stress factors” were negatively correlated to self-esteem and mastery, but positively correlated to depression and anxiety, all at a statistically significant level. Similarly, the “financial distress factors” were negatively correlated to self-esteem and mastery, but positively correlated with depression and anxiety, again with significance. In other words, both family and financial conditions occur alongside low self-esteem and low mastery, while also co-occurring with higher mental health risk.

Perhaps most importantly, the financial distress and family distress factors were highly correlated to each other. Thus, if you have the family distress items, you will also have the financial distress items, and vice versa. What is important here is, first, to show that there are financial and familial factors that will affect the outcomes of the intervention independently. Then, second, that there are likely to be correlations between these items and some of the outcomes. Finally, note again that all these items are very gender-specific and thus would potentially be explanatory variables for different outcomes between men and women.

Uptake and Usage of E-Wallets

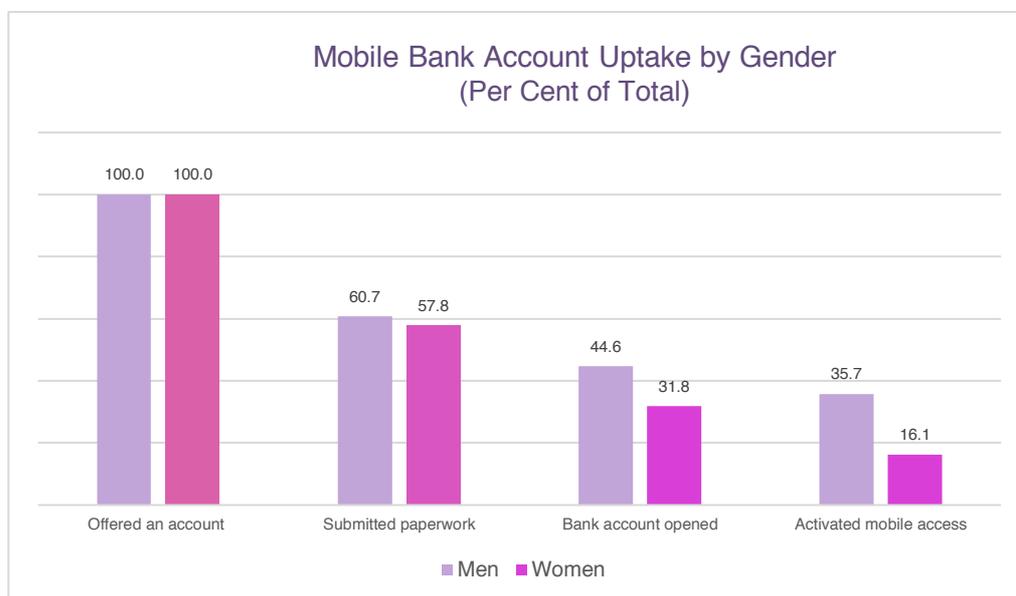
Observers in the field reported that some respondents were taking a “wait and see” attitude, watching the experiences of others before adopting the product themselves. Some responded at the endline that they had waited to watch the experiences of others before adopting. Of those who submitted their paperwork, 46% waited to see whether other VSLA members would sign up first and 26% reported that they relied on the experience of others in their decision to adopt. For those who had not submitted their paperwork, when asked whether they would be interested in signing up in the future, 22% said no, 21% said yes, 37% said maybe, and 20% said they do not know. This behavior would have signaled that the uptake process would follow a “diffusion of innovations” curve, rather than simply being a matter of adoption in a single moment. There were no differences between men and women on this reported behavior.

However, the process of signing the groups and individuals up for the Post Bank account was long and seemed irregular. Post Bank data on the process of the pilot customers coming on line also showed a gradual uptake. Thus, it is not possible to say whether a diffusion phenomenon was at work because of the processing delays that occurred at the same time. We are reporting uptake rates here that are final as of the end of the pilot. Going forward, however, some attempt to look at the curve of diffusion may prove useful.

Groups. Out of the 15 VSLAs that were offered a Post Bank Group Account, ten adopted the product. Three other groups had submitted their documentation for opening a group account but the accounts were not active yet. Two groups refused to adopt, based on the following reasons: the distance to the Post Bank branch (over an hour away), the costs associated with registering and making transactions on the e-wallet, the lack of interest accrued on savings, concerns surrounding the security and safety of mobile money (fraud, no proof of receipt, how to claim money in the event of a problem etc.), and having a pre-existing account (SACCO and Centenary), with which they were satisfied.

Though ten VSLAs signed up for group accounts, none of the groups had started using the Post Bank account for their savings by the end of the pilot, perhaps because of the long lead times to get customers up and running with their accounts or perhaps because they do not intend to adopt. .

Individuals. Overall, 58% of respondents submitted the paperwork supporting the application for a Post Bank account. Slightly fewer women than men applied. However, fewer women than men were able to produce the necessary documentation to actually open the account. In the end, there was a large difference between women who successfully opened the account, actually using the mobile function and men doing the same.



The 103 respondents who did not sign up for the individual Post Bank account were asked why they had not yet done so. The reasons given were:

- Don't have enough money: 45%
 - Women 53%, men 14%, significant.
- Were not there during the sign up: 18%
 - Men 41%, women 12%, significant.
- Did not have their own personal phone: 8%
- Did not have their own personal SIM: 7%
- Did not have a national ID: 6%
- Wanted to see others use the product first: 5%

Thus, the women seem to have been at a disadvantage at the point of offering because they were less likely to have money with which to open the account than the men.

The data suggest that women were also less likely to have the necessary documentation in place to successfully open a bank account. Out of those respondents who submitted their paperwork, only 55% of women's bank accounts were activated, contrasting with 74% of men's accounts. A significant portion of women who submitted their paperwork (45%), thus had insufficient documentation (compared to 26% of men).

