

COMMITMENT SAVINGS ACCOUNTS IN MALAWI

A Product Design Case Study



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Product Design Case Studies

Overview

The poor and other underserved populations in developing countries have unique financial services needs. However, there is often a mismatch between what financial institutions offer and what underserved populations need or want. This ‘product gap’ may reflect a lack of interest by financial institutions in designing more target products, or a lack of willingness or capacity on the part of financial institutions to design, market and implement tailor-made financial products.

A better understanding of successful products and the processes behind their design, development and implementation may help increase Access to Finance for underserved populations. In line with IFC’s Learning Agenda on responsible financial inclusion, the Product Design Case Studies were established to bridge the gap between product design/innovation and financial inclusion; increase knowledge related to product design and development processes; and focus attention on the end beneficiaries of financial products.

The objectives of the Product Design Case Studies are to 1) develop expertise related to product design and innovation processes through a better understanding of best practices in the field, in-depth research and application of behavioral economics concepts; 2) increase awareness of product design/innovation and the links between product development and financial inclusion; and 3) generate publicity and knowledge sharing around product design and innovation.

IFC has partnered with ideas42 to research and develop the Product Design Case Studies with a particular focus on behavioral economics. The case studies present useful products and product innovations that are scalable across a broad range of markets and offer broadly valuable insights into features of successful products, customer behavior and the product development process itself. The case studies also highlight the benefits for financial institutions of implementing or designing new products, and the corresponding effect on responsible financial inclusion of underserved populations.

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Commitment Savings Accounts in Malawi

Overview of the Case Study

The objective of this case study is to present the design and implementation of a commitment savings product for groups of tobacco farmers in Malawi. The product was successful in encouraging savings, increasing input purchases and yields for the next year's harvest, and increasing consumption after the harvest.

The following sections describe the lack of formal savings options for rural farmers, the behavioral concept behind commitment savings accounts, the product designed to address these problems and subsequent changes to the original design, results of a field experiment evaluating the product, and lessons learned for other commitment savings products.. The findings presented here are from a study conducted by Xavier Giné at the World Bank and Lasse Brune, Jessica Goldberg and Dean Yang at the University of Michigan.

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The Problem: Lack of Formal Savings

Malawi's economy is heavily dependent on agriculture, especially tobacco, which comprises a majority of the country's exports. Tobacco farmers have one harvest a year, and while their income stream occurs over several months it must last them for the entire year, making it difficult to smooth consumption throughout the year. Farmers use their incomes for everyday expenses and for buying inputs for the next planting season, and for many it is difficult to resist the temptation of spending income right after it is received. The period between late planting and harvest is called the "hungry season" since farmers spend their money on inputs for planting and must wait for the harvest to generate income. When the harvest comes, many farmers are likely to consume immediately and invest in planting for the next season—leaving little to nothing left over. By the time the next planting season arrives, a farmer may have no savings left, in which case he will typically take out a loan to purchase seeds and fertilizer for the next season (Goldberg, 2009).

Saving the income from a harvest to use throughout the year is difficult for a number of reasons, including a lack of self-control. This is not unique to Malawi or the developing world; many people show signs of "hyperbolic discounting," whereby they disproportionately value today's

money over tomorrow's (Laibson, 1997). It is easier for people to consider forgoing consumption in the future than in the present. This is compounded by the tendency for people to procrastinate on decisions and maintain the status quo. Farmers are thus left to their own devices in the absence of formal mechanisms that encourage self-control, such as savings accounts.

Indeed, there is a noticeable lack of formal banking services and outreach in rural areas of Malawi. Banks are typically hesitant to engage with this population, and limited infrastructure to provide distribution in rural areas further compounds the lack of access to finance for farmers. This creates a vicious cycle: banks avoid catering to small farmers (partly because they have no savings to leverage) and farmers have difficulty saving because they cannot access banking services. Some farmers have access to microfinance loans, which can be useful in the short-term but often charge high rates of interest and may lead to long-term debt.

