Access to savings accounts and poor households' behavior: Evidence from a field experiment in Nepal*

Silvia Prina†

April 3, 2012

Abstract

Savings can provide an important pathway out of poverty. Unfortunately the majority of the poor lack access to formal bank accounts, and have to use costly informal savings mechanisms. Would poor households open basic savings accounts if given access to them, helping them to save without crowding out other assets and enabling them to increase investment? Using a field experiment I randomly gave access to simple bank accounts with no opening, maintenance or withdrawal fees at local bank branches to a sample of 1,118 households in 19 slums in Nepal. Results show that there is untapped demand for savings accounts and that the poor do save. Access to the savings account increased monetary assets and total assets without causing any crowding out in other kind of assets or savings institutions. The impact is larger for households at the bottom and middle of the assets distribution and for the ones with no access to the financial system, formal or informal. Finally, financial access strongly increased households investment in health and education.

JEL Codes: D14, O16, G21
Keywords: financial services, savings, assets accumulation

*I am grateful to Santosh Anagol, Manuela Angelucci, Carlos Chiapa, David Clingingsmith, Pascaline Dupas, Xavi Giné, Jessica Goldberg, Sue Helper, Cynthia Kinnan, David Lam, Dilip Mookherjee, Michael Porter, Jonathan Robinson, Scott Shane, Justin Sydnor, Dean Yang, and numerous conference participants and seminar participants at the 2011 and 2012 AEA Meetings, PacDev, MIEDC, NEUDC, Case Western Reserve University, CeRMi, ITAM, UC-Davis, and University of Michigan for helpful comments and discussions. I am grateful to GONESA for collaborating with me on this project, and Zach Kloos and Adam Parker for outstanding research assistance. I thank IPA-Yale University Microsavings and Payments Innovation Initiative and the Weatherhead School of Management for funding. All errors are my own.

†Case Western Reserve University, email: silvia.prina@case.edu

1 Introduction

Savings promotes asset accumulation, provides a buffer against shocks and relaxes credit constraints, providing an important pathway out of poverty. While increasing evidence shows that the poor are willing and able to save, they do so largely through informal mechanisms, such as storing cash at home, joining savings clubs and buying livestock and durable goods, which are illiquid, unreliable, and are riskier than bank accounts (Karlan and Morduch, 2010; Collins, Morduch, Rutherford, and Ruthven, 2009). Unfortunately, the majority of the world's poor generally lack access to formal savings accounts or banking services of any kind (Banerjee and Duflo, 2007).

Would poor households open a basic savings account if given access to one? Would this access help them to save, accumulating small sums into large sums? Would there be any crowding out of other type of assets or savings institutions? Would households increase their investments?

The main contribution of this paper is to address these questions via a randomized field experiment that considers a diverse sample of households. One previous study has explored the effects of offering access to formal savings accounts to small business owners, such as bicycle taxi drivers and market vendors (Dupas and Robinson 2011a).[1] Entrepreneurs represent a relevant share of the worlds poor. Yet, not all households are involved in entrepreneurial activities,[2] or have an active business all year. Among non-entrepreneurial households some might want to become entrepreneurs, others not. Hence, savings motives, needs, and interest in accessing the banking system may differ greatly among households. A diverse sample of households, including both micro-entrepreneurs and non-entrepreneurs, sheds light on the full picture on the impact of banking the poor on savings and investment behavior, and ensures that the results are not limited to entrepreneurs who might be more likely to respond to opportunities to save because of their entrepreneurial activities.

Access to a simple, fully liquid bank account -with no opening, maintenance or withdrawal fees- was randomly offered to a sample of 1,118 households in 19 slums in Nepal. The account offered operates through local bank-branches. Through this experiment, I assess the causal impact of access to the bank

[1] In addition, work in progress by Abraham, Kast, and Pomeranz (2011) considers micro-entrepreneurs members of a micro finance institution.

[2] Banerjee and Duflo (2007) analyzing data from 14 developing countries report that between 6% and 62% of households living under $2 a day is self-employed outside of agriculture.

account on household saving behavior, asset accumulation, and expenditures on health and education.

My results show, first, that there is untapped demand for fully liquid savings accounts: 84% of the households offered the account opened one. Second, the poor do save: 80% of the households offered the account used it actively, making deposits of about 8% of their weekly income 0.8 times per week. Households slowly accumulated small sums into large sums that they occasionally withdraw. Within the first year of opening the account, households made on average four withdrawals, each approximately equal to their weekly income.

Third, access to the savings account increased monetary assets by more than 50%. In addition, total assets, which include monetary and non-monetary assets (consumer durables and livestock), grew by 16%. Hence, the increase in monetary assets did not come at the cost of crowding out savings in non-monetary assets. By accompanying the experiment with detailed survey data, I show that when households gain access to a savings account, they do not shift away assets from other types of savings institutions, formal (e.g. banks), or informal (e.g. Rotating Savings and Credit Associations, ROSCAs), and that the effects are stronger for households at the bottom and middle of the asset distribution and ones that were not linked to banks or informal financial institutions before the intervention.

Fourth, being offered access to a savings account strongly increases household investment in health, in the form of expenditures in medicines and traditional remedies, and in education, in the form of textbooks and school uniforms. The increase in investment in human capital seems to be on the intensive margin, not on the extensive margin, as households in the treatment group are not more likely to have their children (of school age) enrolled in school.

The results suggest that assets accumulation might be coming from small changes in behavior. A year after the start of the intervention, treatment households seem to have less cash at home, to spend less money on temptation goods, such as alcohol and cigarettes, and to engage slightly less in informal arrangements. In addition, access to a savings account seems to have some effect in reducing income volatility, as it increases earnings for households in the treatment group that had not earned income the week prior to the baseline survey. Moreover, after one year, treatment households have a higher net worth and have borrowed less money to repay another debt or to pay for a health emergency than control households. These and previous findings could be interpreted as indication that access to a

savings account might allow households to build some precautionary savings that could be used when hit by a shock instead of having to contract a costly loan. In fact, Ananth, Karlan, and Mullainathan (2007) show that individuals in India could save their way out of poverty in about a month if they could accumulate a small pot of money instead of borrowing it every day at an interest rate of 10% a day. Hence, even if tiny, such changes could be very important in increasing assets over the course of a year.