Further, however, there is a gender difference in the final activation. Considerably more men than women had a mobile phone at the baseline (88% versus 67%), so women were more likely to have to arrange for a phone in order to use the mobile function. Both mobile phone and bank account ownership increased in Bushenyi for both genders, and the increase among women was statistically significant, growing from 67% to 73%. Their ownership of bank accounts also went from 5% to 12%. In comparison, men increased phone ownership from 88%

to 91% and bank account ownership remained the same. Thus, the gender gap continues to be significant for both mobile phone ownership and bank account ownership, but the intervention may have had the effect of closing that gap somewhat.

In qualitative interviews, women reported being intimidated by the mobile technology and worried about the “immateriality” of their money when transferred and saved digitally. They seemed to feel a continuing need for human interaction and the concreteness of cash. They also expressed worries about how their families would access the money if “something happened” to them. All reported given their codes to someone in case of their own death.

In addition to concerns about immateriality, some women expressed a lack of confidence in using the mobile money technology. Women were six more likely than the men to have no schooling at all and the qualitative interviews indicated that they worried about not having enough education to use the mobile product. These concerns may have contributed to women having a much lower activation rate than men, even after signing up for the Post Bank product.

Women expressed a number of concerns about using the e-wallet, some of which are specific to Post Bank while others relate to broader anxieties associated with using mobile money. In terms of Post Bank, some women reported that the distance to the branch was too far and they would not be able to travel there without their husband’s permission. There was also the perception that the costs of registration and transactions were too high given the little cash they have available to save. There was also a great deal of confusion about the nature of the charges and of the relationship between the VSLA and the e-wallet. Most women didn’t understand much of what was covered in the training and felt they would need further instruction before using the e-wallet. There was also a great deal of skepticism about the intervention. Women did not know or trust the people who came to deliver the training, making the scheme seem suspicious, and there was general anxiety about the immateriality of the technology. Women did not understand where the money went or how to withdraw it if needed. They were concerned that they would not know whom to speak with if a transaction went awry. Fears of fraud and references to the COWE scheme occurred frequently.

In spite of all these concerns, the women made clear that they saw potential advantages in the product. In the interviews, women described a number of ways the e-wallet could improve their ability to save, such as helping them to control their expenditures and allowing them to deposit and withdraw money quickly. The e-wallet was also perceived as more discreet than going to the bank or using the VSLA, allowing women to shield their savings from spouses and/or family members. Some women reported that e-wallets would ensure greater safety over their savings, primarily because its “invisibility” would reduce the likelihood of theft or family and kin making claims on their money. At the same time, all of the women we interviewed said that their husbands, and in many cases their children too, knew that they had registered for an account, largely because the product was presented to the entire VSLA, which included their husbands or men who would inform their husbands. Even so, when Post Bank’s new customers were asked, at the endline, whether their spouse knew about the account, 85% of all respondents said yes, including 100% of the men, but only 79% of the women. This difference between males and females in telling the spouse was significantly different.

When asked whether they wanted to or intended to keep their deposits private, 68% of respondents said yes and there was no difference between the genders. In addition, 100% of the respondents who wished to keep the account private said they would be able to do so. Importantly, 93% of respondents felt that the e-wallet offered more privacy than saving cash in

the house (no difference was found between men and women). At the endline survey, women reported more often than men that they were comfortable opening a bank account in their own name without consulting their spouse (46% of women versus 29% of men, $p < 0.001$), indicating a demand for private control over money.

All women interviewed reported that registering for the e-wallet entitled them to a loan, with low-interest rates, “reasonable” repayment plans, and, in some cases, free cash. It is clear that the possibility of such benefits was mentioned during the training. In fact, women were quick to connect the e-wallet to positive development opportunities that should not be turned away, which suggests that the training created misleading expectations.

Overall, a number of barriers to uptake and usage became evident.

- Proximity of bank branch
- Insufficient funds for registration fee
- Group use of alternative account
- Post Bank documentation requirements
- Insufficient funds to save
- Inability to manage the product interface
- Dissatisfaction with the costs per transaction
- Anxiety about the immateriality of mobile money (fear of loss, being scammed)
- Complexity of Post Bank offering (irrelevance of pre-selected e-wallets and inability to change them)
- Lack of privacy at signup.

Nevertheless, the overall uptake was good for a financial product and, at least in the short run, the intervention seems to have stimulated women to try mobile banking.

Response to Household Counseling

Take-up for the household dialogues was 89% of the total sample, but 99.6% of those who were offered participation. Out of these, 80% of respondents participated in all seven sessions.

At the outset of the project, there was a concern that the household dialogue sessions might precipitate violence or raise domestic issues that placed women at risk. In order to determine whether this was the case, and if so, in what contexts it emerged, we conducted participant observation of 11 households engaged in the seven-week process.

Participant observation did not yield reports of violence, but did indicate existence of tension in a few cases. The participant observation also allowed us to understand which members of the household participated in the intervention and the nature of their participation over the seven weeks. The composition of households varied from monogamous families with and without children present, a female-headed household, and four polygamous households, of which two included all wives. Six out of the 11 households completed the intervention within the seven-week period, while five completed the sessions but over a longer period of time.

Men tended to dominate discussions, particularly in the earlier sessions, and seemed to have been encouraged by CBTs to do so, as these moderators addressed most questions to men. The level of women’s involvement did increase considerably over the course of the intervention. As time went on, they became willing to express views of their own accord, challenge the points raised by their spouse, and appeared to gain a clearer understanding of household financial

flows. But though conversations became more gender balanced over time, tensions also increased in the later sessions, which foregrounded questions of household spending and income control. Men often trivialized women's expenditures as frivolous; criticizing them for the financial problems the household was experiencing.

Three additional patterns were observed through participant observation. First, there was a significant difference in the behavior of monogamous and polygamous households. In the latter, male heads sought the opinion of their male children before that of their wives, and sons consistently spoke before women. Second, there was generally less equanimity in households with younger wives, who appeared to dismiss the process and gain less value from it. Finally, the presence of children appeared to affect women's willingness to participate freely, particularly during the more fraught sessions on household budgets and expenditures.

Polygamous households struggled with the question of who to include, as did the organizers. In one case, a husband, furious at the suggestion of the intervention, forbade all of his wives to participate. In two of the polygamous households, the VSLA member did not want her co-wives to participate in the dialogues.

