Supply and Demand Challenges in Banking the Rural Poor: Evidence from Kenya[*]

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Abstract

The majority of people in rural Africa do not have bank accounts. We combine survey and experimental evidence from rural Kenya to document supply and demand factors which help to explain such low levels of financial inclusion. In our experiment, we waived the fixed cost of opening an account. We find that 18% of people actively used their account. Many of those who did not use the account report that this is because they do not fully trust the bank or because withdrawal fees are prohibitive. Available credit options are also unattractive to the great majority of individuals in our sample. Our results suggest that while simply expanding access to banking services (by, for instance, lowering financial barriers to ownership) will benefit a minority, broader success may be unobtainable unless the quality of services is simultaneously improved. On the demand side, many questions remain. Many people who report that formal banks are their preferred saving tool still do not use formal accounts. More work needs to be done in understanding what savings products would be better tailored for these individuals.

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1. Introduction

Access to basic banking services in Sub-Saharan Africa lags far behind the rest of the world, even compared to developing countries. Kendall et al. (2010) show that the average number of bank accounts per adult is 3.2 in developed countries, but only 0.9 in developing countries and less than 0.5 in Sub-Saharan Africa. Banking access in rural areas, where a large proportion of the population continues to live, is even more limited. Representative household survey data we collected between 2009 and 2011 suggest that only 21%, 20%, and 15% of households are banked in rural areas of Western Uganda, Western Kenya, and Southern Malawi, respectively. Such limited access has potentially important repercussions on people's lives. If lacking a formal bank account makes it more difficult for people to save, they will be unlikely to have enough saved up to cope with unexpected emergencies such as household illness (Dupas and Robinson, 2009). When such shocks occur, rather than withdraw money or take a loan from the bank, people might have to take much costlier actions.[1] Lack of banking access might also make it difficult for people to save up large sums or obtain credit for lumpy purchases such as start-up costs for a business, agricultural inputs, or even preventative health products like bednets.

Such scarcity of financial services suggests that providing even very basic savings and credit services could have large effects. While recent studies suggest that expanding access to microloans alone has only modest effects on most outcomes (i.e. Banerjee et al 2010; Crépon et al 2011; Karlan and Zinman 2010), earlier studies of banking programs that increased access to both credit and savings services have found important welfare impacts (see Burgess and Pande, 2000 in India; and Aportela, 1999, Bruhn and Love, 2009 and Ruiz, 2010 in Mexico). Expansion of saving services alone also appears to have the potential to be beneficial. In a previous randomized controlled experiment in Kenya, Dupas and Robinson (2009) provided small-scale entrepreneurs access to accounts in a local Village Bank, and found large effects on business investment and income among a subsample of the study population (market vendors and artisans). In a similar experiment in Nepal, Prina (2011) also finds large impacts of expanding access to savings accounts for women.

[1] Examples of such costly actions include taking children out of school to work on the farm (see Ferreira and Schady, 2009 for a recent review article), selling off business inventory (Dupas and Robinson 2009) or productive animals (Rosenzweig and Wolpin 1995), or engaging in income-generating activities which entail health risk (Robinson and Yeh 2011).

In line with these encouraging,early results, policy makers and international agencies have recently turned their focus towards enabling savings. For example, in 2006 the Reserve Bank of India urged all Commercial Banks to introduce free "no-frills" accounts in order to expand financial access to the poor. In 2010, the Bill and Melinda Gates foundation pledged $500 million over 5 years towards increasing access to savings accounts in poor countries.

The current conventional wisdom is that rural banks need to be given more resources so that they can enroll more people into their branches, for instance by lowering fees. There are, however, many open questions about the impact of simply expanding access to existing services. First, comparatively little attention to date has been paid to the *quality* of financial services in very rural areas. If people are not banked because they do not trust banks, because they find services to be unreliable, or because account maintenance or withdrawal fees are prohibitive, then expanding such flawed services is unlikely to be appealing to them. Second, on the demand side, little attention has been paid to understanding reasons other than access for why people may choose to eschew the formal banking system. This paper combines survey and experimental evidence to show that addressing these supply and demand factors is crucial if financial services are to be expanded usefully to unbanked populations.

Our case study takes place in an area spanning multiple villages surrounding three rural market centers in Western Kenya, and in which banking options remain very limited. Most banks in Kenya (including PostBank) only have branches in major towns. This study takes place in an area far enough away from such towns that the travel cost is prohibitive. Locally, there are only two options: a "Village Bank" affiliated with a microfinance organization and a partial-service branch (including an ATM) for a major Commercial Bank. Both the Village Bank and the Commercial Bank have a non-trivial minimum balance requirement and withdrawal fees (and in the case of the Village Bank, account opening fees). Neither bank pays interest on deposits.

To examine financial access among this population, we conducted a census of 1,898 households in the study area between September and December 2009. Account ownership was quite low: only 20% of households had at least one member with a bank account. Knowledge of banking options was also limited, as only 60% of adults knew of the bank branches in the study area. Almost no one knew the fee schedule for account opening or maintenance.

Our next step was to test for the role of entry costs (information acquisition, account opening fees, and administrative requirements) in the low rates of account ownership. To this end, we

randomly selected 1,565 individuals (from 989 households that were totally unbanked as of 2009) to receive a free account at either of the two local banks in May 2010. We paid the account opening fees (including the minimum balance when applicable) and arranged for the banks to simplify the account opening procedure for our study participants (i.e. assist them with the paperwork and identification requirements, etc.). However, we did not waive withdrawal fees. The majority of people opened accounts when offered this opportunity: take-up was over 60%. But actual account usage was much lower. Only 28% of those who opened an account (18% of the overall study sample) actively used formal banking services (we define "actively using" as making at least 2 deposits within about a year of opening).

Why didn't the other 80% of our sample use the accounts? To shed light on this question, we administered qualitative surveys in which respondents could discuss their concerns with the various savings mechanisms available to them. A significant proportion listed risk of embezzlement, unreliable services, and transaction fees as concerns with formal banking. These concerns are valid: one branch of the Village Bank had a recent banking scandal and the services in another are relatively poor. Not surprisingly, we find that trust concerns are more pronounced for the branch with the recent scandal, and reliability concerns are worse for those near the other branch. Interestingly, these concerns were reinforced by exposure to the bank: those who did use their account were more concerned with both the risk of fraud and the lack of reliability than those who did not use the account. .

We use a similar combination of survey and experimental evidence to examine the demand for formal loans. Both banks in our study area provide loans at a 1.5% monthly interest rate (19.5% APR), well below that of many microfinance banks in other parts of the world,[2] and well below recent estimated returns to capital, including estimates from previous work in this part of Kenya.[3]. Yet, very few people take out loans. Of those in our experimental sample, only 6% had ever applied for a formal loan at baseline. As with savings options, knowledge of loan options appears extremely limited – very few people know what the conditions are for loans with either bank. Further, when asked, very few people reported wanting loans for agricultural inputs such

[2] Kneiding and Rosenberg (2008) report an average APR of 35 percent. The average in Kenya is over 50 percent per year. See Armendáriz and Morduch (2011), Morduch (1999) and Demirguc-Kunt et al. (2009) for more background.
[3] See, for example, de Mel et al. (2008), Fafchamps et al. (2011), McKenzie and Woodruff (2010). For Western Kenya, see Kremer et al., 2011, and Dupas and Robinson (2009).

as fertilizer, despite the high estimated returns to usage in Kenya (Suri 2011; Duflo et al., 2008, 2010).

To better understand why people do not take up loans, we conducted a randomized credit intervention with two components: (1) an information intervention in which we told people about the requirements and procedures to apply for a loan; and (2) an intervention in which we gave people a voucher to waive the requirements necessary to begin taking out loans with the Village Bank. Though the vast majority of people took those vouchers, and 40% redeemed them, only 3% of our experimental sample had applied for a loan at the time of writing (6 months after the credit information and voucher interventions). Preliminary evidence from qualitative surveys on barriers to borrowing suggests that the fear of losing one's collateral if one cannot repay the loan is the primary deterrent. These results are in line with numerous recent studies in microfinance which show limited demand for microfinance at market rates (i.e. Johnston and Morduch 2008, Banerjee et al 2010, Crépon et al. 2011). They are also roughly consistent with a recent informational experiment in Sri Lanka which found that only 10% of entrepreneurs who were given information about credit options took out loans (de Mel, McKenzie and Woodruff, 2009).

Overall, our data reveal a number of challenges with the current supply of financial services. Simply expanding those existing services is not likely to massively increase formal banking use among the majority of the poor unless quality improves and trust in financial institutions is restored. Indeed, Kenya, like many African countries, has a history of banking crises, pyramid schemes, and financial scandals, and consequently trust in financial institutions tends to be lower than in more developed countries. In addition to trust concerns, the fact that options have been so limited for so long also means that many people have very limited experience with formal banking generally. People consequently appear both confused and intimidated by formal banking. This problem is only exacerbated by unreliable service, high withdrawal fees, and recurring banking scandals.

Supply quality is not the only challenge, however. Many people who do not list trust or reliability as barriers still do not use the accounts even after we paid the opening fees and minimum balance. Many of these people are at least interested enough to take the time to open a formal bank account, but yet they do not use it. When asked why, many people say that they simply have too little money to save or that their expenses are too high. While a lack of

disposable income is no doubt part of the explanation,[4] it is likely not the whole story. A savings account in a bank relatively far from home may simply not be well tailored for people who can only save in very small increments. Providing a more convenient place to save, or stronger incentives to make deposits, may be more effective. For example, Dupas and Robinson (2011) find that people save quite readily if provided with a lock box and key which they can keep at home.[5] Also, they find that providing people with a credit incentive to make deposits, and social pressure to continue to make them, is extremely effective in mobilizing savings. Duflo et al. (2010) find that providing people with small incentives to set aside money for fertilizer when people have money (after harvest) increases fertilizer investment. Other recent papers have shown how providing people with reminders to save can also be quite effective (Kast et al 2011; Karlan et al. 2011). Indeed, in developed countries like the US, where income is received and many expenses are paid electronically, it is has been well documented that savings can be most effectively mobilized when the savings is "unseen," for example when wage increases are put into a savings account (Thaler and Benartzi 2004) or when people are automatically opted in to a certain 401(k) savings level (Carroll et al., 2009). Designing such products in a much more cash-based economy may be difficult, but is worth exploring.