Overall, my findings show that, if given access to basic savings account with no fees, poor households do save more than if they have to rely only on alternative informal strategies. This in turn allows them to accumulate assets and invest in health and education. These results are important because they are the first ones to highlight that provision of a bank account to a general sample of households allows them to save and invest. In particular, households might not use the money saved in the account mostly for microenterprise development, as entrepreneurs do (Dupas and Robinson 2011a), but still make productivity-enhancing investments in human capital and health.

Another relevant result of this study is to show that, despite the lack of target-based commitments, households are able to accumulate small sums into large sums that are invested in health or education, rather than spent in temptations. A fully liquid account might have pros and cons for the poor. On the one side, poor households might value a savings account that is fully liquid so that they can dip into their savings to address a shock, while permitting them to safely store their money in good times. On the other side, liquidity might be an obstacle for accumulating savings. While few randomized experiments have shown that commitment savings products helps current or former bank clients and cash crop farmers to save for a specific purpose, exercising their self-control early on (Ashraf, Karlan, and Yin, 2006; Brune, Giné, Goldberg, and Yang, 2011), this study shows that poor households are able to save even with a simple, fully liquid, savings account.

Also, this study contributes to better understand the characteristics poor households value in a formal savings account and that may help explaining take-up and usage. On the one hand, poor households appear to value a product that is easy to understand, and that is associated with low transaction costs due to proximity to a local bank-branch. Also, the savings accounts considered in this study do not charge any fees, and their usage rate is very high. High fees may indeed discourage usage, as suggested by anecdotal and survey evidence from Banerjee and Duflo (2011) and Dupas,

Green, Keats, and Robinson (2011).

What are the mechanisms at play? As households in this study regularly save small amount of money with some saving motive, it is possible that some kind of mental accounting effect might be at work. This is in line with previous research showing that even a simple metal box can have a large impact on health savings since, when the money is put in the box, it is mentally allocated towards health expenditures (Dupas and Robinson, 2011b).

Moreover, a savings account that fits the needs of the poor allows them to save small amounts they deal with that would otherwise likely be spent (Mullainathan and Shafir, 2009). This is consistent with my finding that access to a savings account has a stronger effect on assets accumulation for the poorest households and for those not linked to the financial system.

This study is also linked to the non-experimental literature showing that access to financial services to the poor appears to increase income and reduce poverty (Aportela 1999; Burgess and Pande 2005; Bruhn and Love 2009). My field experiment provides detailed evidence on the causal effects of access to a fully liquid bank account on savings and investment behavior.

Finally, my research is connected to the studies highlighting the importance of institutional mechanisms that encourage savings. For example, in the U.S. a high proportion of workers at the bottom of the income distribution participate in 401(k) plans when offered a chance to do so (Orzsag and Greenstein, 2005). Savings among low-income employees, as well as minorities, can increase considerably with automatic enrollment in employer-sponsored pension plans (Choi et al. 2002, Madrian and Shea, 2001). Additional studies of savings behavior have shown that mechanisms, such as savings defaults and direct deposits into savings accounts, largely increase savings (Benartzi and Thaler, 2004; Madrian and Shea, 2001). However, a large fraction of adults worldwide typically cannot benefit from these helpful savings defaults, as they do not have access to a bank account, work in the informal sector, and have to use informal and more costly schemes to save. Hence, expanding access to savings accounts could be a first step in the direction of savings defaults for the poor.

The following section describes the field experiment, the savings account and the data. Section 3 shows the results in terms of take-up and usage. Section 4 measures the impact of access to the savings account on assets accumulation and shifting, and explores possible heterogeneous treat-

ment effects. Section 5 estimates the effects on household expenditures in health and education. Section 6 studies the impact on risk-coping ability and informal arrangements. Finally, Section 7 concludes.

2 Experimental Design and Background

2.1 Financial Institutions in Nepal

Formal and semi-formal financial institutions in Nepal include commercial and development banks, microfinance institutions, and savings and credit cooperatives (Nepal Rastra Bank, 2011). In addition, informal institutions include Rotating Savings and Credit Associations (ROSCAs, called "dhukuti" in Nepal) and moneylenders. According to the nationally representative "Access to Financial Services Survey,"[3] conducted in 2006 by the World Bank only 20% of Nepalese households have a bank account. Not surprisingly, access is concentrated in urban areas and among the wealthy. Instead, most households typically save via micro finance institutions, savings and credit cooperatives and ROSCAs. They also have cash at home and save in the form of durable goods and livestock. The main reasons reported for not having a bank account is because institutions are transaction costs, especially distance from banking institutions, and complicated deposit and withdrawal procedures. In addition, among those households with a bank account, usage is low: 54% of the households report going to the bank less than once a month.[4] Furthermore, only 37% of the households, who had a savings account as well as savings in the previous year, deposited money in the account. Moreover, banks typically charge high opening, withdrawal, and maintenance fees and require a minimum balance.[5]

In the sample considered in my study, 17% of the households has a bank account and 54% belongs to a micro finance institution or savings cooperative. In addition, 18% of the sample is member of a ROSCA. Also, similarly to the nationally representative sample, distance from a bank matters in explaining why households are unbanked. Data analysis from the baseline survey shows that a 1% increase in trans-

[3]The statistics reported in the second and third paragraph of this subsection come from the analysis of such survey by Ferrari, Jaffrin, and Shrestha (2007).

[4]Going to the bank is very good proxy of account usage, since online banking is almost inexistent in Nepal.

[5]Minimum balance requirements vary from bank to bank and depending on the savings account type. The most common requirement is 500 Rupees, i.e. about 7 US dollars.

portation costs as a fraction of monetary assets reduces by 9% the likelihood of having a bank account.[6]

2.2 The Savings Account

GONESA is a non-governmental organization (NGO) operating in 21 slums in the area of Pokhara, Nepal. These areas, despite being commonly referred as slums, are permanent settlements. The NGO started operating in these slums in the early 1990s, establishing one kindergarten center in each area.