In addition to observing the dialogues, nine (8F/1M) qualitative interviews were conducted with participants, all of whom reported having a positive experience. Most had looked forward to the dialogue sessions, and were hopeful about what they could achieve for their families and their children through their participation. They found the convenience of the dialogues, conducted at their homes rather than a place they had to travel to, and the personalization of the sessions --- the fact that the trainer asked them to draw examples from their own experiences --- helpful. The benefits mentioned most frequently included learning how to plan and budget expenditures as a family, improved communication within their marriage, and for women --- their husband's willingness to be 'transparent' about his incomes. There was language in the interviews that suggested women may have taken a lesson from the household dialogues that was opposite to the intention: that the woman was meant to subsume her own needs desires to the rest of the household and should work to get along, rather than make any trouble.

The household dialogues seemed to be viewed positively by all participants. However, the responses recorded are uncannily similar, almost as if scripted. Especially given how few interviews there were, we hesitate to conclude that the response was as positive across the board as the interviews suggest.

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APPENDIX 4

Revised Research Plan

Digital Sub-Wallets for Increased Financial Empowerment of Women Research Plan

This research plan is for a financial inclusion project funded by a Gates Foundation grant. The partners are CARE Uganda, DoubleXEconomy LLC (USA), Post Bank, IPSOS Uganda, and Datassist (Canada). The Principal Investigator is Professor Linda Scott, Emeritus DP World Chair for Entrepreneurship and Innovation, University of Oxford (CV attached).

The study is designed to provide women with better control over their own funds and increased voice in household financial decision-making. It includes two interventions: (1) a mobile banking product fitted out with savings categories designed to be appropriate to women's financial goals and (2) a series of household counseling sessions, to be held with couples and select household members over a seven week period. Both interventions were successfully piloted in Bushenyi and Rubirizi during 2017.

Introduction to the Issues

In 2007, UNICEF's *State of the World's Children Report* focused on the "Double Dividend of Gender Equality." That report synthesized research that, taken as a whole, showed that when women are economically empowered, there is a positive impact on their families, especially their children, and an overall positive effect on the economic development of their communities. One of the first projects that showed that effect was conducted in Uganda by CARE International and USAID, working through CARE's Village Savings and Loan Associations. These groups, composed of women, made it possible for women to manage their own funds, making decisions that ranged from investments in female-led businesses to providing funds for emergencies. The outcome was a measurable improvement in the nutrition of families, especially children, as well as an increase in the number of children in school.

Since the 2000s, however, there has been increasing concern about the difficulties women sometimes have controlling even their own money within households and the lack of decision-making power they have within family groups. A core problem is that women continue to save money by secreting it under the bed or in a hole in the wall, where it can be discovered and stolen or otherwise taken away. The international consensus is that improving women's ability to hold and manage funds as individuals within the family, or to influence financial decisions as part of the family, will contribute further to the alleviation of poverty.

There has been particular interest in learning how mobile technologies might support this objective. Mobile telephones are proliferating at a rapid rate, even among the rural poor. Mobile banking services can potentially provide a way for women to save money and manage it more easily and privately. Research has shown that poor men have an easier time saving for particular financial goals if their phones are enabled with folders marked for the goal ("Car," "Business," "Land," etc.). However, these folders (also known as "digital subwallets") have not been designed for the needs of women.

At the same time, the work being done on increasing women's role in household decision-making suggests a more direct and "low tech" intervention: simply helping families to discuss their goals and needs more openly and respectfully, with the hope they will reorient the way they think about allocating resources toward a more equitable and effective practice.

A further need that has emerged is to develop measures that can monitor and assess “women’s economic empowerment” by ways that are independent of a particular intervention. For instance, one program might be supporting women entrepreneurs, another might be helping female farmers learn new technologies, and a third might be teaching literacy to women who left school. Each of these would be assessed according to different outcomes—for example, increased sales, technology take-up, or improved literacy test performance—which does not allow *comparison* of the effectiveness of interventions across various projects. Thus, there is a recognized need to find measures that will work to assess a woman’s sense of her own empowerment in different settings and the effect of various interventions on that sense of autonomy.

Furthermore, many programs around the world have difficulties or failures that cannot later be explained, particularly in the area of women’ economic empowerment. Thus, there is also a need for diagnostic tools that will allow implementers to troubleshoot programs as they unfold, so that they can be altered, if possible, or at least the end results can be better explained. The psychometrics being tested in this study (mastery and depression/anxiety) in conjunction with an established scale called “patriarchal beliefs”) have shown promise for these purposes.

Purpose of the Project

The described here is aimed at advancing knowledge on all these fronts by:

- (1) Testing a new mobile banking product with savings categories (i.e., “digital subwallets”) designed for women.
- (2) Test a program of “household dialogues” designed to promote understanding of financial issues and cooperation on meeting multiple goals within families.
- (3) Testing the potential for an established array of psychometric measures to track and explain the progress and outcome of the intervention, with an eye toward use of the measures in other interventions aimed at economically empowering women.

Key terms are summarized in the table below. A diagram of the digital subwallet as it will appear on the phone is attached as Appendix 1.

| KEY TERMS | |
|---------------------|--|
| Digital Subwallets | Categories for savings that are displayed on the screen of a mobile phone, allowing users to allocate their savings according to specific financial goals. |
| Household dialogues | A seven-session program, delivered by trained facilitators at the household level, that aims to create transparency, understanding, and equitable participation in household decision-making |
| Psychometrics | Batteries of questions that have been previously test and proven reliable for discerning mental and emotional states. |
| Orientation | Sessions in which women will be taught about budgeting, mobile banking, and digital subwallets, as well as assisted in using the technology. |

Proposed Study

The proposed study will be led by Professor Linda Scott, Emeritus Professor of the University of Oxford, Senior Consulting Fellow to Chatham House, the Royal Institute of International Affairs, and founder of DoubleXEconomy LLC, a firm that specializes in women's economic empowerment research. The project will be implemented by CARE Uganda and Post Bank. The data will be collected by IPSOS Uganda and analyzed by Datassist of Canada. The project is funded by the Bill and Melinda Gates Foundation. The interventions and research instruments will be effected through CARE's Village Savings and Loans in the districts of Bushenyi and Rubirizi (a list of the sample VSLAs by village and subcounty is attached as Appendix 2).