One promising recent development in banking along these lines is agent-based (for example, making deposits and withdrawals in a local shop) or mobile banking through a cell phone. Our results suggest several avenues to improve the design of such banking systems to encourage greater usage. In Kenya (the world leader in mobile banking), the mobile banking infrastructure is not fundamentally different than the Village Bank we study here. People must find an agent to make a deposit, fees are substantial, and balances pay no interest. Consequently, even in Kenya, very few people save on their cell phone (Mbiti and Weil 2011). Though respondents in our sample are much more trusting of the company which provides mobile banking than of formal banks, deposits are still uninsured. Recent efforts have been devoted to linking mobile money deposits to formal bank accounts with deposit insurance. This step is a promising development to make people feel more secure in the money they deposit.

[4] In previous work (Dupas and Robinson, 2009) we find that richer people are more likely to use the accounts. We find similar results in a companion paper to this one (Dupas et al. 2011).

[5] Providing people with boxes was based on findings in Ashraf et al. (2007) which provided people with boxes (which were locked, however).

Finally, our findings suggest that simply providing access may not induce everyone to save in formal banking mechanisms. For people whose savings barriers extend beyond access, more nuanced products might be necessary. In fact, the value of mobile money may be in largely making savings more electronic; it might be less costly, both in terms of transportation and time, to transfer an electronic balance to a linked savings account than to physically take cash to the bank during operating hours. It may also be less painful psychologically to devote electronic money to savings rather than to physically put cash into a savings account.

Ultimately, while this paper flags a number of challenges and raises a number of questions, it also highlights the potential promise of expanding banking services. To the extent that trust and unfamiliarity with banks are major reasons why people are hesitant to take up accounts, it is remarkable that a non-trivial share of people take up accounts which feature hefty withdrawal fees and offer no interest (while inflation averaged 10% in Kenya over the study period). That 18% of people use such accounts might suggest significant latent demand for savings services – if the right products can be provided.

2. Background Information on Rural Banking

2.1. Banking Options in our Study Area

Our data comes from farming villages surrounding three market centers in Western Province, Kenya. For confidentiality purposes we call these three market centers A, B and C. Two separate financial institutions operate in this area, a Village Bank and a Commercial Bank.

The Village Bank is a community-owned and operated entity that receives support from a local MFI. The Village Bank has three branches in our study area: the main branch located in market A, operating since 2000, a smaller branch in market B, which opened in May 2008, and a part-time branch in market C, which opened in September 2009, that only handles account opening, deposits and loan applications (withdrawals can be made at either of the other two branches, a bit over 11 km away. Branches in markets A and B operate Monday through Friday, 8:30am to 4pm, and on Saturdays, 8am-1pm; the branch in market C is only open Monday, Wednesday and Friday 9am-4pm.

The second local financial institution, the Commercial Bank, is a small branch of a large corporate bank. This storefront branch opened in market A in November 2008, offering account-opening services, accepting loan applications, and handling deposits and withdrawals through an ATM machine, with staff on-hand during regular business hours to assist with ATM transactions. The branch is open Monday-Friday, 8.30am-4pm, and 8am-12pm on Saturdays. The main, full-service branch, where tellers process loan applications and handle transactions, is located in a town 30 km away.

2.1.1. Savings Products

The Village Bank offers just one type of account, with no interest. Opening an account at the Village Bank costs 450 Ksh ($7, minimum balance amount included). Deposits can be made at no cost, but each withdrawal incurs a fee that increases non-linearly with the size of the withdrawal.[6] No ATM services are available, so savings are illiquid beyond the opening hours mentioned above.

The Commercial Bank offers two types of savings accounts: an account with no minimum balance requirements for clients under 35 years old, and one with a 200 Ksh ($2.40) minimum balance requirement but no age limit. Each account comes with a free ATM card.[7] The bank charges 30 Ksh ($0.38) for withdrawals of any size from the ATM, and 1,00 Ksh ($1.20) for withdrawals of any size made with at an urban branch. The account pays no interest unless the customer maintains a balance of 20,000 Ksh ($250) for at least a 3-month period, in which case an interest of 2% is paid.

2.1.2. Credit Products

Both banks offer credit products, however the terms for borrowing vary quite a bit across the two institutions. The Village Bank, like many MFIs, requires the formation of a group of at least 5 people who approve the purpose and amount of each other's loans, and who serve as mutual guarantors. In addition, the bank requires borrowers to attend several training sessions on loan

[6] The withdrawal fee is 10 Ksh ($0.12) to withdraw amounts under 1000 Ksh ($11.50), 20 Ksh ($0.25) to withdraw amounts between 1,000 and 4,999Ksh ($58), and 100 Ksh ($1.20) for amounts of 5,000 Ksh or higher.
[8] To give a brief picture, there have been recent scandals in Nigeria (ILO News, 2009) and Kenya (Business Daily Africa, 2010).

management and to purchase bank shares, valued at 300Ksh ($3.75) each. Borrowers can borrow up to four times the value of shares owned.

The Village Bank offers several different types of loans. The first type of loan is for existing small businesses (formal or informal) with a term of 9 months and a monthly interest rate of 1.25%. Loan officers visit borrowers' businesses to assess viability and their homes to evaluate collateral. For large, business-related equipment investments another loan type is available with the same interest rate and a term of 15 months. Borrowers can also take out short-term loans for business inventory items for a period of several months at twice the interest rate. Finally, the Village Bank offers consumption and emergency loans for 9 months at 1.25% and 6 months at 2.25%, respectively. Only after successful repayment of 6 group loans can one apply for an individual loan.

The Commercial Bank grants microloans for existing businesses to individuals who have had an account at the Commercial Bank or with another Commercial Bank for at least 3 months, and after a positive evaluation of their savings activity and a visit to the business. Loan terms are 6 months, with an interest a rate of 1.5% per month. Two guarantors and collateral are required for each loan.

Besides these two banks, credit is available from a third institution called Kenya Women Finance Trust (KWFT). KWFT did not take deposits at the time of this study, and it only loaned money to women who had a licensed business.

2.2. History of Banking Crises

The Village Bank in our study area suffered a financial scandal at its main branch (in market A) shortly after we started working in the area. The branch manager was fired for embezzlement, resulting in a months-long liquidity crisis during which existing customers were barred from withdrawing funds over $12 a day per customer. During the crisis, the satellite branch in market C was temporarily closed.

This scandal is all too typical of Kenya's banking history, as well as that of Sub-Saharan Africa generally. The 1980s and 1990s were host to a rash of private banking crises in several African countries (Caprio 1996; Brownbridge 1998). Kenya suffered 37 bank failures over the period (Waweru and Kalini 2009) and many banks closed or were taken over by the government.

In neighboring Uganda, four commercial banks, holding over 12% of the nation's deposits, closed in just a 13-month period spanning 1998 and 1999 (Brownbridge 2002). Poor-performing loans – often made through insider lending (as was the case of the Village Bank in our study area) – are the most common reasons for the institutions to fail. Improved prudential regulation and government support, including the advent of deposit insurance, may have contributed to a reduction (and a tempered impact), but not an elimination of the problem (Central Bank of Kenya 2008), as scandals continue to make headlines in the present.[8]

Systems designed to make banks more transparent and efficient have led to new avenues for deposit theft and other fraud. Studies by Kenya's Banking Fraud Investigations Department (cited in Business Daily Africa, November 25, 2010) and Deloitte (cited in the Daily Nation, May 4, 2011) show how technology, such as electronic transfer systems, electronic clearing systems, and other computerized services have enabled criminal activity at all levels of the banking hierarchy as well as among outsiders. Identity theft, loan fraud, forgery, and other forms of fraud to steal from depositors have led to the loss of 3 billion Ksh in Kenya alone in 2010 (1.7 billion Ksh of which were later recovered) (Daily Nation, 2011).

Government banks themselves are certainly not immune to the problem. Several scandals involving embezzlement and laundering of Central Bank funds have been well-publicized and have resulted in the losses of millions of dollars as well as the erosion of public confidence (see, for example, the 2005 $120 million Bank of Tanzania scandal which lead to the sacking of its Governor (BBC 2008), and Kenya's notorious Goldenberg scandal of the early 1990s, which led to an estimated $600-850 million losses through false investments in non-existent companies (Karanja 2003; Warutere 2005)).

While many of these scandals have been at a high level and have not affected the accounts of small-scale savers, this history of bank scandals has quite understandably generated public distrust of financial institutions across much of Sub-Saharan Africa. As we will show, such distrust (which is quite rational) is a major barrier to bringing financial services to underserved areas.

[8] To give a brief picture, there have been recent scandals in Nigeria (ILO News, 2009) and Kenya (Business Daily Africa, 2010).

3. Study Sample, Design and Data

3.1. Sample

We first conducted a census of all households living within a 4 km radius of the three market centers in our study area. The census survey collected information on demographic characteristics of the household, sources of income, as well as access to financial services, knowledge and perceptions of available financial services, and saving practices more generally.

A total of 1,898 households were surveyed during the census exercise. Table 1 presents some summary statistics on those households, separately by market area. The average household size is just below 6. While almost all households have a female head living in the homestead, a relatively large fraction (31%) of households do not have a male head living in the homestead. This is the result of two main factors: (1) it is much less common for a widow to remarry than it is for a widower; and (2) some men leave their family behind as they go look for work in urban areas. Polygamy is still somewhat prevalent, in 8% of households. The average household in the study area owns just under two acres of land, and has just above 4,000 Ksh ($50) in animal assets. Almost half (47%) of households own a cell phone.

Table 2 presents statistics at the individual level, separately for female and male heads. The education level is relatively low on average, with just about 6 years of education for women on average and 8 years for men. Just above 60% of women and close to 90% of men are literate. About two thirds of women report farming as their primary activity, while only a third of men do.

Of the 1,898 households in the census, 989 were selected to participate in the randomized experiment. The remainder of the households was excluded from the experiment, either because they already owned a bank account, did not have a female head, or had more than one female head.[9]

All in all, the restricted experimental sample is composed of the relatively poorer households in the area. As shown in Tables 1 and 2, they have fewer assets, own less land, and are less educated on average than the overall population. The final sample of initially unbanked

[9] Male-head only households were excluded because there were few of them, making it impossible to estimate impacts for that subgroup. Polygamous households were excluded because there are relatively few of them as well and because measurement of expenditures and savings in such households is very difficult.

individuals with which we conducted the experiment consists of 1,565 individuals from 989 households, aged between 18 and 75 years.