Limited options are available for farmers who want to save rather than take on debt. Some use informal means for savings, such as storing cash or inventories. However, farmers deal with mostly perishable goods that cannot be saved for long periods. The lack of other options leads to different forms of savings in groups. Collective savings exist in both explicit and implicit forms. In some cases, there may be an "informal insurance network" in which a farmer's excess income is collected and redistributed to other local farmers in need (Goldberg, 2009). There are also ROSCA's (Rotating Savings and Credit Associations) that offer the chance for collective savings by taking a rotating schedule of deposits from individuals into a group account. Even in the absence of a formal sharing mechanism, there may be social pressure on farmers of a certain group (e.g. a club, cooperative or village) to share amongst one another.

Farmers in Malawi have unstable incomes, limited financial access and pressure to share with others in their group. All of these factors intensify the behavioral barriers to savings.

The Innovation: Commitment Savings Accounts

Given the myriad challenges to saving after the harvest—need for funds for everyday expenses, self-control problems, lack of banking services in rural areas, pressures to share with social networks—banking services tailored to the needs of farmers may overcome some of the obstacles to savings. In particular, commitment savings accounts address self-control problems by forcing customers to save for a certain period of time. Without such a restriction people are more likely to spend their savings, as they are generally impatient with money—many value it in the present much more than in the future. Commitment accounts play to this idea by letting people regulate themselves. By agreeing to commit, they are signaling that they may not trust themselves not to touch the money otherwise.

An evaluation run in the Philippines tested commitment accounts with great success. These accounts were designed so that the customer chose a savings goal (either a date or amount) that they had to reach before withdrawing funds. The bank also offered additional commitment mechanisms including a safe box (similar to a piggy bank) and automatic transfers. (Interestingly, the former was much more popular than the latter when given the choice.) The findings from this evaluation included an 82 percent increase in monthly savings balances for

those with commitment savings accounts compared to those with traditional savings accounts (Ashraf et al, 2005).

With the goal of increasing the reach of financial services, Opportunity International Bank Malawi (OIBM) conducted research on savings options for Malawians and found that limited options are available for saving for retirement (there is no pension system in the country). The bank believed that a commitment savings product could fill this gap.

The mission of OIBM, as part of the Opportunity International Network, is to provide financial services such as microfinance and micro-insurance in developing countries. (OIBM is one of over 20 affiliates that serve two million customers in the developing world¹.) OIBM offered a time-fixed deposit account to the general population. This account committed deposits by forbidding the customer from withdrawing funds for a set period of time and was pitched as a retirement savings device. As a result, it was used mostly by workers earning a consistent salary who were saving for retirement. Overall the product had low participation rates; it was unknown or inaccessible to most rural farmers since it had a fixed-time period for releasing funds for withdrawal and a high minimum deposit. In designing the new commitment savings product, OIBM sought to reach farmers and overcome behavioral obstacles by providing a convenient mechanism for planning savings. With this in mind, OIBM enlisted the help of researchers at the University of Michigan and the World Bank to help design a new product that would appeal to rural farmers.

The researchers speculated that they could increase farmers' savings if the accounts were designed to address the barriers farmers faced, primarily self-control and sharing norms. They designed a new commitment savings product that added two key features to OIBM's original savings account: direct deposit and choice of withdrawal date.

The direct deposit feature involved the automatic transfer of income from tobacco sales to each individual's account. The new mechanism capitalizes on "status quo bias" whereby people will typically comply with the default choice set for them (Kahneman et al, 1991). If the default is such that a certain amount is directly transferred, the individual should be less likely to change it later. In the case of Malawian farmers, this feature also addressed the propensity for sharing with others in the group by making savings private instead of public.

With the new commitment accounts, the customer was told to set a date until their funds could be withdrawn. This additional flexibility was meant to provide the farmer the option of choosing how long to pre-commit. Research on pre-commitment of savings has found that it is easier for people to save future money than current money (Benartzi et al 2003). This feature uses the customers' self-awareness and demand for commitment devices, since they know that left to their own devices they might spend the money. Pre-committing to saving until a certain date should provide a feeling of safety with the knowledge that the money cannot be spent impulsively in the interim (Ashraf et al, 2003). The money also could not be shared with the group during this period.