In 2008 GONESA started operating as a bank and began offering formal savings accounts. The account is very basic but has all the characteristics of any formal savings account. The enrollment procedure is quick and simple and account holders are provided with an easy-to-use passbook savings account. Customers can make transactions through local bank-branch offices that are open twice a week during established days and times. Account holders have no opportunity to deposit or withdraw money in the slum outside these working hours. However, they can make any transactions Sunday through Friday from 10am to 4pm in the bank's main office, which is located in downtown Pokhara. Nevertheless, this option is inconvenient as it requires customers to spend up time and money to travel to the city center.

The bank does not charge any opening, maintenance, or withdrawal fees and pays a 6% nominal yearly interest (inflation is 14.4% in Nepal[7]), similar to the average alternative available in the Nepalese market (Nepal Rastra Bank, 2011). In addition, the savings accounts have no minimum balance requirement, making the account particularly suited for the households in this study.

Savings in the accounts are fully liquid for withdrawal at any time in the bank's main office, or twice a week in the local bank-branch office. The account's conditions were guaranteed for as long as people choose to have an account open, i.e. the bank did not impose any time limit. Finally, the savings account is fully flexible and operates without any commitment to save a given amount or to save for a specific purpose.

2.3 Experimental Design and Data

The full-scale field experiment took place in the remaining 19 slums, as two slums were initially used to pilot-test the savings account. The population in the areas considered in the study ranges from

[6]The coefficient is statistically significant at 5% level. Results available upon request.
[7]World Bank, Economic Policy and Poverty Team, South Asia Region (2009).

20 to 150 households.

A baseline survey was conducted in May 2010 in each slum. Only households with a female head between the ages of 18-55 were sampled. The background survey collected information on household composition, education, income, income shocks, monetary and non-monetary assets ownership, borrowing, expenditure in durables and non-durables. A total of 1,236 households were surveyed at baseline.

After completion of the baseline survey, the bank progressively began operating in the slums between the last week of May and the first week of June of 2010, as described below. A pre-announced community meeting was held in each slum. At this meeting, participants were told (1) about the benefits of savings; (2) that the bank was about to launch a savings account; (3) the characteristics of the savings account; (3) what the savings account could have helped them with and how they could have used it; (4) that the savings account would be initially offered only to half of the households via a public lottery. The short talk was given by an employee of the bank with the support of a poster and was followed by a session of questions and answers. The main aim of the session was to provide some kind of financial literacy on the benefits of savings and savings accounts to the entire sample, so that the effect of the intervention would be mainly caused by the offer of the accounts. Then, separate public lotteries were held in each slum to randomly assign the 1,236 female household heads to either the treatment group (offered the savings account) or the control group (not offered the savings account).[8] Those women that were sampled for treatment were offered the option to open a savings account at the local bank-branch office.[9] Those women sampled for the control group were not given such option, though were not barred from opening a savings account at another institution.

The endline survey was conducted starting in June 2011, a year after the beginning of the intervention. It contained, in addition to the modules contained at baseline, information on household expenditures, time preferences, and networks. The survey also included questions for the treated group about popular savings product features of the savings account offered to them and the supply of similar savings account possibly offered by other institutions. Such questions aimed at understanding the role played by supply and demand factors in explaining take-up and usage of the account. 91%, i.e. 1,118

[8] GONESA required that the random assignment into treatment and control group were to be done publicly, making stratification on occupation or income highly infeasible.

[9] The offer did not have a deadline.

out of 1,236, of the households interviewed at baseline survey were found and surveyed in the endline survey.[10] Attrition for completing the endline was not differential on observables across treatment and control groups, as shown in Appendix Table A1. Hence, performing the analysis on the restricted sample for which there are endline data will not bias the estimates of the treatment effect.

In addition to the data from the baseline and endline surveys, I use administrative data from GONESA's bank on savings account's usage at the individual level. This data include date, location (local bank-branch office or main office), and amount of every deposit and withdrawal, as well as the reason of withdrawal for all of the treatment accounts.

2.4 Sample Characteristics and Balance Check

Table 1, Panel A, illustrates that female household heads have an average age of about 36.5 years and about two years of schooling. Roughly 95% of respondents are married or living with their partner. The average household size at baseline is 4-5 people, with two children.

Weekly household income at baseline averaged 1,687 Nepalese rupees,[11] although there is considerable variation. Households earn their income from varied sources: working as an agricultural or construction worker, collecting sand and stones, selling agricultural products, raising livestock and poultry, running a small shop, working as a driver. Only 17% of the households list as their primary source of income an entrepreneurial activity.[12] In addition, households receive remittances and pensions, and earn rents. Also, the majority of households (82%) reports to live in a house owned by a household member, and 76% reports to own the plot of land on which the house is built.

Table 1, Panel B, shows households' assets and liabilities at baseline. Total assets owned by the average household have a value of more than 50,000 rupees. Monetary assets account for 35% of total assets and non-monetary assets, consumer durables and livestock and poultry,[13] account for the remaining 65%. Roughly 17% of the households at baseline were banked,[14] 18% had money in

[10] Those households who could not be traced had typically moved out of the area, with a minority migrating outside the country.

[11] In 2010-2011 70 Nepalese rupees were approximately 1 U.S. dollar.

[12] I code as entrepreneurial activities: having a small shop, working as driver, raising and selling livestock and poultry, selling agricultural products, making and selling garment, and making and selling alcohol.

[13] Livestock and poultry include goats, pigs, baby cows/bulls/buffaloes, cows, bulls, buffaloes, chickens, and ducks.

[14] In Nepal 20% of the adult population uses financial services (Honohan, 2008).

a ROSCA, and more than 54% stored money in a microfinance institution (MFI). Households also typically had about one week's worth of income stored as cash in their home. Furthermore, 89% of the households had at least one outstanding loan. This is in line with the national average from the Access to Financial Services Survey showing that in 2006 over two-thirds of Nepalese households have an outstanding loan from a formal or informal institutions (Ferrari et al., 2007).