3.2. Experimental Design

3.2.1. Savings

Among the restricted experimental sample, 55% of participants were randomly selected to receive nominal, non-transferable vouchers for a free savings account at the Village Bank. Among them, those living within 4km of Market A (where the Commercial Bank has an ATM) received a voucher redeemable at either the Village Bank or the Commercial Bank. The vouchers covered all account-opening fees (where applicable), and the financial institutions agreed to waive the minimum balances. Enumerators visited the homes of selected study participants to deliver the vouchers and explain how the bank and the account worked, and when and how to redeem the voucher, which expired 2 weeks after delivery. Commercial Bank customers had to return to the bank branch 2 weeks after opening an account in order to pick up their ATM cards and receive training in their use.

The random assignment of the account vouchers was done after stratifying by household composition and occupation. Among households with no male head, 50% were randomly selected to receive an account voucher. Among households with both a female and a male head, 20% of households were selected to receive no voucher; 30% were selected to receive two vouchers, one for each head; finally, 25% were selected to receive a voucher for the female head only and 25% were selected to receive a voucher for the male head only.

3.2.2. Credit

In February 2011, among individuals in the restricted experimental sample who had not been selected for an account voucher, half were randomly selected to receive information about local credit opportunities. Enumerators visited those individuals at their homestead and went through a detailed script explaining the rules and procedures to obtain a loan from either of the two local institutions.

Also in February 2011, 50% of individuals who had received an account voucher were randomly selected to receive the information script about local credit opportunities, along with a voucher redeemable for one free share at the Village Bank (valued at 300 Ksh, or $3.75). Since

having at least one share is a requirement for accessing credit at the Village Bank, the random assignment of the Share Voucher generates random variation in loan eligibility.

3.3. Data

We use three main sources of data in this project. First, we have background information from the census. Second, all study participants that opened an account agreed to sign a waiver allowing their bank to release their bank statements to the research team. We use these bank statements to monitor the saving activity as well as the credit history of our restricted experimental sample. Third, a qualitative survey was administered to a random half of the restricted experimental sample after 6 to 8 months. The survey asked respondents open-ended questions about their current savings practices, perceived barriers to saving, and perceptions of the various saving mechanisms available to them. For those who had received an account voucher but had not redeemed it, the survey also asked why they had not used their account voucher to open an account.

4. Rural Households and their Money: A Snapshot

In Tables 3 and 4 we present means from our census of households in terms of how households save. Table 3 present means at the household level, with a breakdown by household type. Table 4 present means at the individual level, with a breakdown by gender.

The first striking observation in Table 3 is the fact that access to formal saving services is very limited. Only 20% of households have at least one family member with a savings account. Overall, about 12% of households have accounts in a Commercial Bank, 8% in a Village Bank, and 3% in the post office savings bank (note that some households have multiple accounts, so these categories are not exclusive).

Interestingly, 25% of households have a mobile money account (that is, they can save money with their cell phone company, depositing and withdrawing cash for a fee with a local agent). However, most households do not save in such accounts and instead use them for transfers only

(Mbiti and Weil 2011). Nevertheless, the relatively high penetration of such accounts is promising for future expansion.[10]

In contrast to the low rates of participation in formal savings, savings through informal mechanisms is quite important – 53% of households have at least one member participating in a ROSCA, and 50% of households own animals. A ROSCA is a savings group (composed of 10 to 20 members, typically) that meets on a regular basis; at each meeting, group member makes a fixed, mandatory contribution which goes into a "pot" that is then assigned to one of the members. Each member gets the pot in turn. A ROSCA cycle thus requires as many meetings as there are members. Once a cycle is complete, a new cycle can start.

Many households also save in animals, which can be used both as a form of savings and as production assets. Savings in animals is least common in Market A, the most peri-urban of the three areas.

Of those who save informally in ROSCAs or animals, the amounts saved this way are not trivial – the average household reports saving over 7,000 Ksh in ROSCAs over the past year and owning about 6,000 Ksh ($80 US) worth of animals. These two forms of informal savings are relatively illiquid, however. Selling animals quickly in times of negative income shock is not easy, especially if the shock is an aggregate shock at the community level. ROSCAs in this part of Kenya tend to be fixed ROSCAs, meaning that the order in which members receive the pot is predetermined, and one cannot access the money saved earlier than when it is one's turn. For most ROSCA participants, however, the ROSCA system offers informal credit, since everyone (but the last person to receive the pot in the cycle) gets the pot earlier than if they were saving the same fixed amount at the same regular interval in an individual savings account.

The breakdown by household type in Panels B and C of Table 3 shows that female-headed households are much less likely to be banked than dual-headed households (9% vs. 25%). They are also less likely to have informal saving mechanisms, suggesting that their overall saving rate is lower.

The individual-level means presented in Table 4 suggest that this gap between household types is essentially driven by a gender divide: only 10% of women have banking accounts,

[10] Note that these averages mask important differences between those who are primarily farmers and those who are not. We present the statistics disaggregated by gender and farming status in Table A1.

compared to 21% of men. Similarly, only 12% of women have mobile money accounts, compared to 28% of men.

Given the low rate of banking, and the fact that the most common informal saving alternatives are relatively illiquid, a key question is how people deal with emergencies that require immediate liquidity. To shed some light on this issue, our census survey asked people "If you absolutely needed 1,000 Ksh right now, where would you get the money?" The results are presented in Table 5. We find that only 13% of people would be able to get even part of the money from savings (note that the categories are not exclusive). Far more would try to borrow the money from others. This suggests that the great majority of people do not hold enough informal savings to be able to cope with negative shocks on their own.

5. Understanding Rates of Formal Banking: Supply Factors

This section discusses the supply-side factors behind the low observed rate of formal banking, despite the availability of formal saving institutions locally. We start by describing our baseline survey evidence. Those results suggest that local financial institutions in our study area had somewhat failed (by the time our study started) not only to establish a good reputation, but also to make their services and prices known. We then present evidence from the randomized experiment we conducted, in which a random subset of individuals was given detailed information about the local financial institutions and offered subsidized access to an account at one of these institutions. This experimental evidence enables us to estimate the relative importance of entry costs, service quality and reputation.

5.1. Survey Evidence

Table 6 presents data collected from all households during the census, gauging how much people knew and trusted the Village Bank in the study area. At the time of the census, the Village Bank had been established in market center A for nearly 10 years, in market center B for almost a year and a half, and in market center C for 10 months. Despite this, only 64% of household heads in markets A and B, and 51% in market C, had ever heard of the Village Bank. Many of them did not know enough about it to have an opinion about it. Thus, when asked if they would trust the Village Bank with their money, 43% said they didn't know enough about the bank to

know. Around 49% said they would trust the bank, while the remaining 8% said they would not trust the bank. The main reasons for not trusting the bank was lack of familiarity, and being worried about embezzlement of funds.

Table 7 zooms in on those in the experimental sample, who were all unbanked at the time of the census, and to whom a more detailed survey was administered. In this sample, we asked about knowledge of both the Village Bank and the Commercial Bank. Unsurprisingly, familiarity with local financial institutions is lower among these unbanked individuals than in the full census sample. Only about half of household heads had heard of the Village Bank on average, though awareness was slightly higher in the markets where the Village Bank had been established for longer, and lower in the market center where the Village Bank had only recently started a deposit-only branch. Very few individuals know the details of the services offered by the Village Bank, however – only 8% of those who have ever heard of the bank knew the cost of opening an account.

Despite the fact that the Commercial Bank, located in market A, had only opened in late 2008 (8 years after the Village Bank in Market A) the Commercial Bank had better name recognition as of 2009. How much people knew about the Commercial Bank was extremely limited, however: none of the respondents knew that the Commercial Bank offered free accounts. Most respondents reported they did not know anything about opening costs, and those who thought they knew thought there was a large opening fee. Thus the name recognition for the Commercial Bank might have come from the fact that is a large, well-established corporate bank, and not from the fact that it has a local branch in Market A. In accordance with this, when asked which institution they would choose to save in if they had the choice, close to two thirds of respondents said they would choose the Commercial Bank over the Village Bank. In the one market center where the Village Bank has a full service branch but the Commercial has no presence (market B), the split was closer to half-half, however.

5.2. Experimental Evidence

The survey evidence so far suggests that rural households in our study area are either unfamiliar with local formal saving options, or consider these options as unavailable given their entry costs, be they financial or transactional. To test the extent to which simply reducing the

entry costs to formal banking can increase access among the rural poor, we conducted a randomized experiment in which a random subset of individuals in our restricted experimental sample (including initially unbanked households only) was sampled to receive detailed information on the local saving services offered, facilitating the paperwork and lowering the opening fees. (The details of how this experimental variation in access to banking was created are described in section 3).

Table 8 presents the results of this randomized access experiment. A relatively large fraction of individuals given the option to open an account at no cost to them elected to do so: overall, the take-up was 62%. In market A, where both banks are available, the Commercial Bank was the favorite choice, with 43% of individuals opening an account there, compared to only 17% at the Village Bank. At 53%, take-up was lowest in market C, where the only local institution is a partial-service Village Bank branch.

A lot of people opened an account but did not actively use it, however. Of those that opened an account, only 28% on average had made at least two deposits on the account within the year following the account opening date. We consider those that did not make at least two deposits over that period as "inactive" account holders. Given that only 28% of the 62% of account openers are active users, the formal banking usage rate once the entry costs were removed was thus only 0.28 x 0.62 = 18% in our study population. The breakdown by gender in Panels B and C shows that, while women were slightly less likely to open accounts than men, they were 10 percentage points more likely to actively use the account if they had opened one. Overall, the formal banking usage rate was thus higher among women than men, at 20% versus 14%.

These results suggest that entry costs (be it the cost of acquiring information, the opening fees or the administrative hassle of opening an account) explain only about $1/5^{th}$ of the low banking rates observed in our study area.