¹ For more information on the global network see: www.opportunity.org

Design and Implementation

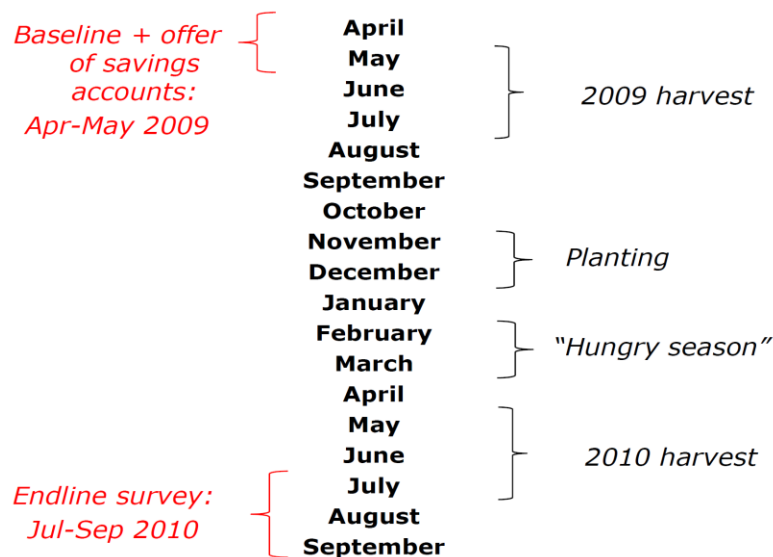
Product Design

OIBM enlisted the support of researchers at the University of Michigan and the World Bank to help develop and implement a commitment savings product for farmers in rural Malawi. The researchers thought the product needed to be designed with farmers’ income cycle in mind. Since farmers’ incomes are seasonal and fluctuating, it was not helpful for the bank to impose a strict date for withdrawing funds. They also believed that farmers were under social pressure to share any excess wealth with the rest of their group. This social norm might then compel someone to spend their additional income in anticipation of having to share it.

The process of tailoring the product to rural farmers involved changing the existing commitment accounts at OIBM. New features were added to improve take-up, ensure commitment compliance and conform to the needs of rural farmers in Malawi. This new product was developed to bring financial access to farmers and help overcome behavioral barriers to savings.

As it is difficult to persuade farmers to save money in hand, committing to saving future money not currently available should be easier. Allowing the customer to commit to save future income and set their own withdrawal date should better suit their needs. The new product, therefore, required that the customer set a date of withdrawal; they are not able to touch their savings until that date. The new product was offered during the “hungry season” of 2009 when farmers typically lack funds while they wait for the harvest. This is an effective design feature since their lack of savings is on the farmer’s mind in this period, and they can commit to saving for the next planting season. Figure 1 shows the timing of the offers during the farming cycle.

Figure 1: Timing of Experiment with Farming Cycle



Source: Brune et al, 2010

The researchers also speculated that adding a direct deposit feature would facilitate commitment. This feature capitalizes on people's preference for the status quo and (with the pre-committed withdrawal date) makes it easier to save money in the future. Automatic deposit removes the barrier of the customers themselves, as they are likely to spend available money rather than save. As a result, the product was designed to directly transfer revenue from tobacco sales into an individual's savings account².

The new product went through the bank's usual approval process: establishing the idea of a commitment savings product, approving further research with a focus on long-term sustainability, evaluating product requirements, and finally launching the product for testing. The commitment savings product is in its first iteration and may change in the future to further cater to the needs of rural farmers.

The commitment savings product contributes to responsible financial inclusion by providing a convenient and affordable savings account to rural farmers. The product targets those that have previously lacked access to formal saving services. Farmers' groups received a tutorial providing information on savings and how to open the account. As with traditional savings accounts, the commitment savings product is free and provides customers with a small rate of return. The commitment mechanism allows farmers access to funds when they most need them while also enabling them to set aside excess income for future use. They therefore no longer resort to "living without" or taking loans at high interest rates.

Pilot Testing

The new commitment savings product was pilot-tested in April 2009 using a randomized-control trial design, which, in its simplest form, means that a randomly-selected population receives a treatment ("treatment group") whose outcome is measured against those who do not receive the treatment ("control group"). In essence, this type of experiment tries to isolate the effect of a given treatment. In this case, the treatment was offers of two different forms of savings accounts (ordinary and commitment) and the outcomes enable comparisons of the impact of both types on farmers' savings.