Most loans are taken from shopkeepers (40%), MFIs (38%), family, friends, or neighbors (31%), and moneylenders (13%), in that order. Formal loans from banks are rare, with only 5% of the sample reporting an outstanding loan borrowing from a bank. Summary statistics from Table 1, Panel B, show a high level of participation by the sample population in financial activities. Most transactions are carried out with "informal" partners, such as kin and friends, moneylenders, and shopkeepers, rather than with formal institutions, like banks. This is consistent with previous literature showing that the poor have a portfolio of transactions and relationships (Banerjee, Duflo, Glennerster, and Kinnan, 2010; Collins et al., 2009; Dupas and Robinson, 2011a and 2011b).

The population of the study seems highly vulnerable to shocks, as 41% of the sample indicated having experienced a negative external income shock during the month previous to the baseline survey. Shocks include health shocks, lost job, livestock loss, broken/damaged/stolen good or equipment, low demand for business, decrease in the wage rate, and death of a household member. 52% of the households hit coped using cash savings, while 17% coped borrowing from family and friends, and 17% coped borrowing from a moneylender. Only 1% coped by cutting consumption, possibly suggesting that households have some ability to smooth consumption when facing by a negative shock.[15]

Overall, Table 1 shows that for the final sample considered for the analysis, i.e. those 1,118 households that completed both the baseline survey and the second endline survey, treatment and comparison groups are balanced along all characteristics.[16]

[15] An alternative explanation could be that shocks were small in economic terms.

[16] The analysis carried out in this paper focuses on those 1,118 households that completed both the baseline survey and the second endline survey. Results are robust when restricting the sample to those households in both endlines. In addition, the initial sample of 1,236 households that completed the baseline survey is also balanced.

3 Results: Take-up and Usage

Of the 1,118 households included in the final sample, 567 were given the opportunity to open savings account. As shown in Table 2, 84% opened an account and 80% used it actively, making at least two deposits within the first year of being offered the account.[17]

The majority of the transactions accounts for deposits. In fact, as shown in Table 2, account holders made an average of 48 transactions: 44 deposits and 4 withdrawals. Forty four deposits in a period of 12 months is equivalent to 0.8 deposits per week.

The average amount deposited on a weekly basis is Rupees 131, roughly 8% of the average weekly household income as reported in the baseline survey. Account holders did not demonstrate a significant preference for making deposits either sooner or later the week. Rather, deposits are evenly distributed between the the first and second day of the week in which the bank is open in the village, and are of very similar amounts. Average weekly balance is increasing over the year of study.

Households have different savings behavior. They accumulate savings at different rates, depending on the frequency and size of deposits. In addition, while 17% of the households with a bank account actively use it accumulating money over the course of the year without making a single withdrawal, the majority accumulates small sums into larger sums that then are withdrawn, in full or partially.

Households have also different savings motives. Bank administrative data show that the main reasons for withdrawing money are to buy food (18%), to pay for a health emergency (17%), to repay a debt (17%), to pay for school fees and materials (12%), and to pay for festivals-related expenses (8%). The average size of a withdrawal is Rupees 1,774, slightly more than a week of household income. Hence, the savings accumulated in the account are used for both planned expenditures and when unexpected shocks occur.

Figures 1 and 2 show the number of withdrawals made in any given week for the five main withdrawal reasons listed previously. Figure 1 considers withdrawals made for education- (school fees and school material) and festivals-related expenditures. These can be considered planned expenditures, as the start of the school year and religious festivals happen on precise dates. In fact, withdrawals for

[17]For the original sample of 1,236 household surveyed at baseline take-up and usage rates are not different: 622 were given the opportunity to open a savings account, 82% took up the account and 71% used it actively.

education-related expenditures spike 49 weeks after the accounts had been offered, i.e. during the week of April 18-24 which corresponds to the first week of school for the academic year 2011-2012. Similarly, withdrawals for festival-related expenditures spike at week 17, 22, 25, 35, 47, and 51 in correspondence of Teej festival, Dashain festival which is considered the most important and lasts a week, Tihar festival, Maghe Sankranti, New Year according to the Nepali calendar, and Dumji festival, respectively.[18] Figure 2 instead illustrates withdrawals made for health-related expenditures, to buy food when income is low, and to repay a debt. As Figure 2 shows there are not particular dates in which withdrawals spike. This is partly explained by the fact that these are unplanned expenditures incurred due to a negative shock to health or employment that just occurred or that happened in the past, for which a loan was taken out. Hence, households might be using the savings in the account as a buffer stock.

The administrative data are in line with the motives for saving, reported by the households owning an account, in the follow-up survey a year after the introduction of the bank accounts.[19] The top five reasons for withdrawing the money saved in the account are health, consumption smoothing, education, to pay for festival-related expenses, and to repay a debt. Some households also declare to withdraw in order to invest in their current business, to buy agricultural inputs, and to buy livestock or poultry.

Households might value access to a savings account for different reasons than entrepreneurs. The above findings suggest that this is the case. When given access to a basic savings account, households generally do not use the money saved in the account for microenterprise development, as entrepreneurs do (Dupas and Robinson 2011a). Nevertheless, they still use their savings to make productivity-enhancing investments in human capital and health.

This study also suggests that, given the high frequency of deposits and the small size of weekly deposits, households seem to slowly accumulate small sums into large sums. This savings behavior is very different from the one observed for entrepreneurs. In Dupas and Robinson (2011a) entrepreneurs in Kenya made few and large deposits, equivalent to about 25% of their weekly income.[20]

A comparison of take-up, usage, and account features of the savings account considered in this study

[18] During the intervention period, i.e. May 2010- May 2011, Teej festival happened on September 11, Dashain festival on October 17-23, Tihar festival on November 4-8, Maghe Sankranti on January 15, Nepali's New Year on April 14, and Dumji festival on April 25.

[19] Savings motives are reported in Appendix Table A2.