To understand what other supply factors explain the relatively low demand for formal banking we observe once the entry costs were experimentally removed, we asked respondents, in an open-ended way, what their concerns were with the various saving mechanisms available to them. We asked these questions to a random subset of our restricted experimental sample. The results are presented in Table 9. We present the results separately for those in the control group (who did not receive information and assistance with account opening), those whom we call the non-compliers (they received information and assistance with account opening, but did not

actively use formal banking in the following year), and those whom we call the compliers (they received information and assistance with account opening and were actively using formal banking in the following year). We present results for the three formal and quasi-formal banking options available: the Commercial Bank, the Village Bank, and Mobile Money.

The main concerns raised with formal banks are transaction fees, that they are unreliable, that they are located far from home, and that there is a risk that they will embezzle money. The relative importance of these concerns varies substantially between the two formal banks in our study area. Transaction fees are the primary concern with the Commercial Bank, which charges a flat fixed fee of 30Ksh per withdrawal at the ATM, which makes the savings in the account relatively illiquid, since taking out small sums at a time is very costly. While these withdrawal fees could act as a commitment device to not withdraw money until a relatively large lump sum has been saved, they can also deter people from saving in the account if they anticipate needing small sums to deal with emergencies as they arise.

While fees remain a major concern with the Village Bank, unreliability and risk of embezzlement are also cited by a number of people. Among the non-compliers, 36% cite unreliability and 23% cite risk of embezzlement, suggesting that many of those who did not actively take up Village Banking despite facing zero entry costs lacked trust in the institution. This lack of trust is grounded in reality. As discussed in section 2.2, the manager of the Village Bank main branch in Market A embezzled funds and disappeared only a few months prior to the start of our study. Even though no bank customers lost money in the process, withdrawals were on hold for a while and this rightfully created a lot of distrust in the community. What's more, the deposit-taking-only branch in market C was offering spotty services throughout our study period.

In regards to mobile banking, the most common concern (cited by 35% of respondents) is that it requires owning a cell phone. For another third of the sample, network quality (i.e., cell phone reception) is an important concern. Fees are less of a concern for mobile money banking than for formal banks, even though in practice the fees associated with mobile money fall somewhere in between the fees charged at the Village Bank and those charged at the Commercial Bank. Notably, trust in mobile banking is far higher than for the Village Bank.

Table 10 shows how the concerns with the Village Bank varied between market centers. Remember that the banking scandal was in market A and the services in market C were

unreliable. As a result, more people reported being concerned with risk of embezzlement in Market A and unreliabily in Village C. These concerns were particularly heightened among those actively using their account. Though the sample of people who use their account is obviously selected, one interpretation of these findings is that people's experience with the Village Bank reinforced the mistrust in the institution.

We also asked people for their preferred savings options. The results are shown in Table 10. All in all, when asked what their preferred savings mechanism would be if they had access to all of them, over 40% of respondents answered "a commercial bank." A sizeable fraction also reported the Village Bank. As expected, this share is higher in the control and compliers groups than in the non-compliers group. Somewhat surprisingly, mobile money banking trailed as the least favorite mechanism, behind grain storage and ROSCA participation. In fact, almost 40% of the control group reported informal options (animals, ROSCAs, or saving in grain). Given the risks associated with these informal saving mechanisms, the fact that they remain preferred mechanisms is suggestive that the formal products being offered are insufficient for many people. This is consistent with the finding that close to a quarter of respondents said they had been discouraged to open a bank account by a friend.

6. Understanding Low Savings Rates: Demand Factors

While we have just reviewed areas in which the supply of formal savings devices could improve (reliability of services, safety of deposits, transaction costs), respondents also report barriers that limit their demand for these services. This section reviews semi-qualitative evidence we collected through interviews with a subset of our sample.

Table 11 reports on what respondents listed as their obstacles to saving. Three-fourths said they had too little income and slightly more than half said their expenses were too high to allow them extra money to put away in savings. However, despite this overwhelming response, it is not clear that people are simply "too poor to save." The "too little income" answer is somewhat generic and doesn't really get to the bottom of the question, "why can't people save even one penny at a time?" Individuals in our sample are indeed poor, but evidence from similar populations around the world suggests that low incomes need not prevent savings. Research in the Gambia (Shipton, 1990) and Bangladesh, India, and South Africa (Collins et al., 2009) demonstrates that poor households do find ways to save, albeit often through informal

mechanisms. Moreover, Banerjee and Duflo (2007) find that even among the poorest households – those living at or under $1 per person per day – the majority don't exhaust all their income on basic necessities. Finally, and perhaps most tellingly, individuals in our experimental treatment group who actively used their accounts – the compliers – were just as likely to cite low income and high expenses as barriers to savings as compared to those who did not open or did not use their accounts – the non-compliers, yet they managed to save anyway.

Even when individuals feel that they have enough income to save, there are other obstacles that may make them reluctant to save in a formal bank account. For example, nearly half of our respondents also mentioned unexpected emergencies as an obstacle to saving. Not only do such emergencies force individuals to dissave, they may also discourage the use of savings technologies that are relatively illiquid. Recall that the lack of reliability (and thus access) was one of the major concerns with formal financial institutions cited by respondents in this study, along with withdrawal fees, which increase the cost of "liquidifying" one's savings. Interestingly, non-compliers (52%) were much more likely to cite emergencies as an obstacle to saving as compared to compliers (42%) and individuals in the control group (44%).

At the same time, a smaller fraction of people in our sample also reported problems protecting their savings from requests from others and from their own temptations to spend money. On one hand, to the extent that savings in a formal bank account are illiquid because of accessibility issues, this could increase demand for these services; the accounts could act as a commitment device allowing people to shield their money from others and from themselves. On the other hand, people may be reluctant to use formal savings accounts if that inhibits their ability to participate in traditional community risk sharing schemes. Platteau (2000) provides evidence that in West Africa strong social norms support a system of informal insurance whereby individuals are compelled to give money if a friend or relative requests it and they have cash on hand. Thus, to the extent that similar norms exist in Kenya, people may not put all their money in illiquid savings devices to avoid developing a reputation as someone who does not participate in such a system.

Finally, respondents in our sample appear to have quite large, and perhaps unrealistic, savings goals. We asked our respondents, again in an open-ended way, what they wanted to save for and the amount they needed to reach their goal. In Table 12 we report respondents' main savings goals and in table 13 we report, for the five most popular goals, the amount of money

people think they need to save, the amount they have saved so far, and the amount of time it will take to achieve their goal. Most people are focused on saving toward making big investments (school fees, starting a new business, buying animals, or building a house). In contrast, very few respondents reported saving for unexpected events, health care, or weddings and other celebrations; and few said they are saving to invest in an existing business or to purchase farming inputs. For the top five goals, respondents report needing quite large sums of money and a year or more to achieve these goals. Men, in particular, set quite large savings targets. In addition, most people have saved only a small fraction (typically less than 10%) towards these goals at present. Given their own assessment of barriers to savings (low income, unexpected shocks) it seems unlikely that many people would be able to reach these goals. Perhaps, knowing this, people are daunted from saving at the outset. Further investigation is required to determine if in fact people don't save because they are discouraged by the magnitude of their own ambition and personal circumstance.

7. Understanding Low Borrowing Rates

While much of our focus has been on savings, the flipside of savings is credit. If returns to capital are so high, and given that the APR on loans from the local banks is "only" 19.5%, what keeps people from taking out more loans?

We examine this issue in Tables 14, 15 and 16. To start, Table 14 describes familiarity with local credit options among our restricted experimental sample of unbanked households. As with savings, people have very limited information about credit options. Only 64% think there is a local credit option and only 38 (41%) correctly identified the Commercial Bank (Village Bank), respectively, as a credit option. A small minority of these know the steps required to actually get a loan. Perhaps consequently, even though a substantial percentage of people think that they could qualify for a loan and about half of respondents say they would be interested in a loan with terms comparable to those offered by the two local institutions (in terms of interest rates and collateral requirement), only 6% have ever applied (and only 5% have ever gotten a loan).

Given this low level of information, as described in Section 2.2, we implemented an intervention to improve information and access. In particular, we provided people with either (1) information about the real rules required, or (2) a voucher which gave them enough capital to be

eligible to apply for an initial loan with the Village Bank, provided they found a group of 4 other bank clients to approve their loan and act as guarantor. We present two sets of results of this intervention. First, in Table 15, we report the answers to questions we asked participants immediately after they received detailed information about local credit opportunities. Specifically, we asked people if they would be interested in a loan at the Village Bank or Commercial Bank. While a majority of people were interested in a loan at the Village Bank, far fewer were interested at the Commercial Bank. This is primarily due to the fact that the Commercial Bank only lends to people with an existing business, and as shown in Table 2, only 20% of women and 31% of men in our restricted experimental sample had a business at baseline (farming is not considered a business by the bank). What's more, most of those have a very small market vending business with very low level of working capitals, and they would most likely not quality for a loan from the Commercial Bank in any case.

Among those interested in borrowing, we asked what they would want to borrow for. Few people were interested in loans for small investments like agricultural inputs. Just as they have somewhat unattainable savings goal, people reported wanting to borrow for relatively big endeavors such as starting a new business, and the amounts they report wanting to borrow to do so as quite substantial, likely beyond what would be feasible for such borrowers.

The second set of results from the experimental credit intervention is presented in Table 16, and concerns the take-up of the "share capital" voucher we gave to a random subset of those who had already been offered an account voucher. By redeeming this voucher, people would be credited with one Village Bank share and thus be eligible to borrow up to four times the value of the share, that is 1,200 Ksh. (Note that this is much smaller than the median desired loan size listed in Table 14, which was 10,000 Ksh). Table 16 shows that, while 86% accepted the voucher when it was given to them, only 40% redeemed it, and as from the time of writing (6 months after vouchers had been distributed), nobody had yet applied for a loan. Ongoing qualitative surveys are being administered to these respondents to identify the main reasons behind the low demand for available loans.[11]

[11] Results from these additional surveys will be available at the time the final draft of this paper is due for publication in the NBER Africa Conference Volume.

8. Conclusion

Having a safe place to save up money for big purchases and to have cash available for emergencies is exceptionally important for people in developing countries. Without such a mechanism, people find it harder to take advantage of high-return investments of many types, and are more vulnerable to shocks. Recognizing this, policymakers have begun to devote attention to expanding access to formal banking, especially in rural areas where access continues to be extremely limited.

To date, much of this attention has been focused on expanding access, with relatively less paid to understanding the quality of potential banking services or the viability of products offered. This paper shows that unless these issues are taken seriously, access alone may not be effective for a large segment of the population.