Farming clubs were randomly selected into three groups (two treatment groups and one control group):

- **Treatment Group 1** – offered ordinary savings accounts with direct deposit, account opening assistance and information workshop on savings
- **Treatment Group 2** – offered same as Group 1 with commitment feature (customer sets withdrawal date)
- **Control Group** – offered only information workshop on savings.

This is referred to as an "intent to treat" design because not everyone in the treatment groups actually received treatment; they were merely offered the choice to enroll or not enroll in a

² Each club was associated with large, commercial buyers that were given the exclusive rights to purchase crops first at the auction. See Brune et al (2010) for more information.

particular savings account. The control group was given the same information workshop as both treatment groups but did not get an offer for a savings account. Comparing Treatment Group 2 to Treatment Group 1 reveals the impact of the offer of commitment on farmers' decisions to open accounts (since both were offered ordinary savings accounts) and comparisons of Group 1 to the Control Group measure the impact of the direct deposit feature and the offer of opening ordinary savings accounts on decisions to open accounts.

Customer Outreach

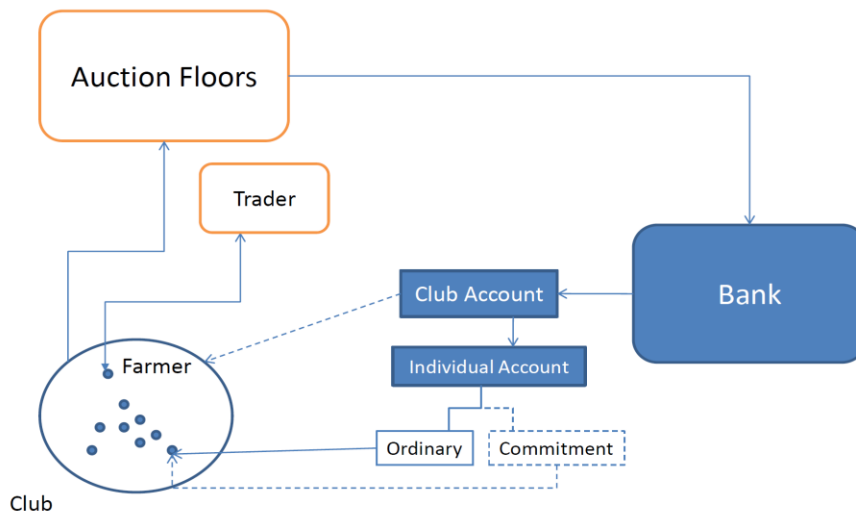
All farming clubs offered the commitment savings product were existing OIBM customers that had taken out joint liability group (JLG) loans with the bank. JLG loans are given at the club-level with every farmer in the club partially responsible for repayment. Nearly 300 clubs (with an average number of 10 tobacco farmers) were chosen for the study, with roughly 100 clubs in each group (a total of 3,150 farmers split between two treatment groups and one control group).

Everyone in the pilot was given a workshop on the benefits of savings. For those in the treatment groups wanting to open savings accounts, the researchers immediately helped farmers open their accounts by recording all necessary information right then. This is important from a behavioral perspective since the farmer would be less likely to follow through if they had to open the account themselves later on.

Distribution of Funds

When farming clubs take out JLG loans they are legally obligated to repay the loans after their crops are sold. Sales from farming auctions go directly to the bank and then to a club account and cannot be moved into individual accounts until the JLG loan is paid off. The flow of funds is shown in Figure 2.

Figure 2: Flow of funds to farmers



Source: Brune et al, 2010

In theory, the researchers wanted farmers' revenue to be protected at the individual level by allowing funds to be deposited directly into individual savings accounts. However, this became difficult in practice because of the rules surrounding JLG loans. With all proceeds from individual sales going directly to club accounts, it was hard to determine how much individuals were owed. Finally, they turned to representatives at the clubs to fill out a form specifying what each farmer was owed, which was then deposited into that farmer's account. As a result, the direct deposit feature was enabled but with an extra step that caused minor delays.