The project was piloted in Uganda in 2017. The purpose of the pilot was to determine uptake rates, to get better estimates on demographics and phone/bank account ownership, to get experience with the psychometric measures, and to troubleshoot the interventions. A description of the pilot and its results are attached as Appendix 3.

The research questions are:

- Can a family financial counseling module aimed at more equitable decision-making within households increase women's ability to put money toward their own financial goals?
- Will a mobile banking product with folder names tailored to women's special financial goals improve their ability to reach those goals?
- Can psychometric measures help diagnose and assess the women's sense of empowerment as economic empowerment interventions unfold?

Methodology

The study will use three methods to produce three datasets:

- A survey administered before the interventions, just after the interventions, and 12 months after the interventions
- A set of 25 qualitative interviews conducted in each of the two intervention sites at six weeks and twelve months after the intervention.
- Anonymized bank data for the accounts opened under the mobile banking product.

. The core of the design is a randomized controlled trial, with interventions as follows:

1. Post Bank mobile banking product, supported by orientation
2. Household counseling session, followed by Post Bank offer and supported by orientation
3. Control – no Post Bank product, no orientation, no household dialogues, no qualitative interviews, no midpoint survey. Only the baseline and endline surveys will be conducted here.

The RCT will evaluate the interventions based on answers to the question: "On a scale of 1 to 7, how satisfied are you with your ability to save money to reach your savings goals?" Other measures and methods, however, will be used to explain the results, as well as to provide information that can be used to support refinement and expansion of similar interventions. In particular, a standardized set of psychometric measures will be tested. These include the Pearling Mastery Scale and the Kessler Mental Health Scale, as well as Yoon et. al.'s Patriarchal Beliefs Scale. The links for the scales, as well as the list of questions is included as Appendix 4.

All three of the proposed scales were tested in the pilot and proved promising for measuring the effects of economic empowerment. The mastery and depression/anxiety scales will be used to measure changes in feelings of empowerment and thus are inserted into the questionnaire at both the baseline and the endline. However, we do not expect the “patriarchal beliefs” to change as a result of this intervention. Yet, we discovered in the pilot that the patriarchal beliefs have the power to explain other response, conditions, and feelings; thus, they are inserted as part of the midline survey. (Questionnaires are included as Appendix 5A, 5B, and 5C.)

In addition, there are demographic questions, as well as questions about product usage and response to the household dialogues. Finally there are questions used in CARE’s international database that have been inserted for later comparisons.

At the midpoint and endline, 50 qualitative interviews will be conducted with women in the two intervention sites. The qualitative protocol is attached as Appendix 6.

The intention is further to compare anonymized bank data linked survey responses to determine whether movements of funds parallel survey results. We did not want to make savings outcomes our *primary* evaluation measure for the following reasons:

- *“Savings” does not include empowerment.* It is well known that women often have their savings taken from them and thus cannot act in pursuit of their own goals, but only support the goals of others. Further, if the money does not remain under the woman’s control, then the development outcomes desired by the grant will not manifest. The positive development outcomes attributed to women’s empowerment are only expected to accrue if the women are, indeed, empowered.
- *Savings amounts cannot be expected to show an unbroken, long-term rise among such populations.* These are very poor communities where savings is often undertaken where saving is aimed at specific goals (hence the subwallets). There is generally no room to accumulate wealth for its own sake. (And, again, the development outcomes will not accrue if the woman simply hoards her money.) Thus, if the woman’s primary goal is to pay her children’s school fees, she will be withdrawing her savings every few months. Her pattern of withdrawal would probably not match her neighbor’s, who was saving for inventory for her business. Thus, we might very well see an erratic pattern of inflows and outflows or a plateau for savings, even though children were going to school, land was being acquired, good food was being served, and women were being empowered.
- *Savings data would have to come from a third party.* Though Post Bank’s willingness to share data has thus far been satisfactory, there is always a significant risk in relying solely on data the researchers do not control for the sole (or main) evaluation metric. Leadership and corporate goals can change, leaving the researchers suddenly with no access to data, for instance. Thus, the decision to track the savings data, but to rely on a self-collected measure as the main outcome mitigates research risk.

The RCT will take place in the Rubirizi and Bushenyi districts in western Uganda, among Village Savings and Loan Associations, qualified in advance by CARE (the list of villages and VSLAs is included as Appendix 3).

Timeline

Importantly, the implementation of the intervention takes a very long time—about three months. Therefore, the data collection will be a rolling effort, timed to match with intervention delivery.

The steps will include:

1. A baseline survey taken before the intervention begins.
2. A “midpoint” survey taken, except in the control area, just after the intervention concludes in all sites.
Plus fifty qualitative interviews among women, except in the control area, at the same time as the midpoint survey.
3. An endline survey 12 months after the first intervention ends.
Plus fifty qualitative interviews among the same women interviewed at the midpoint.
4. Cleaning and analysis of Post Bank data for three waves.
5. Analysis and triangulation of all forms of data: survey, qualitative, and bank data.

The total time for the project is 20 months from the data collection at the baseline.

Our estimated timetable is:

February 2018: Baseline conducted. Intervention begins.
 March 2018: Baseline data cleaned and basic summary statistics run.
 April 2018: Informal baseline report.
 May 2018: Intervention delivery complete.
 June 2018: Midpoint and qualitative research begins (data collection will be staggered to reflect the delivery schedule). Post Bank data submitted to Datassist.
 August 2018: Cleaning of survey and Post Bank data, translation and transcription of qualitative data.
 October 2018: Analysis and Triangulation of data begin.
 November 2018: Midpoint report.
 April 2019: Endline survey and qualitative research conducted (data collection will be staggered to reflect the delivery schedule). Post Bank data submitted to Datassist.
 May 2019: Endline and PostBank cleaning. Qualitative translations and transcriptions.
 July 2019: Combination of baseline, midpoint, and endline data. Initial analysis.
 August 2019: Comparisons, triangulation, final analysis.
 September 2019: Final Report.