Our analysis generates several important prescriptions for effectively expanding saving services to the poor. First, trust is an important reason that people do not use current banking services. Providing stronger consumer protection through tighter regulation and deposit insurance could be very important. Second, many people are uninformed about banking options (in part because they have little or no experience with them). Better marketing from the banks themselves might be warranted.

Finally, more attention should be paid to the types of products that banks provide. While basic savings accounts do appear to be useful to a minority, more nuanced products might be necessary for others (just as they are for many people in developed countries). For example, many people in Kenya save to deal with health emergencies, which are very common. For them, putting money into a bank that does not offer withdrawal services at night or on weekend and that has big withdrawal fees might not be very attractive. Similarly, people whose income is seasonal (such as farmers) might benefit from products which incentivize them more strongly to save right when they have money.

In this sense, the fact that 18% of people in our sample do use the accounts is impressive. However, the evidence we presented suggests that this is a lower bound on potential demand for savings. If so, serious attention should be paid to improving the delivery of banking products – doing so could improve the lives of millions of people.

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Table 1. Baseline household characteristics

	Full Census (N=1898)			Restricted Experimental Sample (N=989)		
	Market A	Market B	Market C	Market A	Market B	Market C
Total HH size	6.21	5.26	5.67	6.09	5.07	5.59
	(3.25)	(2.64)	(2.92)	(3.23)	(2.42)	(2.87)
No Male Head	0.36	0.26	0.28	0.43	0.35	0.35
No Female Head	0.15	0.06	0.06	0.06	0.01	0.02
Polygamous household	0.06	0.10	0.09	0.00	0.00	0.00
Num. of children	3.47	3.12	3.46	3.48	3.02	3.44
	(2.34)	(2.22)	(2.43)	(2.34)	(2.09)	(2.33)
HH Health expenditures last month	725	618	663	522	581	424
	(2368)	(2703)	(4266)	(1440)	(1930)	(1130)
HH Treats drinking water with chlorine	0.38	0.44	0.51	0.32	0.40	0.49
Iron roof at home	0.57	0.40	0.39	0.56	0.37	0.34
Cement floor at home	0.17	0.12	0.19	0.14	0.09	0.14
HH has cell phone	0.45	0.48	0.49	0.35	0.44	0.44
Value of physical assets (in Ksh)	10038	10659	11131	8024	9972	9814
	(10722)	(8317)	(9472)	(8403)	(8320)	(8489)
Value of animals (in Ksh)	924	7655	7368	1084	6670	7270
	(4956)	(11396)	(11276)	(5441)	(10888)	(11297)
Land holdings (acres)	1.95	2.17	1.56	1.78	1.93	1.52
	(3.31)	(2.95)	(1.64)	(1.97)	(2.02)	(1.66)
At least one member of household has a bank account	0.26	0.14	0.13	0.00	0.00	0.00
Distance to closest deposit-taking branch (in km)	1.84	1.31	1.42	1.85	1.37	1.45
	(0.71)	(0.78)	(0.56)	(0.68)	(0.77)	(0.54)
Distance to closest branch offering withdrawals (in km)	1.84	1.31	11.49	1.85	1.37	11.47
	(0.71)	(0.78)	(0.62)	(0.68)	(0.77)	(0.61)
Eligible for randomized saving and credit experiments	0.47	0.57	0.58	1.00	1.00	1.00
Number of Households	948	453	497	443	260	286

Standard deviations in parentheses. The exchange rate at the time of the study was around 80Ksh to US$1 on average.

Table 2. Baseline Individual characteristics

	Full Census (N=2985)			Restricted Experimental Sample (N=1555)		
	Market A	Market B	Market C	Market A	Market B	Market C
Panel A. Women						
Age	41.04	38.20	37.13	43.56	38.50	37.38
	(16.56)	(15.52)	(15.02)	(17.88)	(16.69)	(15.16)
Years of education	5.73	6.28	6.52	4.48	5.93	6.07
	(4.12)	(3.62)	(3.62)	(3.70)	(3.57)	(3.39)
Can write in Swahili	0.63	0.66	0.66	0.52	0.62	0.63
ROSCA participant	0.48	0.44	0.41	0.40	0.43	0.37
Has bank account	0.14	0.06	0.05	0.00	0.00	0.00
Primary Occupation:						
Farming	0.67	0.82	0.71	0.74	0.85	0.77
Own enterprise	0.21	0.14	0.20	0.17	0.11	0.16
Physical labor	0.02	0.01	0.02	0.02	0.01	0.02
Employee	0.03	0.01	0.03	0.00	0.00	0.01
None	0.07	0.02	0.04	0.00	0.02	0.04
Selected for randomized experiments	0.52	0.60	0.60	1.00	1.00	1.00
Number of Women	800	424	462	414	256	279
Panel B. Men						
Age	43.35	40.18	40.71	43.08	37.49	38.78
	(15.92)	(14.16)	(15.07)	(16.74)	(13.12)	(14.96)
Years of education	8.36	7.92	7.84	7.34	7.38	7.32
	(3.86)	(2.98)	(3.63)	(3.57)	(2.79)	(3.22)
Can write in Swahili	0.88	0.94	0.87	0.86	0.94	0.88
ROSCA participant	0.34	0.33	0.40	0.31	0.35	0.33
Has bank account	0.26	0.15	0.14	0.00	0.00	0.00
Primary Occupation:						
Farming	0.36	0.49	0.31	0.44	0.49	0.35
Own enterprise	0.31	0.31	0.48	0.32	0.30	0.46
Physical labor	0.11	0.09	0.09	0.10	0.11	0.12
Employee	0.12	0.05	0.09	0.06	0.05	0.04
None	0.08	0.05	0.03	0.00	0.05	0.02
Selected for randomized experiments	0.42	0.50	0.52	1.00	1.00	1.00
Number of Men	604	335	360	250	169	187

Standard deviations in parentheses.

Table 3. How do Households Save?

Panel A. All Households	All	Market A	Market B	Market C	# obs
Informal Savings					
Owns Animals	0.50	0.13	0.86	0.82	1806
Value of Animals (for those who own), in Ksh	4358	1023	7655	7376	1751
	(9469)	(5205)	(11396)	(11287)	
Someone in HH Participates in ROSCA	0.53	0.56	0.51	0.51	2984
ROSCA contributions in past year (if any), in Ksh	7231	7147	4755	9564	924
	(13121)	(10900)	(6485)	(19402)	
Formal Savings					
Has Account in Formal Deposit-Taking Institution	0.20	0.25	0.16	0.15	1752
Has Account in Commercial Bank	0.12	0.14	0.10	0.12	1752
Has Account in Post Bank	0.03	0.04	0.02	0.01	1752
Has Account in Village Bank	0.08	0.11	0.06	0.03	1752
Has Account with MFI	0.00	0.00	0.00	0.00	1752
Has Account Elsewhere	0.03	0.05	0.01	0.01	1752
Has Mobile Money Account	0.25	0.22	0.31	0.25	1752
Panel B. Married Households					
Informal Savings					
Owns Animals	0.52	0.14	0.89	0.82	1195
Value of Animals (for those who own), in Ksh	4762	1150	8925	7235	1153
	(9944)	(5575)	(12400)	(11049)	
Someone in HH Participates in ROSCA	0.56	0.60	0.55	0.53	2388
ROSCA contributions in past year (if any), in Ksh	8361	8121	5432	11686	675
	(14812)	(12052)	(7019)	(22619)	
Formal Savings					
Has Account in Formal Deposit-Taking Institution	0.25	0.30	0.20	0.20	1169
Has Account in Commercial Bank	0.16	0.17	0.14	0.16	1169
Has Account in Post Bank	0.03	0.04	0.03	0.02	1169
Has Account in Village Bank	0.09	0.13	0.08	0.04	1169
Has Account with MFI	0.00	0.00	0.00	0.00	1169
Has Account Elsewhere	0.04	0.07	0.01	0.01	1169
Has Mobile Money Account	0.32	0.27	0.40	0.33	1169
Panel C. Single Headed Female Households					
Informal Savings					
Owns Animals	0.47	0.11	0.87	0.79	501
Value of Animals (for those who own), in Ksh	3637	931	4916	7654	489
	(8286)	(4880)	(7949)	(11298)	
Someone in HH Participates in ROSCA	0.40	0.41	0.35	0.43	492
ROSCA contributions in past year (if any), in Ksh	4118	4458	2290	4803	208
	(5471)	(6113)	(3282)	(5273)	
Formal Savings					
Has Account in Formal Deposit-Taking Institution	0.09	0.13	0.04	0.06	478
Has Account in Commercial Bank	0.04	0.05	0.02	0.05	478
Has Account in Post Bank	0.01	0.01	0.00	0.00	478
Has Account in Village Bank	0.05	0.08	0.03	0.02	478
Has Account with MFI	0.00	0.00	0.00	0.00	478
Has Account Elsewhere	0.01	0.01	0.00	0.01	478
Has Mobile Money Account	0.09	0.10	0.09	0.08	478

Data: Full census sample. Standard deviations in parentheses.

Table 4. How do Individuals Save?