Individual accounts came in ordinary savings and commitment savings forms. For those with commitment accounts, funds were transferred first to ordinary savings accounts then when this reached a certain threshold (set by the customer) funds would flow to the commitment account. In addition, farmers could set a maximum amount for their commitment account; once this was reached funds would then go back to the ordinary account. This distribution system ensured that farmers were never without access to funds as they had access to their ordinary savings account at any time.

Results

Impact on Farmers³

OIBM offered the traditional and commitment savings accounts in April 2009, around the end of the “hungry season” and just before the summer harvest. Surveys were administered periodically to 3,150 farmers through the next season's harvest in the summer of 2010. OIBM and the researchers tracked the use of the savings accounts against the farming cycle (see Figure 1). Theoretically, commitment accounts should induce farmers to save funds during pre-planting, have access to more funds for inputs during planting, and consume more during the late-planting season (“hungry season”). In practice, the commitment mechanism achieved these goals remarkably well.

During the pre-planting period (March through October), both commitment and ordinary savings accounts led to higher net savings, also showing statistically significant results for higher deposits and withdrawals when compared to the control group. Interestingly, most farmers committed to saving until after the 2009 harvest. This allowed them to purchase more seeds and fertilizer to prepare for the next planting period (November through April).

The evidence also pointed to more withdrawals during the “hungry season” from farmers that were offered accounts. In this period, the farmer typically has to wait and tend to their crops to ensure a plentiful harvest but has no income flow. There was a statistically significant difference in withdrawals (MK 1,400 more in net withdrawals—total withdrawals minus total deposits) during this period for those offered commitment accounts when compared to those in the control group. This increase allowed committed farmers to smooth consumption during planting for the

³ This section summarizes results from: Brune, Lasse, Xavier Gine, Jessica Goldberg and Dean Yang, 2010. *Commitments to Save: A Field Experiment in Rural Malawi*, Working Paper, October 2010.

next season, which was a primary goal of the product. The group offered only ordinary accounts had more withdrawals than the control group but the difference was not statistically significant.

The commitment savings product had positive impacts on the amount of planting for the next season, sales from the next harvest, and consumption after harvest. Committed farmers spent 26 percent more on inputs, had increased sales by 22 percent and consumed 17 percent more after the harvest compared to the control group. Moreover, these outcomes were higher for the commitment group across all categories compared to the outcomes from ordinary savings accounts. All of these results were statistically significant for the commitment group but none were significant for the group with only ordinary savings accounts.

A majority of farmers that opened commitment accounts chose withdrawal dates just before the next planting season, showing they understood the benefits of the commitment mechanism. One possible explanation was that they knew when they would need savings most and wanted to “keep their hands tied” in the interim. Complications after farmers made the commitment provide evidence to support this argument. Some farmers actually wanted to back out of the commitment after setting their withdrawal date and complained to the bank. The researchers explained to the bank that while the farmer’s “present self” may be upset, their “future self” would thank them later when planting season came.

However, the researchers believe that self-control was actually a less important factor than the protection the accounts provided from social sharing norms. This was seen when there was no significant correlation of opening commitment accounts with having hyperbolic preferences (i.e. impatience with money), based on farmer surveys. (This was in contrast to findings from the study in the Philippines where those with hyperbolic preferences were more likely to use commitment accounts) (Ashraf et al, 2005). Therefore, the researchers speculated that individuals may be less likely to save if others in their group expect them to share money that the individual does not need immediately. This may cause an individual to either spend more immediately or try to keep excess income a secret. The existence of sharing norms makes the social implications of individual commitment more ambiguous, since others in the farmer’s group do not have access to funds from committed farmers⁴.

Profitability

The new commitment savings product is still unavailable outside of the pilot. OIBM still offers the older version of the commitment account to the general public but it has yet to earn a profit. It is important to note that one of the bank’s key criteria is long-term sustainability, and OIBM had no expectation that this type of account would be profitable in the short-term. The bank typically makes a profit from ordinary savings accounts but because of a small percentage of customers that carry high deposits.