[20] Similarly, work in progress in Chile by Abraham et al. (2011), also considering a sample of entrepreneurs, finds that account holders made infrequent (twice a year) but large deposits of about 24% of the weekly income.

with the ones offered in other interventions could shed some light on how to increase financial inclusion for the poor. Compared to other studies that offered a savings account with no opening or minimum balance fees, there are not big differences in take-up rates: Dupas and Robinson (2011a) obtained a 92% take-up rate when offering the option to open an account to a sample of microentrepreneurs; Dupas et al. (2011) found a 63% take-up rate when offering the option to open an account to a random subset of unbanked individuals; and take-up rate in my study was 84%.[21] However, differences in usage rates are quite striking. In Dupas and Robinson (2011a) only 37% actively used the account, making at least two deposits within the first six months. In Dupas et al. (2011) 18% opened an account and actively used it, making at least 2 deposits in a year. In my study instead, 80% of the account holders used the account making at least 2 deposits in a year.

What could explain such differences? Part of the explanation could be due to diverse savings behaviors and informal savings options available to the poor in different countries. Previous literature however, has shown that the poor want to save and do so using several savings mechanisms that are similar across countries (Collins et al., 2009). In addition, formal and informal savings options in Nepal and Kenya are similar in terms of product characteristics, costs, and convenience.

One alternative explanations could be lack of trust in banking institutions and in the reliability of their service. While trust seem to be an issue in some developing countries (Dupas et al. 2011), it does not seem to play a key role in Nepal. In my sample, trust is considered the most valued account feature only by 9% of the users.[22]

Another possible explanation could by high transaction costs, which include transportation costs, withdrawal fees, and product complexity. These factors appear to play an important role in my study. In fact, as reported in the nationally representative "Access to Financial Services Survey," conducted in 2006, most Nepalese households reported as main reasons for not having or using a bank account distance and complex deposit and withdrawal procedures. In my study, 84% of the households that opened a bank account when offered one list as most valued feature the "ability to easily deposit and withdraw any amount of money any time." This could partly be explained by proximity to a bank-branch, as in each slum there was a bank-branch open twice a week, even if for limited hours.

[21] Abraham et al. (2011) also offered accounts, but a two dollars minimum opening deposit was required.
[22] Detailed percentages on the account features most valued are reported in Appendix Table A2.

And it could be explained by the absence of withdrawal fees. Indeed, while in all three studies account opening fees and minimum balance fees were waived, withdrawal fees were waived only in this study. Anecdotal and survey evidence from Banerjee and Duflo (2011) and Dupas et al. (2011) emphasizes the importance of high withdrawal fees in the poor's decision not to use a savings account.

To study the determinants of take-up of the savings account, I restrict the sample to the treatment group, i.e. those individuals ever offered the account. I consider two outcome variables: A_i and D_i. A_i is a binary variable equal to 1 if the account is active, i.e. if the individual made at least one transaction within the first four months after opening the account. D_i is the natural logarithm of the sum of total deposits made in the first year. I use a linear regression model such as:

$$Y_i = \alpha_0 + \alpha_1 * X_i + \lambda_v + \mu_i \tag{1}$$

where Y_i=$\{A_i, D_i\}$, X_i is a vector of baseline characteristics and μ_i is an error term for individual i. I also include village fixed effects λ_v and cluster standard errors, since outcomes for households in a given village may not be independent. Table 3 shows the results of these regressions. Columns 1-2 consider A_i and columns 3-4 D_i. Active use of the account and the total amount deposited in the savings account are strongly and positively related to the value of assets in a ROSCAs. In fact, a 1% increase in the money saved in a ROSCA at baseline increases by more than 5% the total amount deposited in the account. However, the amount saved in a bank at baseline is positively affects the active use of the savings account but does not have a statistically significant effect on the total amount deposited in it. Also, the value of livestock and poultry owned by the household do not seem to be statistically significant determinants of active use and total deposits. Having a higher level of education is positively correlated with using an account actively. Having children less than 16 years old living in the household increases by 4% an active use of the account, while one additional household member has the opposite effect. Finally, the coefficients of the variable "married/living with partner" is not statistically significant. This could be due to the fact that 89% of the women in the sample are either married or living with a partner.

4 Results: Impact on Assets Accumulation and Shifting

This section studies the impact of access to a formal savings account on household assets, a year after the start of the randomized intervention. The main outcome variables of interest are monetary assets (MA), non-monetary assets (NMA), and total assets (TA) at the household level. Monetary assets include cash at home; money in a bank; money in an MFI, credit cooperative, or savings organization; money in a ROSCA; money kept for safekeeping by a friend, relative, or employer; and, for the treated individuals only, money in the savings account they were offered. Non-monetary assets include consumer durables, and livestock and poultry. Total assets include monetary and non-monetary assets. These multiple measures of assets allow to study not only if there was any effect on monetary assets, but also whether there was any crowding-out to other assets owned by the household, and if there was any kind of assets shifting.

Figure 3 shows the cumulative distribution functions (CDFs) of monetary, non-monetary and total assets for the treatment (black line) and the control group (red line) a year after the introduction of the device. The monetary assets CDF for treatment group appears to the right of the one for the control group, indicating the positive effect of getting access to a savings account on monetary assets. When considering total assets, the differences between treatment and control groups seem to be smaller, while when considering non-monetary assets there do not seem to be sizeable differences. In fact, the two-sample Kolmogorov-Smirnov test for equality of distribution functions rejects at 99% (95%) confidence interval that the distribution of monetary assets (total assets) for the treatment group is the same to the one of the control group, as the p-value equals to 0.001 (0.047). However, I cannot reject that the CDF of non-monetary assets for the treatment group is the same as the CDF of non-monetary assets for the control group, as the p-values equals to 0.308.

I then estimate the average effect of having been assigned to the treatment group, or intent-to-treat effect (ITT), on each outcome variable Y a year after the launch of the savings account.[23] I use the following regression specification:

[23] I do not analyze the average effect for those who actively used the account, as only 5% of the individuals who opened the account did not use it.

$$Y_i = \beta_0 + \beta_1 * T_i + \beta_2 * X_i + \lambda_v + \epsilon_i \quad (2)$$

where T is an indicator variable for assignment to the treatment group, X_i is a vector of baseline characteristics (age, years of education, and marital status of the account holder; number of household members; number of children below 16 years of age; most relevant source of household income; total value of livestock and poultry; total amount saved in ROSCAs; total amount saved in banks, and pre-intervention level of the outcome variable), and ϵ_i is an error term for individual i clustered at the village level. I also include village fixed effects λ_v, as the randomization was done within village. Standard errors are clustered at the village level, since outcomes for households in a given village may not be independent.