	All	Market A	Market B	Market C	# obs
Panel A. All					
Participates in ROSCA	0.41	0.43	0.40	0.41	2605
If yes: Number of ROSCAs	1.50	1.54	1.42	1.50	1079
	(0.80)	(0.82)	(0.71)	(0.82)	
If yes: ROSCA contributions in past year	6130	6549	3646	7745	1090
	(10443)	(9278)	(5602)	(14528)	
Has Account in Formal Deposit-Taking Institution	0.15	0.19	0.11	0.11	2869
Has Account in Commercial Bank	0.08	0.10	0.06	0.08	2869
Has Account in Post Bank	0.02	0.03	0.01	0.01	2869
Has Account in Village Bank	0.05	0.08	0.04	0.02	2869
Has Account with MFI	0.00	0.00	0.00	0.00	2869
Has Account Elsewhere	0.02	0.03	0.00	0.01	2869
Has Mobile Money Account	0.19	0.17	0.22	0.18	2869
Panel B. Women					
Participates in ROSCA	0.45	0.48	0.44	0.41	1608
If yes: Number of ROSCAs	1.54	1.61	1.43	1.51	725
	(0.82)	(0.87)	(0.73)	(0.78)	
If yes: ROSCA contributions in past year	5316	5730	2912	7053	723
	(8272)	(6921)	(4703)	(12103)	
Has Account in Formal Deposit-Taking Institution	0.10	0.14	0.07	0.05	1640
Has Account in Commercial Bank	0.04	0.05	0.01	0.03	1640
Has Account in Post Bank	0.01	0.02	0.01	0.00	1640
Has Account in Village Bank	0.05	0.08	0.04	0.02	1640
Has Account with MFI	0.00	0.00	0.00	0.00	1640
Has Account Elsewhere	0.01	0.02	0.00	0.00	1640
Has Mobile Money Account	0.12	0.13	0.11	0.11	1640
Panel C. Men					
Participates in ROSCA	0.36	0.34	0.33	0.40	997
If yes: Number of ROSCAs	1.42	1.38	1.41	1.47	354
	(0.74)	(0.67)	(0.69)	(0.87)	
If yes: ROSCA contributions in past year	7733	8349	5220	8812	367
	(13625)	(12888)	(6931)	(17630)	
Has Account in Formal Deposit-Taking Institution	0.21	0.25	0.18	0.18	1229
Has Account in Commercial Bank	0.14	0.15	0.13	0.15	1229
Has Account in Post Bank	0.02	0.03	0.01	0.02	1229
Has Account in Village Bank	0.06	0.09	0.04	0.03	1229
Has Account with MFI	0.00	0.00	0.00	0.00	1229
Has Account Elsewhere	0.03	0.06	0.01	0.01	1229
Has Mobile Money Account	0.28	0.22	0.37	0.28	1229

Data: Full census sample.

Table 5. If you absolutely needed 1,000 Ksh, where would you get the money?

	All	Market A	Market B	Market C	# obs
Panel A. All					
Would use savings	0.13	0.14	0.07	0.16	1981
Would work more	0.14	0.12	0.13	0.17	1981
Spouse would work more	0.07	0.06	0.06	0.10	1981
Would borrow from friend/relative/neighbor	0.43	0.38	0.44	0.47	1981
Would get donations from friend/relative/neighbor	0.13	0.13	0.15	0.12	1981
Would get a Loan from ROSCA	0.06	0.07	0.04	0.05	1981
Would sell household Asset / Animal / Land	0.13	0.09	0.18	0.13	1981
Would sell business Asset	0.01	0.02	0.00	0.00	1981
Would sell agricultural Product	0.14	0.14	0.15	0.14	1981
Other	0.08	0.11	0.08	0.05	1981
Panel B. Women					
If you absolutely needed 1,000 Ksh, where would you get the money?					
Would use savings	0.09	0.07	0.06	0.13	1222
Would work more	0.13	0.13	0.12	0.13	1222
Spouse would work more	0.09	0.05	0.09	0.14	1222
Would borrow from friend/relative/neighbor	0.45	0.39	0.46	0.50	1222
Would get donations from friend/relative/neighbor	0.16	0.16	0.18	0.14	1222
Would get a Loan from ROSCA	0.06	0.06	0.05	0.07	1222
Would sell household Asset / Animal / Land	0.12	0.07	0.16	0.14	1222
Would sell business Asset	0.01	0.01	0.00	0.00	1222
Would sell agricultural Product	0.15	0.16	0.16	0.13	1222
Other	0.08	0.13	0.07	0.05	1222
Panel C. Men					
If you absolutely needed 1,000 Ksh, where would you get the money?					
Would use savings	0.20	0.23	0.10	0.21	759
Would work more	0.15	0.10	0.15	0.24	759
Spouse would work more	0.04	0.08	0.00	0.01	759
Would borrow from friend/relative/neighbor	0.40	0.38	0.41	0.41	759
Would get donations from friend/relative/neighbor	0.08	0.09	0.07	0.09	759
Would get a Loan from ROSCA	0.05	0.08	0.03	0.02	759
Would sell household Asset / Animal / Land	0.13	0.11	0.22	0.11	759
Would sell business Asset	0.01	0.03	0.00	0.00	759
Would sell agricultural Product	0.13	0.12	0.12	0.16	759
Other	0.08	0.09	0.09	0.06	759

Data: Full census sample.

Table 6. Perception of Village Bank

	All	Market A	Market B	Market C	# obs
Panel A. All					
Have you heard of the Village Bank?	0.60	0.64	0.64	0.51	2018
Do you trust the Village Bank?					
Don't know	0.43	0.41	0.44	0.46	1191
Yes	0.49	0.52	0.48	0.46	1191
No	0.08	0.08	0.08	0.09	1191
Of those who don't trust the Village Bank, why?					
Worried that the Village Bank will take my money	0.23	0.10	0.49	0.17	111
Don't know the Village Bank / unfamiliar with banking	0.43	0.64	0.23	0.29	111
Fees are high	0.10	0.08	0.11	0.13	111
No interest	0.04	0.02	0.06	0.04	111
Bank is unreliable	0.08	0.04	0.03	0.25	111
Other	0.12	0.14	0.09	0.13	111
Panel B. Women					
Have you heard of the Village Bank?	0.55	0.61	0.57	0.43	1492
Do you trust the Village Bank?					
Don't know	0.44	0.41	0.46	0.49	803
Yes	0.49	0.53	0.46	0.44	803
No	0.07	0.07	0.08	0.07	803
Of those who don't trust the Village Bank, why?					
Worried that the Village Bank will take my money	0.25	0.11	0.56	0.25	67
Don't know the Village Bank / unfamiliar with banking	0.46	0.57	0.28	0.42	67
Fees are high	0.09	0.08	0.11	0.08	67
No interest	0.02	0.03	0.00	0.00	67
Bank is unreliable	0.05	0.03	0.00	0.17	67
Other	0.13	0.19	0.06	0.08	67
Panel C. Men					
Have you heard of the Village Bank?	0.75	0.78	0.81	0.68	526
Do you trust the Village Bank?					
Don't know	0.41	0.40	0.41	0.41	388
Yes	0.49	0.50	0.50	0.48	388
No	0.10	0.10	0.09	0.11	388
Of those who don't trust the Village Bank, why?					
Worried that the Village Bank will take my money	0.21	0.07	0.41	0.08	44
Don't know the Village Bank / unfamiliar with banking	0.39	0.80	0.18	0.17	44
Fees are high	0.11	0.07	0.12	0.17	44
No interest	0.07	0.00	0.12	0.08	44
Bank is unreliable	0.14	0.07	0.06	0.33	44
Other	0.09	0.00	0.12	0.17	44

Data: Full census sample.

Table 7. Familiarity with Local Financial Institutions among the Unbanked

	All	Market A	Market B	Market C	# obs
Panel A. All					
Distance to closest deposit-taking branch (in km)	1.63	1.87	1.40	1.49	1260
	(0.71)	*(0.69)*	*(0.77)*	*(0.52)*	
Distance to closest branch offering withdrawals (in km)	4.17	1.87	1.40	11.44	1260
	(4.33)	*(0.69)*	*(0.77)*	*(0.61)*	
Has heard of the local Village Bank	0.52	0.54	0.57	0.45	1122
If yes: Knows account opening fee at local Village Bank	0.08	0.11	0.07	0.00	389
Has heard of local Commercial Bank		0.59			125
If yes: Knows Comm. Bank accounts are free to open		0.00			71
Would use bank account if had one	0.85	0.85	0.87	0.83	1468
Would choose Village Bank over Commercial bank if had choice	0.38	0.31	0.47	0.41	1320
Panel B. Women					
Distance to closest deposit-taking branch (in km)	1.60	1.85	1.37	1.46	828
	(0.71)	*(0.69)*	*(0.77)*	*(0.53)*	
Distance to closest branch offering withdrawals (in km)	4.14	1.85	1.37	11.47	828
	(4.33)	*(0.69)*	*(0.77)*	*(0.61)*	
Has heard of the local Village Bank	0.47	0.52	0.49	0.37	914
If yes: Knows account opening fee at local Village Bank	0.05	0.09	0.03	0.00	247
Has heard of local Commercial Bank		0.54			71
If yes: Knows Comm. Bank accounts are free to open		0.00			37
Would use bank account if had one	0.81	0.82	0.82	0.79	958
Would choose Village Bank over Commercial bank if had choice	0.39	0.31	0.48	0.45	858
Panel C. Men					
Distance to closest deposit-taking branch (in km)	1.67	1.92	1.45	1.54	432
	(0.72)	*(0.70)*	*(0.79)*	*(0.50)*	
Distance to closest branch offering withdrawals (in km)	4.23	1.92	1.45	11.40	432
	(4.31)	*(0.70)*	*(0.79)*	*(0.62)*	
Has heard of the local Village Bank	0.73	0.71	0.80	0.67	208
If yes: Knows account opening fee at local Village Bank	0.14	0.14	0.15	0.00	142
Has heard of local Commercial Bank		0.67			54
If yes: Knows Comm. Bank accounts are free to open		0.00			34
Would use bank account if had one	0.92	0.91	0.98	0.91	510
Would choose Village Bank over Commercial bank if had choice	0.36	0.31	0.45	0.34	462

Data: Restricted experimental sample. Standard deviations in parentheses.