Sampling

The sample size will be 1,420, calculated based on Datassist’s estimate of effect size needed for the core question: “On a scale of 1 to 7, how satisfied are you with your ability to save money toward your savings goals?” The sample size also assumed a 90% takeup rate, based on the pilot.

The sample will be drawn by interviewing all the women who belong to the VSLAs at each site, as well as a random sample of 100 men from across all sites. It is expected that there will be an average of 30 women per VSLA and that 44 VSLAs will be required to reach total sample size of 1,420 (including 100 men).

The exact VSLAs chosen for the sample, labelled Intervention 1, Intervention 2, and Control are attached as Appendix 3. The subcounties were first chosen, according to the number of groups in each subcounty, the locations of the groups within the subcounty, the access to financial services and mobile phone service. Then, each VSLA was qualified according to ownership of mobile phones especially among women, access to financial services (proximity to banks), National ID ownership, mobile network coverage, and group quality (meeting attendance, adherence to rules, etc.).

The study VSLAs were then chosen from an alphabetized list of qualified groups in the region, via a random method (counting 1 through 10 and choosing every 3, 6, and 9). Men will be chosen randomly from a list of individual male members in each selected VSLA.

Budget

The total cost estimate is US\$ 36,585 for the baseline survey, \$38,213 for the midline, \$38,213 for the endline— as shown in the attached budget. This sum covers all taxes, administration, travel for fieldwork, supplies, and approvals. It does not include publication or dissemination costs. Costs do assume that CARE will bring together the respondents so that IPSOS does not have to go house-to-house, as well as that Post Bank will transmit bank data directly to Datassist.

Risks

When dealing with financial matters and gender, there is a risk of gender-based violence. Consequently, plans have been made for response. These procedures are outlined in Appendix 7 and a letter from CARE attesting to their experience in such matters is attached as Appendix 8.

Individual bank data is also very sensitive and must be handled with care to avoid the risk of compromising someone's privacy. We have designed a security procedure that we believe will maximize protection. The main strategy is to limit access to individual, identified account data once it leaves the bank, especially by keeping the number of institutions through which the data pass to a minimum. Thus, Post Bank will send bank data directly to the data analysis team, Datassist. Datassist will use names and National ID numbers to match the survey data for those records to the bank information. Then, all identifying information will be stripped from the records before commencing analysis. All reports shared that use the bank or survey data, even with Prof. Scott, will be at the aggregate level. No files will be transmitted except the outputs for the analysis. The information will be stored securely on Datassist's server and it will be destroyed at the end of the test. A description of the procedure is in Appendix 9.

Post Bank has given assurances that no additional approvals are needed by other institutions prior to releasing the data to Datassist. Correspondence to that effect is attached as Appendix 10.

Survey data will be stripped of identifying features after IPSOS cleans and transmits the files and they have been successfully merged. After translating and transcribing the qualitative interviews, IPSOS will remove identifying features before sending the transcripts to Prof. Scott. At the end of the test, the survey data will be transferred to CARE for secure long-term storage and the qualitative data will be destroyed.

Research Task Assignments

This research proposal brings together respected groups, all of whom have experience conducting similar research in Uganda. The tasks will break out roughly as follows:

DoubleXEconomy: Linda Scott, assisted by Asia Elsner, will be responsible for designing the research, preparing the IRB with IPA, choosing the metrics, writing the questionnaires, leading on the data collection, directing the analysis, and writing up reports at each stage. Asia Elsner will work with Prof. Scott to manage budgets, participate in meetings, monitor timetables, and so on.

Datassist: Heather Krause and her team will provide assistance in research design and questionnaire development. When the data are collected, they will be uploaded to Datassist for cleaning. Then Datassist will work with Prof. Scott on interrogating the data. This process will be followed for the baseline, midpoint, and endline. Datassist will also interact with Postbank on the transfer of bank data and will work with Prof. Scott on the analysis of this data, helping to triangulate it with the other datasets.

IPSOS: IPSOS will manage all local interfaces, including, for example, the IRB approval process. They will work with Linda Scott to install, test, and revise as needed all questionnaires. They will hire and train (with assistance from Prof. Scott) enumerators who will go to the field to collect data. They will also hire qualitative interviewers, who will be trained by Prof. Scott and her colleagues. The enumerators will enter the data in real time, then IPSOS will check the data for correction as needed, followed by preliminary data cleaning. Then, the data will be transferred to Datassist, who will do the formal data cleaning and begin analysis. IPSOS will also supervise the qualitative work and arrange for interviews to be transcribed and translated.

APPENDIX 5
Baseline Report

Digital Subwallets and Household Dialogues

Report on Baseline Data

Spring 2018

Methodology

A sample of 1,320 women was randomly selected by parish from among the list of VSLAs previously qualified by CARE. In addition, 100 men were drawn, choosing one from each VSLA until the quota was filled. Analysis showed the three treatment sites are statistically comparable. There are a couple of small divergences that can be adjusted when analysis is complete. A survey was administered by IPSOS to establish baseline conditions for comparison at the end of the trial.

Overview

The sample drawn shows a high number of women who are earning money and have their own phones. Both men and women use mobile money frequently and appear to be accustomed to using the phones for other uses such as texting. These and similar facts may indicate that the qualification of the VSLAs has yielded a sample of people advanced enough in their financial and technological practices to dampen the effects of the sub-wallet intervention. Further, the goals indicate similar savings categories among men and women, which may further dampen the effect. In addition, respondents report a high degree of collaboration and sharing in household decision-making, which could create a ceiling effect on change from the household dialogues.

However, other aspects emerging from these data suggest underlying inequalities that will be well-served by the interventions. Despite reports of cooperation within households, there is strong countervailing evidence of asymmetry and secrecy between spouses regarding money and it is having a negative psychological effect on the women. (The reports of collaboration may be resulting from a social desirability effect. Other measures may need to be used to ascertain impact.)