The coefficient of interest is β_1 which gives an estimate of the intent-to-treat effect. Moreover, assuming that being offered the savings account does not have any other direct effect on savings besides causing an individual to use the account, it is possible to estimate the treatment-on-the-treated effect by dividing the ITT by the take-up rate ($\frac{\beta_1}{take\text{-}up\ rate}$).

Table 4 presents the overall average effects of the savings account on monetary assets (columns 1-2), non-monetary assets (columns 3-4), and total assets (columns 5-6). The results show that access to a savings account strongly increases monetary assets and total assets without decreasing non-monetary assets. In particular, column 1 shows that monetary assets are about 58%[24] higher in the treatment group. Given the mean of level of savings in the control group, this implies a level effect of Rupees 11,185. Of course, this calculation could misrepresent the true average treatment effect on the level of savings if the log effect is heterogeneous over different levels of predicted savings. In fact, when I estimate the intent-to-treat effect in levels rather than logs, the implied effect (in levels) is Rupees 5,095.[25] The reason why this regression yields a smaller estimate than that implied from the specification in natural logarithms will become clear when we discuss the evidence of heterogeneous treatment effects below.

The increase in monetary assets causes a growth in total assets of 16%, as shown in column 5.[26] The coefficient measuring the intent-to-treat effect remains similar in magnitude and statistically significant

[24] As β_1 is the coefficient of a dummy variable in a log-linear regression, the correct size effect is not given by β_1, but by $\hat{\gamma}_1$=antilog$\hat{\beta}_1$-1=antilog(0.46)-1=0.58 (Hanushek and Quigley, 1978, Table 2).

[25] The R^2 from my preferred specification in natural logarithms is higher than the R^2 from the analogous specification in levels.

[26] Similarly, $\hat{\gamma}_1$=antilog$\hat{\beta}_1$-1=antilog(0.15)-1=0.16.

when additional controls are added. In addition, columns 3-4 show that there is no statistically significant impact on non-monetary assets. This indicates that the increase in monetary and total assets did not come at the cost of crowding out savings in the form of consumer durables and livestock.

Are the effects heterogeneous along the assets distribution? Figure 5 shows that, for monetary assets, the differences between the treatment and the control groups CDFs are larger or smaller at different points of the distribution, signaling that it is important to study the distribution of impacts. In order to identify who gained the most from gaining access to a savings account, I run quantile regressions for the quartiles of the assets distribution on a dummy for treatment group assignment. The estimates of the ITT coefficients corresponds to the estimated treatment effect at each quartile. Each coefficient is interpreted as the difference in monetary assets, a year after the introduction of the savings account, between two individuals, both positioned at a given quartile of the distribution of monetary assets, one in the treatment group, the other in the control group. Regression results are presented in Table 5. Column 1 considers monetary assets. The treatment has a stronger effect at the bottom of the distribution than in the middle of the distribution. However, there is not a statistically significant effect at the top of the distribution of monetary assets. These results explain why the level effect (over the full sample) from the specification in levels was smaller than the implied level effect from the specification in natural logarithms.

These findings suggest that being offered a savings account not only increases average monetary assets (as shown in Table 4), but also partly reduces monetary assets inequality. The result can be partly explained by the fact that the fraction of households with a bank account decreases moving from the top of the assets distribution to the bottom. In fact, while 42% households in the top quartile (richest) have at least one bank account, the percentage decreases to 17% for the third quartile, 8% for the second, and it is only 0.7% for the poorest. Similarly, the lower the monetary assets level, the lower the access to formal and informal financial sources, where informal sources include ROSCAs, MFIs, and savings organizations.

Columns 2 and 3 of Table 5 consider non-monetary assets and total assets, respectively. Total assets, a year after the introduction of the savings account, are higher for treatment households than for control households in the middle of the distribution, and the effect is statistically significant at the

5% level. The treatment however, has no effect on non-monetary assets, consistent with the results from the OLS regressions.

Finally, detailed survey data on all kind of assets allow for examination of asset shifting. It is generally difficult to measure whether access to a savings account causes any crowding out of other type of savings. Most previous studies have data on one savings product only, or on savings products offered by the same institution.[27] For example, Ashraf et al. (2006) shows that the commitment savings accounts offered in their study do not crowd out savings in other accounts in the same bank. However, they cannot observe the effect on other forms of savings outside that bank. Table 6 reports the intent-to-treat effect on cash at home (columns 1-2), money in a bank (columns 3-4), money in MFIs or savings organizations (columns 5-6), and ROSCA's contributions, conditional on being part of a ROSCA at baseline (columns 7-8). Having access to a savings account appears to have reduced by 13% the amount of cash at home. This is only suggestive evidence however, as the effect is not statistically significant. Columns 3-8 provide some weak indication that, when a savings account becomes part of a household's financial portfolio, there is not considerable assets shifting from other types of savings institutions, formal or informal.

4.1 Heterogeneous Treatment Effects

Next, I study differential impacts along some household characteristics. I use the same regression specification as in (2), but add the interaction between the treatment dummy with one characteristic at a time. The variables (at baseline) considered for the interaction are: household has a bank account; female household head has above average years of education (three years or above); households has no financial access, formal or informal. The dummy variable "no financial access" is equal to one if the household does not have a bank account, nor belongs to any microfinance institution, savings cooperative, or ROSCA. These are variables that, to some extent, appear to matter in the usage of the savings account. I am also interested in studying the effects of being involved in an entrepreneurial activity or in agricultural labor. A household is defined as being involved in an entrepreneurial activity if part of its weekly income comes

[27] An exception is Abraham et al. (2011).

from any of the following activities: running a small shop, working as driver, raising and selling livestock and poultry, selling agricultural products, making and selling garment, and making and selling alcohol.[28]

Results are presented in Table 7. The coefficient on the interaction term is insignificant for all variables, except for "no financial access." This suggests that, within the treatment group, the average effect of the treatment assignment is working fairly uniformly across the household characteristics considered. Hence, monetary assets of both banked and unbanked households offered a savings account were positively affected, but there is no statistically significant difference in the percentage increase (more than 60% for those households with a bank account and more than 40% for those without). Similarly, there do not appear to be heterogeneous treatment effects for households whose female head has above average level of education (i.e. three or more years of schooling), nor for households involved in an entrepreneurial activity.