Table 8. Experimental Results: Take-up and Usage of Free Accounts among those initially Unbanked

Panel A. All	All	Market A	Market B	Market C	# obs
Opened an account	0.625	0.613	0.753	0.530	840
Opened account at Village Bank	0.427	0.175	0.744	0.526	840
Opened account at Commercial Bank	0.198	0.438	0.009	0.004	840
If opened an account:					
"Active" (= at least 2 deposits)	0.28	0.36	0.27	0.17	525
If Village Bank account: "Active"	0.23	0.22	0.28	0.17	359
If Commercial Bank account: "Active"		0.39			166
If "Active": Average number of deposits	4.58	4.57	4.71	4.36	147
	(3.48)	*(3.46)*	*(3.44)*	*(3.79)*	
Total deposited on account (Ksh)	4,314	6,477	2,221	730	147
	(10,231)	*(13,174)*	*(3,836)*	*(1,818)*	
Average deposit size (Ksh)	862	1,288	460	132	147
	(2,223)	*(2,901)*	*(713)*	*(228)*	
Average number of withdrawals	1.68	2.27	1.42	0	148
	(3.71)	*(4.49)*	*(2.67)*		
Average withdrawal size (Ksh)	1,455	1,760	845	0	66
	(1990)	*(2269)*	*(1063)*		
Account joint with spouse (if married)	0.058	0.060	0.039	0.078	397
Panel B. Women					
Opened an account	0.611	0.590	0.770	0.500	532
Opened account at Village Bank	0.415	0.163	0.763	0.494	532
Opened account at Commercial Bank	0.195	0.427	0.007	0.006	532
If opened an account:					
"Active" (= at least 2 deposits)	0.32	0.40	0.30	0.21	325
If Village Bank account: "Active"	0.27	0.28	0.30	0.21	221
If Commercial Bank account: "Active"		0.42			104
If "Active": Average number of deposits	4.29	3.81	5.16	4.25	102
	(3.26)	*(2.64)*	*(3.74)*	*(4.01)*	
Total deposited on account (Ksh)	1,966	2,504	1,877	328	102
	(3,955)	*(4,717)*	*(3,311)*	*(363)*	
Average deposit size (Ksh)	480	660	377	78	102
	(1,144)	*(1,489)*	*(571)*	*(62)*	
Average number of withdrawals	0.96	1.20	1.03	0	103
	(1.56)	*(1.84)*	*(1.23)*		
Average withdrawal size (Ksh)	1,059	1,250	779	0	42
	(1,658)	*(1,924)*	*(1,164)*		
Account joint with spouse (if married)	0.071	0.089	0.028	0.106	197
Panel C. Men					
Opened an account	0.649	0.654	0.725	0.579	308
Opened account at Village Bank	0.448	0.195	0.712	0.579	308
Opened account at Commercial Bank	0.201	0.459	0.013	0.000	308
If opened an account:					
"Active" (= at least 2 deposits)	0.22	0.28	0.22	0.11	200
If Village Bank account: "Active"	0.16	0.12	0.23	0.11	138
If Commercial Bank account: "Active"		0.34			62
If "Active": Average number of deposits	5.27	6.23	3.62	4.67	45
	(3.91)	*(4.41)*	*(2.29)*	*(3.45)*	
Total deposited on account (Ksh)	9,637	14,730	3,066	1,803	45
	(16,421)	*(19,907)*	*(4,956)*	*(3,403)*	
Average deposit size (Ksh)	1,727	2,593	665	278	45
	(3,506)	*(4,390)*	*(978)*	*(415)*	
Average number of withdrawals	3.31	4.54	2.39	0	45
	(6.03)	*(7.03)*	*(4.56)*		
Average withdrawal size (Ksh)	2,148	2,431	1,069	0	24
	(2,345)	*(2,554)*	*(654)*		
Account joint with spouse (if married)	0.045	0.034	0.052	0.055	200

Data: Subset of individuals sampled for free account (among restricted experimental sample). Standard deviations in parentheses.

Table 9. Concerns with Local Financial Institutions among those initially unbanked

	Commercial Bank	*Village Bank*	*Mobile Money*
Panel A. Control Group (No Account Voucher)			
Concerns with Savings Option:			
Fees	0.32	0.15	0.11
Unreliable	0.16	0.31	0.01
Distance	0.11	0.02	0.02
Risk of Embezzlement	0.06	0.17	0.00
Network problems	-	-	0.29
Requires phone	-	-	0.35
Observations	296	296	296
Panel B. Non-Compliers (Offered Account Voucher but did not open account or is not actively using account)			
Concerns with Savings Option:			
Fees	0.39	0.20	0.05
Unreliable	0.15	0.36	0.02
Distance	0.19	0.03	0.02
Risk of Embezzlement	0.07	0.23	0.00
Network problems	-	-	0.32
Requires phone	-	-	0.37
Observations	290	290	290
Panel C. Compliers (Offered Account Voucher, opened account and actively using account)			
Concerns with Savings Option:			
Fees	0.43	0.16	0.09
Unreliable	0.16	0.42	0.01
Distance	0.11	0.02	0.01
Risk of Embezzlement	0.06	0.21	0.00
Network problems	-	-	0.22
Requires phone	-	-	0.35
Observations	83	82	82

Data: Restricted experimental sample.

Table 10. Concerns with Village Bank by Market Center

	All	Market A	Market B	Market C
Panel A. Control Group (No Account Voucher)				
Concerns with Village Bank				
Fees	0.15	0.18	0.07	0.17
Unreliable	0.31	0.32	0.21	0.39
Distance	0.02	0.01	0.03	0.01
Risk of Embezzlement	0.17	0.18	0.14	0.16
Preferred Banking Option				
Commercial Bank	0.43	0.40	0.40	0.49
Village Bank	0.07	0.05	0.10	0.08
Mpesa	0.06	0.08	0.07	0.02
Animals	0.21	0.22	0.25	0.15
ROSCA	0.11	0.11	0.06	0.15
Grain	0.07	0.07	0.10	0.05
Have you ever been discouraged to open account by friend?	0.17	0.19	0.16	0.14
Observations	296	141	71	84
Panel B. Non-Compliers (Offered Account Voucher but did not open account or is not actively using account)				
Concerns with Village Bank				
Fees	0.20	0.23	0.26	0.12
Unreliable	0.36	0.34	0.34	0.40
Distance	0.03	0.02	0.03	0.04
Risk of Embezzlement	0.23	0.26	0.21	0.22
Preferred Banking Option				
Commercial Bank	0.36	0.39	0.30	0.35
Village Bank	0.17	0.06	0.30	0.23
Mpesa	0.04	0.05	0.04	0.02
Animals	0.22	0.22	0.19	0.25
ROSCA	0.07	0.10	0.03	0.07
Grain	0.08	0.09	0.08	0.07
Have you ever been discouraged to open account by friend?	0.24	0.24	0.27	0.21
Observations	290	127	73	90
Panel C. Compliers (Offered Account Voucher, opened account and actively using account)				
Concerns with Village Bank				
Fees	0.16	0.11	0.30	0.13
Unreliable	0.42	0.41	0.25	0.65
Distance	0.02	0.00	0.10	0.00
Risk of Embezzlement	0.21	0.28	0.10	0.13
Preferred Banking Option				
Commercial Bank	0.49	0.67	0.20	0.35
Village Bank	0.29	0.13	0.55	0.41
Mpesa	0.02	0.02	0.05	0.00
Animals	0.12	0.09	0.10	0.24
ROSCA	0.04	0.02	0.10	0.00
Grain	0.04	0.07	0.00	0.00
Have you ever been discouraged to open account by friend?	0.24	0.24	0.27	0.21
Observations	82	46	20	16

Data: Restricted experimental sample.

Table 11. Reported barriers to saving among those initially Unbanked

	All	Market A	Market B	Market C	# obs
Panel A. Control Group (No Account Voucher)					
Too little income	0.74	0.72	0.71	0.79	298
Expenses too high	0.50	0.51	0.44	0.55	298
Unexpected emergencies	0.44	0.45	0.43	0.43	298
Spend too easily	0.21	0.21	0.23	0.19	298
Income is variable	0.02	0.02	0.01	0.04	298
Spouse uses money	0.01	0.01	0.00	0.01	298
Requests from others	0.07	0.09	0.06	0.05	298
Debts outstanding	0.00	0.01	0.00	0.00	298
No safe place	0.03	0.02	0.03	0.04	298
Too old or sick	0.02	0.02	0.04	0.01	298
No savings goal or plan	0.01	0.01	0.00	0.02	298
No barriers	0.03	0.05	0.04	0.00	298
Panel B. Non-Compliers (Offered account voucher but did not open account or not actively using account)					
Too little income	0.78	0.79	0.71	0.82	290
Expenses too high	0.53	0.50	0.58	0.53	290
Unexpected emergencies	0.52	0.47	0.64	0.51	290
Spend too easily	0.20	0.22	0.16	0.20	290
Income is variable	0.03	0.00	0.00	0.09	290
Spouse uses money	0.02	0.02	0.01	0.01	290
Requests from others	0.09	0.11	0.06	0.10	290
Debts outstanding	0.01	0.01	0.03	0.01	290
No safe place	0.05	0.06	0.06	0.02	290
Too old or sick	0.01	0.02	0.00	0.02	290
No savings goal or plan	0.01	0.00	0.01	0.01	290
No barriers	0.02	0.01	0.04	0.01	290
Panel C. Compliers (Offered account voucher and actively using account)					
Too little income	0.74	0.67	0.90	0.71	83
Expenses too high	0.54	0.57	0.55	0.47	83
Unexpected emergencies	0.42	0.37	0.55	0.41	83
Spend too easily	0.23	0.24	0.25	0.18	83
Income is variable	0.01	0.00	0.00	0.06	83
Spouse uses money	0.02	0.02	0.00	0.06	83
Requests from others	0.06	0.07	0.05	0.06	83
Debts outstanding	0.00	0.00	0.00	0.00	83
No safe place	0.01	0.02	0.00	0.00	83
Too old or sick	0.01	0.02	0.00	0.00	83
No savings goal or plan	0.01	0.02	0.00	0.00	83
No barriers	0.06	0.09	0.00	0.06	83

Data: Restricted experimental sample.

Table 12. Main savings goals among those initially Unbanked

	All	Market A	Market B	Market C	# obs
Panel A. All					
School fees	0.28	0.29	0.28	0.28	670
Start a business	0.26	0.24	0.29	0.29	670
Business inventory	0.01	0.01	0.01	0.02	670
Business equipment/space	0.03	0.03	0.02	0.04	670
Buy animals	0.15	0.16	0.15	0.12	670
Build house	0.11	0.09	0.15	0.09	670
Home repairs/furniture	0.02	0.03	0.02	0.02	670
Buy land	0.04	0.05	0.01	0.05	670
Farm inputs	0.04	0.05	0.04	0.02	670
Farm equipment	0.01	0.01	0.00	0.02	670
Panel B. Women					
School fees	0.28	0.27	0.31	0.29	435
Start a business	0.26	0.25	0.28	0.27	435
Business inventory	0.01	0.01	0.01	0.03	435
Business equipment/space	0.01	0.01	0.00	0.03	435
Buy animals	0.18	0.21	0.15	0.14	435
Build house	0.09	0.07	0.13	0.07	435
Home repairs/furniture	0.03	0.03	0.03	0.02	435
Buy land	0.03	0.05	0.00	0.04	435
Farm inputs	0.03	0.03	0.04	0.03	435
Farm equipment	0.00	0.00	0.00	0.01	435
Panel C. Men					
School fees	0.28	0.32	0.22	0.26	234
Start a business	0.27	0.22	0.31	0.31	234
Business inventory	0.01	0.01	0.00	0.01	234
Business equipment/space	0.05	0.06	0.05	0.04	234
Buy animals	0.09	0.07	0.14	0.09	234
Build house	0.15	0.13	0.19	0.13	234
Home repairs/furniture	0.02	0.02	0.02	0.01	234
Buy land	0.06	0.06	0.03	0.07	234
Farm inputs	0.05	0.08	0.03	0.01	234
Farm equipment	0.02	0.02	0.00	0.03	234

Data: Restricted experimental sample.