There is significant asymmetry in the knowledge men and women have of their spouses' income and assets. Lack of knowledge about family finances has a negative psychological impact on the women. The men are much more likely to have bank accounts and their wives do not appear to know they have such accounts, nor how much money is in them when they do. Both sexes hide money. Men are saving it in their bank accounts, while women are hiding cash physically. Keeping the money secret from spouses appears to be the main motive. Having the ability to hide money seems to increase the sense of mastery among both men and women, as well as reducing the anxiety/depression among the men.

While there is high, apparently autonomous, usage of the VSLA among both sexes, as well as a high degree of trust in the VSLA groups, both genders are holding cash outside the VSLA to

exert privacy and control over funds. This is especially true of the men. In addition, respondents do seem to feel that the process for getting cash from the VSLA is too slow and uncertain for emergencies, so they keep cash for urgent situations.

For the women, therefore, the subwallet intervention may offer an important new way to hide money more safely and privately, as well as to have faster access to cash than currently available through the VSLA. The incremental advantage to the men seems less clear since they already have more control and appear less bothered by knowledge asymmetry when it exists. The impact of the household dialogues may also help the women in terms of greater information sharing from the husbands. A key outcome we will want to watch for in the household dialogues is improvement in women's knowledge of their husbands' earnings, savings, bank account ownership, and bank balances, as well as improvement in their ability to inquire.

There is further room for impact in the area of mobility. Women have fewer bank accounts and are less likely to use mobile money for saving. Men, because they are free to go wherever they wish, can manage a bank account, even in a bricks-and-mortar location. Since we know from the qualitative on the pilot that the women are usually not allowed to leave home without permission, the benefit of mobile use for a bank account should be much more meaningful to them.

In sum, though the overall ownership and earnings data suggest the sample may be less responsive to the interventions than the pilot, the internal data on bank and VSLA usage, as well as personal motives and psychological states, suggest that the interventions may indeed have a considerable impact. That impact is strongly centered in well-established practices of gender inequality, especially the *ability to exert private individual control over money*. **Given these data, it is even more essential that the women be able to sign up for the bank accounts without others (especially men) knowing, if we are to observe an impact from the interventions.**

The questions on gender roles yielded interesting answers coupled with the psychometrics. On several dimensions, men are less committed to traditional roles within the house than are the women. However, those women who are questioning their traditional roles seem to be experiencing inner conflict about it. This finding is consistent with the underlying theory: that "empowerment" is not an automatic on/off state that quickly ends in subjective well-being, but instead normally necessitates a period of struggle. In many ways, those *who do not question* their role could be happier since they do not need to resolve role conflict or experience any of the social backlash that normally comes with challenging traditional roles. Further, an intervention that allows them to take control over some aspects of uncertainty may reduce the role conflict among those *who are questioning* gender roles.

The questions to be used for measuring impact for the RCT showed significant differences both between genders and among sites. There are also some economic differences among the sites. However, the randomized sampling allows us to control for these with our methodology.

Finally, some work will need to be done on the categories for goals before the endline. It would be good to add one for home construction and improvement, as well as to consider whether business and agriculture investment should be collapsed. Doing this would allow much of the “other” category answers in the baseline to be rationalized into a more countable scheme, as well as pick up likely large categories at the endline. **If it is still possible to add a subwallet for “home construction or improvement,” it would be advisable to do so.**

Summary of Findings

- Marital status was heavily skewed toward couples, with data showing men more likely to be currently in a relationship, whether monogamous or polygamous, than women.
 - 94.2% of the men were married or cohabitating, while only 81.8% of the women were. Also, about half of the men were married in a church as compared to only a third of the women.
 - Twice as many women (24%) as men (12%) were in a polygamous situation.
 - There were many more widows (12%) than widowers (1.9%).
 - The sample includes a total of 5.2% of never married, divorced, separated, and abandoned women, as compared to 3.9% among the men. There were no abandoned or divorced men.
- 87.4% of the men identified themselves as head of household, but 12.6% identified their spouse. The women were less likely to identify as household head, with 71% identifying their spouse as head.

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- Nearly 100% of both men and women earn their own money.
 - Men are twice as likely to have their own bank account (60.2%) than are women (24.3%).
 - Virtually all the men have mobile phones and 89% of the women have them, as well.
 - Nearly all men and women had experience with mobile money. They are frequent users, but there are gender differences in the purpose of use.
 - Women less often use mobile money to save than do men; in both cases, the number using mobile money for saving is low.

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- Respondents report a great deal of cooperation on financial matters at the household level, but there is also considerable evidence of secrecy between husbands and wives. As would be expected, knowledge of family finances is skewed toward men.
 - Both sexes hide money from their spouses and both derive a sense of mastery from doing so. However, men hide theirs in bank accounts and women hide theirs in cash.

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- Women are statistically more likely to be depressed/anxious than men. There was no gender difference in mastery, overall. However, both mental health and mastery varied in relationship to relevant study variables.

DOUBLEXECONOMY

- There appears to be a shift toward more progressive gender attitudes among the men. The women who are questioning their traditional place seem to be experiencing role conflict that reduces their sense of mastery.

Detail of Findings

Independence and Cooperation in Financial Decision-making.

Respondents reported a high degree of cooperation in household decision-making and sharing of resources. Both men and women were earning independently, however, and reported that they could make their own decisions about how to spend the money they earned.