I find some evidence however, that access to a savings account, had a statistically larger impact on raising monetary assets for households not previously linked to banks or informal institutions than for households already linked to the financial system. While households with no financial access at baseline have lower monetary assets a year after, the positive and statistically significant interaction coefficient in column 4 suggests that households with no access offered a savings account did accumulate more assets. Such results are consistent with the positive correlation between assets level and access to formal and informal financial sources. They are in line with the ones of Ashraf et al. (2006) who find that commitment savings accounts worked on getting inactive savers to save, but did not work for bank customers who were already active savers.

4.2 Impact on Income and Entrepreneurial Activities

Access to a savings account and assets accumulation could affect household earnings and expenditures, which I consider in this section and the next one.

Table 8 studies the effects of access to a savings account on household earning ability, weekly income

[28]Results do not change when considering as households engaging in entrepreneurial activities only those households whose main source of income comes from an entrepreneurial activity.

and the survival or creation of entrepreneurial activities. Columns 1-4 show that the treatment has a positive a statistically significant effect on the ability of earning income, as well as on the total amount of income earned for those households not earning income a year before the intervention. In particular, considering such households, 3.7% more households in the treatment group than in the control group earned income a year after. Moreover, among the households earning income at endline but not at baseline, those in the treatment group earned 38.6% more than those in the control. These results could suggest that expansion in access to a savings account might help reducing income volatility which is high in the sample population, as it is in general in developing countries (Morduch, 1995). However, the statistically insignificant coefficient on the interaction term indicates that, within the treatment group, the average effect of the treatment assignment is working fairly homogeneously for households earning or not income at baseline.

Columns 5-8 of Table 8 analyze the effect of improved financial access on entrepreneurial activities. As shown in columns 5 and 6, the coefficient for the interaction between the treatment dummy and the entrepreneurial activity indicator is positive and statistically significant, while the coefficient for the treatment dummy is not statistically significant. Thus, access to a savings account has a positive and statistically significant effect on the survival of entrepreneurial activities but not on the creation of new ones. However, the not statistically significant interaction coefficients reported in columns 7 and 8 indicate that access to a savings account does not have an effect on income for households involved in entrepreneurial activities at baseline. These results are consistent with the finding that access to a savings account increases both the likelihood of having an outstanding loan and the amount borrowed to maintain or expand an existing entrepreneurial activity.[29]

Finally, Table 9 shows that, a year after the intervention, households offered a savings account do not seem to have borrowed or lent more than households who were not. Treatment households however, have a statistically significant higher net worth. This could be interpreted as indication that access to a savings account might allow to build some precautionary savings that could be used when hit by a negative shock, to cope with the shock as well as to be able to keep repaying outstanding debts, instead of having to contract another loan. In fact, treatment households appear to have

[29]Results are reported in Appendix Table A3, columns 3-4.

borrowed less money to repay another debt and seem less likely to borrow money to pay for health emergencies.[30]

5 Results: Impact on Household Expenditures in Health and Education

Thus far, the analysis has shown that access to a savings account increases monetary and total assets, and appears to have some positive effect on income. I now turn to study whether provision of an account has any effects on household expenditures. Tables 10A, 10B, and 11 estimate the average effect of having been assigned to the treatment group on the amount spent[31] in each expenditure category in the 30 days prior to the endline survey. I use the same regression specification as in (2).

Table 10A shows the impact on health-related expenditures, and Table 10B on education-related expenditures.[32] Expenditure on health is broken down in medicines and traditional remedies, and health services, e.g. hospital charges and doctors fees. Education related expenditures include: school fees, textbooks, uniforms, and school supplies, such as pens and pencils.

Table 10A (columns 1-2) shows that, considering the entire population in the study, financial access increases health expenditures in the form of medicines and traditional remedies by more than 45%. Also, for the full sample, there is a negative but not statistically significant effect on expenditures in health services, such as hospitalization charges and doctors' visits, which might be sustained only in the case of serious illnesses. When restricting the sample to those households hit by a health shock in the last 30 days prior to the endline, results are much stronger and both effects are statistically significant at the 5% level. A plausible explanation of such results could be that treatment households spend more on medicines to treat illnesses early on so that illnesses do not worsen and they do not have to incur hospitalization charges later on. This is supported by previous research showing that patients that use more drugs consume less inpatient care (e.g. Goldman, Joyce, and Karaca-Mandic 2006, Lichtenberg 2000, 2002, 2007, and Tamblyn et al. 2001).

[30] Results are reported in Appendix Table A3, columns 7-16.

[31] Regression results are similar when expenditure in each category is calculated as fraction of total non-food expenditure, or as a dummy equal to one if the household spent money for that item.

[32] The same analysis is run for all other expenses which include money spent on clothing and footwear for children, women, and men; personal care items; house cleaning articles; house maintenance; and transportation. There is no statistically significant impact on any of these expenditure categories. Results are available upon request.

Regression results reported in Table 10B show large effects on education-related expenditures. The possibility of opening a savings account raises investment in human capital in the form of textbooks and school uniforms by more than 50%. There is also some evidence of a positive effect for expenditure on school fees and material.[33] The increase in investment in human capital is on the intensive margin, not on the extensive margin. In fact, as the last two columns of Table 10A show, households in the treatment group are not more likely to have their children (of school age) enrolled in school. This would be expected as almost all children of school age are in school. No effect on enrollment and a positive effect on school fees could signal that some parents in the treatment group are pulling their children out of public schools, which provide low quality education, and paying tuition fees to send them to private schools, as shown by Banerjee and Duflo (2007).