Table 13. Top 5 savings goals among the Unbanked - amount needed, saved, and time to goal

		All		Market A		Market B		Market C		# Obs
		Mean	Median	Mean	Median	Mean	Median	Mean	Median	
Panel A. Women										
School fee:	Ksh needed for goal	42,090	25,000	53,704	30,000	31,634	20,000	33,731	24,000	121
	Ksh saved already	2,728	300	2,676	300	2,538	1,000	2,986	200	122
	Months to reach goal	33	24	38	24	31	12	28	24	118
Start business:	Ksh needed for goal	8,356	5,000	9,749	5,000	8,423	4,000	6,142	3,000	114
	Ksh saved already	565	0	496	0	483	0	742	0	113
	Months to reach goal	10	7	11	10	9	6	9	6	111
Buy animals:	Ksh needed for goal	11,996	10,000	12,302	10,000	7,394	8,000	15,553	10,000	76
	Ksh saved already	936	0	713	0	452	0	1,941	0	75
	Months to reach goal	13	11	14	12	12	7	13	12	70
Build house:	Ksh needed for goal	31,528	30,000	36,923	30,000	28,714	25,000	28,111	20,000	36
	Ksh saved already	2,423	50	1,804	275	2,850	950	2,722	0	37
	Months to reach goal	21	16	29	24	20	19	12	12	35
Buy land:	Ksh needed for goal	48,967	50,000	52,250	50,000	-	-	42,400	40,000	15
	Ksh saved already	2,487	500	2,180	900	-	-	3,100	500	15
	Months to reach goal	30	12	37	18	-	-	16	12	15
Panel B. Men										
School fee:	Ksh needed for goal	83,298	50,000	95,562	50,000	104,250	42,500	46,167	32,000	64
	Ksh saved already	7,671	1,800	8,794	4,500	8,962	0	4,617	1,050	65
	Months to reach goal	30	18	34	24	33	30	21	13	60
Start business:	Ksh needed for goal	38,063	20,000	45,174	30,000	42,944	22,500	26,636	17,500	63
	Ksh saved already	5,046	500	6,078	0	3,906	1,300	4,900	1,000	63
	Months to reach goal	13	12	15	12	11	10	13	12	63
Buy animals:	Ksh needed for goal	27,510	16,000	24,286	16,000	25,463	21,500	34,000	17,000	21
	Ksh saved already	5,521	400	1,571	900	2,300	200	14,425	1,650	21
	Months to reach goal	13	12	15	12	10	8	13	12	21
Build house:	Ksh needed for goal	47,765	30,000	56,429	45,000	32,091	30,000	53,444	30,000	34
	Ksh saved already	3,822	2,000	2,818	250	3,364	2,000	5,944	2,000	34
	Months to reach goal	21	17	23	21	20	13	17	18	34
Buy land:	Ksh needed for goal	66,154	55,000	67,500	77,500	67,500	67,500	64,000	50,000	13
	Ksh saved already	2,523	0	4,500	2,000	2,000	2,000	360	0	13
	Months to reach goal	28	24	33	30	18	18	26	24	12

Data: Restricted experimental sample.

Table 14. Baseline Knowledge of Local Credit Opportunities and Interest in Loans among those Initially Unbanked

	All	Market A	Market B	Market C	# obs
Is there a local institution in which you can get loans?					
Yes	0.64	0.69	0.60	0.58	665
No	0.11	0.09	0.12	0.12	665
Don't know	0.26	0.22	0.28	0.30	665
Correctly identified Village Bank as local credit option	0.38	0.41	0.39	0.32	667
Correctly identified Commercial Bank as local credit option	0.41	0.41			311
Says knows procedure for loan	0.15	0.16	0.13	0.14	660
Really knows procedure for loan	0.07	0.07	0.08	0.07	638
Has ever applied for loan	0.06	0.07	0.02	0.09	537
Has ever gotten loan	0.05	0.06	0.01	0.08	668
Do you think you could qualify for a loan?					
Yes	0.37	0.32	0.38	0.44	664
No	0.22	0.28	0.19	0.15	664
Don't know	0.41	0.40	0.43	0.41	664
Interested in loan at 1.5% monthly interest w/ 0 collateral	0.88	0.89	0.84	0.89	689
Interested in loan at 1.5% monthly interest w/ full collateral	0.46	0.42	0.47	0.52	608

Data: Restricted experimental sample.

Table 15. Interest in Loans among those initially Unbanked, Immediately After Receiving Information on Local Credit Opportunities

	All	Market A	Market B	Market C	# obs
Interested in loan at Village Bank	0.69	0.62	0.71	0.77	734
Interested in loan at Commercial Bank	0.36	0.40	0.30	0.34	634
If interested in a loan : Purpose of Loan					
Farm Inputs	0.12	0.12	0.15	0.11	181
Farm Equipment	0.03	0.05	0.00	0.03	181
Start business	0.74	0.74	0.85	0.69	181
Business inventory	0.15	0.20	0.00	0.14	181
Business equipment	0.09	0.08	0.11	0.11	181
Home construction	0.03	0.02	0.04	0.03	181
Home repair	0.00	0.00	0.00	0.00	181
Furniture	0.01	0.01	0.00	0.00	181
School fees	0.08	0.10	0.04	0.06	181
Health Care	0.00	0.00	0.00	0.00	181
Wedding	0.00	0.00	0.00	0.00	181
Land	0.02	0.01	0.04	0.02	181
Debts	0.00	0.00	0.00	0.00	181
Other	0.11	0.06	0.04	0.20	181
If interested in a loan: Desired Loan Amount (in Ksh)					
Mean	21837	23111	23722	19308	178
Median	10000	10000	15000	12500	178
Standard Deviation	29366	36032	29448	16801	
Months Needed before can make first Repayment	2.13	2.36	1.83	1.94	178
% say would be able to make first payment within 1 month	0.43	0.42	0.44	0.43	178
% say would be able to make first payment within 2 months	0.69	0.63	0.82	0.73	178

Data: Restricted experimental sample.

Table 16. What factors might prevent you from getting a loan?

	All	Market A	Market B	Market C	# obs
Don't need the money	0.10	0.09	0.12	0.10	659
Afraid bank will seize assets	0.54	0.54	0.60	0.50	659
Too risky	0.28	0.30	0.28	0.24	659
Don't trust the bank	0.04	0.04	0.06	0.03	659
Don't like the idea of being in debt	0.06	0.06	0.06	0.05	659
Have too much other debt	0.01	0.00	0.01	0.02	659
Too much hassle	0.09	0.11	0.08	0.09	659
I don’t have a business which is required for loan	0.16	0.18	0.19	0.11	659
I can't pay immediately	0.16	0.17	0.17	0.14	659
Nothing would prevent me	0.15	0.16	0.08	0.18	659
Other	0.26	0.22	0.28	0.30	659

Data: Restricted experimental sample.

Table 17. Demand for Formal Credit offered by Local Institutions

	All	Market A	Market B	Market C	# obs
Panel A. All					
Accepted Voucher	0.86	0.80	0.92	0.91	371
Redeemed Voucher	0.40	0.36	0.52	0.37	371
Started process to get a loan	0.03	0.02	0.05	0.01	371
Panel B. Women					
Accepted Voucher	0.84	0.78	0.90	0.86	243
Redeemed Voucher	0.37	0.37	0.46	0.30	243
Started process to get a loan	0.04	0.04	0.08	0.01	243
Panel C. Men					
Accepted Voucher	0.91	0.83	0.97	1.00	128
Redeemed Voucher	0.46	0.33	0.65	0.51	128
Started process to get a loan	0.00	0.00	0.00	0.00	128

Data: Subset of individuals sampled for share voucher (among restricted experimental sample).

Table A1. How do Farmers vs. Non-Farmers Save?

	All	Female	Male	# obs
Panel A. Farmers				
Informal Savings				
Participates in ROSCA	0.39	0.42	0.32	1576
Number of ROSCAs (for those who participate)	1.43	1.46	1.35	620
	(0.74)	(0.77)	(0.60)	
ROSCA contributions in past year (for those who participate)	4362	4205	4881	643
	(7245)	(6147)	(10051)	
Formal Savings				
Has Account in Formal Deposit-Taking Institution	0.08	0.06	0.15	1657
Has Account in Commercial Bank	0.04	0.02	0.09	1657
Has Account in Post Bank	0.01	0.01	0.02	1657
Has Account in Village Bank	0.04	0.03	0.05	1657
Has Account with MFI	0.00	0.00	0.00	1657
Has Account Elsewhere	0.01	0.01	0.01	1657
Has Mobile Money Account	0.13	0.09	0.24	1657
Panel B. Non-Farmers				
Informal Savings				
Participates in ROSCA	0.45	0.53	0.39	1014
Number of ROSCAs (for those who participate)	1.60	1.72	1.46	455
	(0.87)	(0.89)	(0.82)	
ROSCA contributions in past year (for those who participate)	8731	7797	9704	443
	(13451)	(11302)	(15340)	
Formal Savings				
Has Account in Formal Deposit-Taking Institution	0.23	0.19	0.25	1197
Has Account in Commercial Bank	0.15	0.09	0.18	1197
Has Account in Post Bank	0.02	0.02	0.02	1197
Has Account in Village Bank	0.07	0.10	0.06	1197
Has Account with MFI	0.00	0.00	0.00	1197
Has Account Elsewhere	0.03	0.02	0.04	1197
Has Mobile Money Account	0.26	0.19	0.31	1197

Data: Full census sample.