- 90.4% of women say they are able to make their own decisions about how they spend their own income most of the time.
- 88.7% of men said they always or usually discuss how to spend money with their spouses. 77.6% of the wives said the same. Though the difference is statistically significant, the more important finding is that a very large percentage of both sexes say they are deciding with their spouses.
- Nearly all the men said their wives asked them for money when they need it (96.9%), compared to 85.7% of women saying their husbands ask. Again, the difference is statistically significant ($p < .002$), but the big picture is that a large number of both men and women come to their spouses for money when they need it. Further, virtually all of both sexes said they didn't mind giving the money to their spouse if they had it to give.
- 95.8% of men and 81.3% of women were confident or very confident of their ability to negotiate for their *needs* with their spouse. 91.7% of men and 76.7% of women were confident that they could negotiate for what they *wanted*. Both of these were statistically different at $p < .05$, but do indicate perhaps unusually high levels of confidence among the women.
- When they buy personal items for themselves, the largest portion of both men (56.3%) and women (60.2%) usually tell their spouse and say it is no problem. Very few of either sex said (a) the spouse becomes angry or (b) that they are only able to have personal items if they ask their spouse for money. However, a third of both men (35.4%) and women (32.4%) do not tell their spouse when they buy such items.

Financial Secrecy

In spite of the reported cooperation, there also seems to be considerable secrecy among couples with regard to earnings, spending, and savings. As expected, there is asymmetry between husbands and wives when it comes to knowledge about earnings and savings. Women do not know what their husbands earn or have. This lack of knowledge does seem

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to cause them distress. Men are more likely to know already what the women earn or have saved; if they don't know, they are not bothered about it. Other research frequently indicates that male heads of households (and, by extension, families generally) do not expect women's earnings to be significant enough to worry about.

Men, it seems, have bank accounts that wives do not know about. The clue is in the discrepancy between what each sex says the household uses for money management and what each sex says about whether they have their own account. Men also appear to withhold some of their earnings from the VSLA for their own use without observation. Women also hide money, but it appears that they hide it in cash form. When hiding money, most women and men tell no one. When men have bank accounts, they feel an increased sense of mastery; when women hide cash, they also feel an increased sense of mastery.

- About half of the women (49.3%) know how much their husband earns, as compared to 69.7% of men knowing how much their wives earn ($p < .001$). A similar split between genders emerged on knowing how much the spouse had saved. Women are more likely to be depressed/anxious if they do not know how much their spouse earns ($p < .05$), as well as when they do not know how much the husband has saved ($p < .001$). The women are different from the men in this response. However, there was no relationship between having this knowledge and a sense of forming your own destiny (mastery). There is no effect on the men at all.

| | Males | Females |
|--|-------|---------|
| Knows how much their spouse earns | 63.9 | 47.4 |
| Knows how much their spouse has saved | 60.8 | 41.8 |
| Feels they can ask how much their spouse has earned or saved | 60.6 | 52.7 |
| Saves cash secretly in a hidden place | 27.8 | 42.5 |
| Spouse knows where cash is hidden | 36.4 | 11.7 |
| No one knows where cash is hidden | 54.5 | 68.7 |

- 42.5% of the women and 27.8% of the men are saving cash secretly. Women are statistically more likely to feel they are in control of their own fate (mastery) if they are saving cash secretly. This finding is true as compared to women who don't save cash secretly as well as to men. Men do not experience psychological impact from storing hard cash, probably because their main avenue is a bank account.
- When asked who knows about the hidden money, most of the women (68.7%) said no one knows and only 11% said their spouse knew. Among the men, 36.4% had told their spouses, but 54.5% said no one knew. Women seem more intent on hiding hard cash from the spouse and are more furtive. Men do not need to be so worried about the hard cash because they have bank accounts.
- 72% of the men, but only about 35% of the women say their household has either a bank account or a SACCO. Furthermore, 60.2% of men, but only 24.3% of women reported having their own bank or SACCO account. The discrepancy here suggests not only that women are less "banked," but also that they do not know how "banked" their husbands are.

DOUBLEXECONOMY

- Though men were not empowered by hiding cash secretly (presumably in physical form), they were both more likely to feel a sense of mastery and less likely to feel depressed/anxious if they had a bank account.
- Among the women, 68.8% reported that their head of household (if they were not head) knew they had their own account. Of the men who were not head of household, all reported the head knew of the account. Roughly 70% of each group of non-head account holders whose household head knew of the account also said the amount in the account was known as well.
- Very few of each sex (7.8% men, 4.3% women) was sharing a joint account. Of those, both were most likely to be sharing the account with their spouse, but the women were less likely than the men (87.5% versus 77.2%) to be sharing with their husband. (The cell sizes are very small at this point, but both men and women who don't share with their spouse seem to be sharing with someone of the same sex.)
- About a third of the women said the head of their household had an account and about a third of those said they did not know how much was in the account. In the case of men, account holders who were not also heads knew how much was in the head's account (91.7%). However, about half the women who did not know felt they could ask, while 100% of the men who did not know said they could not ask.
- Usage of VSLAs also shows evidence of secrecy. When respondents keep cash on hand (76.7% of men, 60.4% of women), a significant proportion of both sexes say they do it for reasons of privacy and control (see detail below under VSLAs), but men are much more likely to give such answers than women.

Phone Ownership and Mobile Money

Though phone ownership is high among both sexes and both are frequent users of mobile money, there are differences in usage patterns that, in concert with other findings, suggest that the subwallet intervention may have greater impact on women than men.

- The percentage of men and women who have their own personal phone is statistically different ($p < .04$). However, the ownership among men is virtually universal and the ownership among women is very high (88.6%), especially for Uganda.

| For what purposes have you used mobile money? (%) | | |
|---|-------|---------|
| | Males | Females |
| Receiving money | 86.4 | 77.9 |
| Sending money | 74.8 | 61.9 |
| Loading airtime | 45.6 | 27.9 |
| Saving | 38.8 | 22.6 |
| Paying school fees | 6.8 | 2.8 |
| Other | 1.9 | 0.4 |

- A large proportion of respondents had used phones for mobile money. 88.3% of the men had used mobile money, while 79.7% of the women had ($p < .04$). The most frequent usage was for receiving money, followed by sending money.

- Savings, however, was quite a bit lower than for other uses, especially among the women. The top four uses were statistically different between men and women. Use for paying school fees was very low and not different between genders. The survey appears to have captured nearly all uses, as the remainder was less than 2% in each case.
- More than 90% of both men and women had either sent or received a text.
- Males and females are frequent users of mobile money, with half saying they have used it in the last week and another quarter saying they used it in the last month.