The profitability of commitment accounts is yet to be seen and will depend on how much more people save with commitment and how long the deposits remain in the bank. Interestingly, there

⁴ Researchers also tested the effect of public and private lotteries to see if farmers would be more willing to commit to savings if their new wealth were well-known. There was no conclusive evidence that this was the case but there is certainly room for more study on this subject.

has been increased interest in the original commitment accounts from those that participated in the pilot. The addition of new features, such as direct deposit and flexible withdrawal dates, may increase take-up and compliance—especially if the product is tailored to farmers’ income cycle.

The benefits compared to regular savings accounts and individual loans (which typically charge high interest rates) might persuade potential customers to pay a small fee for the commitment service. This could allow for scalability and lead to future profitability for the commitment savings product. The researchers demonstrated the value of the commitment accounts (with direct deposit) by calculating a benefit-cost ratio of 3.87⁵. The benefits to farmers in the form of increased profits far outweighed the costs of opening accounts and conducting transactions—the difference (i.e. net benefits) amounted to MK 18,000.

Lessons Learned

For Design

The commitment product has been pilot-tested in the field and more iterations are forthcoming. However, its design and development offer lessons for other commitment products:

- ***Direct deposit is an effective delivery mechanism:*** Commitment savings accounts can effectively use direct deposit as a default setting, capitalizing on both a greater willingness to forgo future income than present income and people’s desire to keep the status quo. It is easier for the customer to save if funds flow directly into the savings account. However, direct deposit on its own is not sufficient for increasing savings, as shown by the insignificant outcomes for farmers with ordinary savings accounts.
- ***Prevent excessive commitment:*** Commitment is a delicate issue and the customer should not be unfairly limited during the commitment phase. This study treated the commitment accounts as a secondary income source, distributing funds first into ordinary savings accounts so that customers always had some funds available. It should also be expected that some regret their decision when they cannot access the funds in their commitment account, and trainings and informational materials should make this feature explicit.
- ***Encourage ownership through customer goal setting:*** This commitment product did not prescribe savings goals or dates to the customers but let them decide for themselves. However, most customers chose a date that worked to their benefit. This added flexibility also made the account more attractive, especially for farmers with cyclical income streams.

⁵ Costs included those incurred by the bank and customers for opening accounts and conducting transactions. Benefits were derived from the increase in farmers’ profits from having commitment accounts (along with direct deposit). The net benefits to the bank were negative but low (MK 3,400) leaving a highly positive benefit-cost ratio from a societal perspective because of the significant net benefits to farmers.

For the Product Innovation Process

The commitment accounts showed highly positive results but the following should be noted when implementing a similar product in the field:

- ***Profitability should be a long-term goal:*** Although the benefits to farmers are clear, it remains to be seen whether commitment accounts will be profitable for OIBM, but this type of product is not designed to yield an immediate profit. Commitment products can help establish a relationship with the customer, which takes time to develop. If people succeed with short-term commitments (such as planting cycles), they may be more willing to commit to long-term saving goals (such as retirement).
- ***Individual distribution is difficult under group settings:*** In this case, the distribution of funds was originally designed to flow directly to individuals' accounts. However, with joint liability group loans it was difficult to determine what each farmer was owed without going to representatives of the club. This in turn made it difficult for funds to remain private. It may be easier to implement commitment savings products with farmers and cooperatives without JLG loans.
- ***Social norms are powerful motivators:*** The study showed commitment accounts have a large impact on savings yet they concluded that this was mostly due to pressure for sharing with the group. Individuals may be more likely to commit funds or, in the absence of commitment devices, spend their money in order to avoid sharing. This is important to keep in mind when instituting individual interventions in a group setting.

Future Improvements

The commitment product is in its beginning stages of development and more exploration is needed. Firstly, the pilot testing did not isolate the impact of having direct deposit on savings. Both OIBM and the researchers are curious to test this feature on its own. They would also like to develop an automated system for directly depositing funds from club accounts in individual accounts, which requires more research from the field. More work is also needed on evaluating the impact of the farmers' social networks on savings.

OIBM is looking at ways to further scale their original commitment product and incorporate lesson from the pilot. For instance, they are considering incorporating commitment accounts into their SMART mobile banking system. The SMART card is an access key that is currently used to transfer money, receive payments and pay bills. The card is not currently tied to the OIBM commitment account but the bank believes it could encourage savings by providing easier accessibility and fluidity between accounts.

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