VSLA Usage

Both sexes nearly universally use VSLAs to keep their own money and trust the VSLA members to keep their finances private. Despite this response, however, both sexes also withhold money from the VSLAs for purposes they do not want known or shared. The main motive was that the money was “just for me.” This may mean that the money is being reserved for personal indulgences or it may mean that the respondent is saving for a purpose they want to keep secret. In any case, it is far more likely for the men to answer that they are withholding from the VSLA for reasons of privacy and control. Both also keep cash on hand for emergency purposes, but to a much lesser extent.

| Why do you keep cash on hand rather than deposit in the VSLA? | | | | | | |
|--|--|--|--|--|-------------|-------------|
| | | | | | Male | Female |
| Privacy and Control | | | | | | |
| This money is just for me. | | | | | 40.8 | 27 |
| I don't want anyone to know I am setting this money aside. | | | | | 6.8 | 6.9 |
| I would not be able to withdraw the money from the VSLA without someone knowing. | | | | | 15.5 | 13.7 |
| Total: Privacy and Control | | | | | 63.1 | 47.6 |
| Urgency | | | | | | |
| Getting the VSLA money might not be quick enough when I need it. | | | | | 27.2 | 25.1 |
| I can't assume the VSLA will have cash when I need it. | | | | | 15.5 | 13.7 |
| Other: Emergencies total | | | | | 2.9 | 3.8 |
| Total: Urgency | | | | | 45.6 | 42.6 |
| Decisions and Procedural Reasons | | | | | | |
| The VSLA may decide not to give me cash for the purpose I have. | | | | | 10.7 | 9 |
| The VSLA limits the amount members can save. | | | | | 7.8 | 4.5 |
| Total: Decisions and Procedural | | | | | 18.5 | 13.5 |

- About 85%+ of both men and women said the money they deposit into the VSLA is theirs. About 72% of each gender say they make their own decisions about when to

remove money from the VSLA or take out a loan. About 22% of each say they make the decision with their spouse.

- 98% of each sex said they could trust the members of their VSLA to keep their affairs private.
- Nevertheless, 76.7% of men and 60.4% of women keep cash on hand.

Bank Accounts and Other Money-management Vehicles

The money management tactics used by both genders are concentrated mainly in the VSLAs (99% men; 94.1% women). They do not really use store credit. About a quarter borrow from friends, but there is no statistical difference between women and men.

Nevertheless, there are some differences that may work well within the intervention, in that there is definite room for growth in bank account ownership and mobile money management among the women. And, other indicators already discussed indicates potential demand, as well.

The difference between men and women with regard to having a bank account appears to lie in the greater propensity of men (60.2%) compared to women (23.3%) to have their own accounts ($p < .001$). This may also relate to the women knowing less often than men what their spouses have in terms of financial resources.

Bank accounts may be where men are keeping secret savings, especially given that their savings may be larger, thus justifying the use of a formal account. Further, men are more mobile than women and it would thus be easier to set up and maintain a formal account.

Women are generally less involved with or aware of household use of financial vehicles than men, with the exception of the VSLA and borrowing from friends.

It is surprising that, despite the emphasis on microfinance in economic development, as well as the emphasis on gender in microfinance, a very small percentage of both sexes has been using that form.

Goal-Setting

Almost all the men and women have set a goal for themselves for the coming year through the VSLA. The goals listed in the questionnaire were very similar across genders. For both, the top priority was children's education. The next two, for both sexes, were investing in business and buying household assets.

The categories provided did seem to exhaust the possibilities, for the most part, as a small number of “other” items were reported. However, the women had more goals not covered than the men. Most of the “other” responses from women were about some form of home construction or improvement: buying or building a home, adding a room, getting new

| What financial goals have you set for the coming year? (%) | | |
|--|------|--------|
| | Male | Female |
| Support children’s education | 34.3 | 33.6 |
| Invest in business | 18.6 | 20.3 |
| Buy asset for household | 15.7 | 15.9 |
| Invest in agriculture | 10.8 | 11.8 |
| Buy asset for self | 9.8 | 7.3 |
| Other | 5.9 | 8.0 |
| Be ready to meet emergencies | 3.9 | 1.3 |
| Do something else for self | 1.0 | 1.1 |
| Do something else for others | .0 | .5 |

roof, painting or plastering, etc. The “other” responses also showed a number of items that could have been recategorized as either a business or agricultural investment. Further, these responses indicate that there is considerable overlap between these two categories, with investment in agriculture often done for business purposes.

Gender Roles

The responses on the gender role questions seem to reveal that these values/roles are in flux, among the men perhaps even more than the women, and the change is causing ambivalent feelings for the females. The men seem to be shifting toward a more progressive view of gender roles than the women hold, but it seems the women may not know it. The women who are questioning traditional gender roles appear to feel locked into a place in society that does not allow them to control their destiny.

- Fewer men (54.8%) than women (74%) agreed that changing diapers, giving a bath, and feeding kids is the woman’s responsibility (p<.05). Importantly, however, women who do not agree that childcare is a female’s role felt they had less control over their own destiny (p<.05).
- Men (53.4%) were also less likely to agree than were women (65.6%) that a woman’s primary responsibility was taking care of house and children (p<.05). Again, women who do not agree that home-making is a female’s role felt they had less control over their own destiny (p<.05).
- Only about a third of either gender thought men should decide about major household purchases. Again, however, women who did not agree with this statement had a lower mastery score (p<.05).
- About 45% of men and women agreed with the statement that, “A man should have the final word about decisions in the home.” Oddly, women who “partially agree” with this statement had a higher sense of mastery, but there were no other psychometric effects.

DOUBLEXECONOMY

- Seemingly in contradiction to the previous three items, 69-70% of both sexes agreed that, “A woman should obey the man/men in her life (husband, boyfriend, father) in all things.” Agreement had no psychometric impact on either the women or the men.
- In three-quarters of the responses from both men and women, the eldest woman in the house cannot read or write. Women who gave that response were more likely to have mental stress issues (depression/anxiety) than those in households where the older woman was literate.