Finally, Table 11 investigates whether having access to a savings account reduces expenditures in temptation goods, i.e. tobacco and cigarettes, alcohol, and gambling. The negative sign of the intent-to-treat coefficients only offer suggestive evidence that having access to a savings account decreases the likelihood of having spent money in temptations goods, as well as in the amount spent. This is in line with the idea, developed by Mullainathan and Shafir (2007), that keeping money in a bank could reduce the ability and temptation to spend it.

5.1 A Falsification Test

Overall, evidence from Tables 10A and 10B indicates that access to a savings account has a significant positive effect on both health- and education-related expenses. These findings are consistent with the primary withdrawal reasons gathered from the bank administrative data, and with the main motives for saving in the account, reported by the account holders in the second endline survey.

An alternative way test if the higher expenditures in education and health for the treatment group are explained by having a savings account is to show that there is no effect for those treatment households who never withdrew. In order to test this formally, I build a dummy variable equal to one if the household made at least one withdrawal. I then regress expenditures against

[33] When restricting the sample to those households with children enrolled in school the effects are similar in magnitude and statistical significance.

the intend-to-treat dummy, the withdrawal dummy, and their interaction. For both health and education-related expenditures, the ITT coefficient is not statistically significant. The interaction coefficients instead are large in magnitude and statistically significant at the 1% level, and their sign is positive. The only negative interaction coefficient is the one associated to the expenditures in health services, consistent with the negative effect of having access to a savings account on such expenditures.[34]

6 Results: Impact on Risk-Coping, Overall Financial Situation, and Transfers

Financial access might improve the household risk-coping ability and its overall financial situation. Roughly 30% of the households in the study were hit by at least one negative shock in the 30 days prior to the endline survey. Shocks include health shocks (75% of the households were hit by a negative shock), lost job (11%), livestock loss (6%), broken/damaged/stolen good or equipment (6%), low demand for business (4%), decrease in the wage rate (3%), and death of a household member (1.5%). Access to a savings account does not appear to reduce exposure to risk. In fact, 31% of the treatment households and 30% of the control households were hit by at least one shock, and the difference is not statistically significant. Similarly, treatment households are not less likely to get sick or being hit by any other type of shock.

Table 12 analyzes whether access to a savings account improves the ability to cope with shocks. Two caveats are in order. First, the analysis restricts the sample to those 337 households hit by at least one shock, thus increasing variability. Second, even if the treatment group does not appear less likely to be hit by a shock than the control, shocks might not be exogenous. For example, on one hand, the treatment group could feed better its livestock than the control because of the increased ability to save, and thus might be less likely to suffer livestock loss. On the other hand, the treatment group could own more animals than the control group because of the increased ability to save and thus might be more exposed to livestock loss. Keeping these two caveats in mind, households can cope with shocks using cash, savings in a bank, selling household durables, or borrowing money. While I find a positive correlation with the ability to cope using savings in a bank (statistically significant at

[34] Results available upon request.

the 12% level), there is a negative correlation between access to a savings account and the likelihood of coping with cash, selling household possessions, or borrowing money. The latter negative correlation, combined with the positive correlation with the ability to cope using savings in a bank, could be indication that financial access helps building precautionary savings that in the event of a negative shock replace costlier sources of smoothing consumption, such as borrowing money.

Also, treatment households perceive themselves to be better off financially. Table 13 presents the average effects of access to a savings account on the household self-assessed financial situation. I use three different questions from the endline survey a year after the start of the intervention. As shown in columns 3-4, households offered the savings account are 10% more likely to describe their financial situation as "living comfortably" or "having a little left for extras." In addition, estimates from columns 5-6 indicate that treatment households are also 8% more likely not to feel very or at all financially stretched month to month. Access to a savings account however, does not improve households' sense of financial insecurity, as presented in columns 1-2.

Finally, Table 14 analyzes the intended-to-treat effect on transfers. Access to a savings account could affect informal arrangements both negatively and positively. On the one hand, treatment households could reduce transfers to their network as having a savings account allowed them to build some precautionary savings that reduced their dependence on loans from the network. In addition, the ability to safely store their monetary assets into a bank account could help them reduce exposure to network's requests (e.g. Dupas and Robinson 2011a, Brune et al. 2011). On the other hand, if access to a savings account allows for assets accumulation that is visible to the network, treatment households might be pressured to increase their transfers to the network. I consider the total volume of transfers in the past 30 days (outflows plus inflows), as well as net transfers (outflows minus inflows). I divide transfers into loans, gifts, and loans and gifts. In addition, I separate transfers to/from regular, non-regular, and all partners. Overall, regression results show only suggestive evidence that access to a savings accounts might reduce the volume and the net outflows of informal arrangements, as the majority of the coefficients bear a negative sign. Such weak evidence is consistent with Brune et al. (2011) and Dupas and Robinson (2011b).

7 Conclusion

The poor often lack access to formal financial services, such as a savings account, and have instead to adopt costly alternative strategies to save. Access to formal financial services that allows to save and build assets might be important for low-income households to help them smooth sudden income fluctuations due to negative shocks such as job loss, medical emergencies, etc. Savings can also provide capital to be invested in education, health, and to start or improve an income generating activity.

Using a randomized field experiment, I show that poor households save more if given access to basic savings accounts with no fees than if they have to rely on alternative informal strategies to accumulate assets. My study shows that there is high demand for such accounts and that households regularly deposit small amounts of money. Savings accounts are beneficial even when the households do not use the money saved for micro-enterprise development because they permit households to make productivity-enhancing investments in human capital and health.

These findings suggest that increasing the scope of banking services could potentially lead to high returns in the long-run. In addition, banking the poor, could also increase the ability to apply mechanisms, such as defaults, that have been shown to be powerful in increasing savings in other settings (Benartzi and Thaler, 2004; Madrian and Shea, 2001).

High take-up and usage rates may partly be explained by simplicity, lack of fees of any kind, and bank-branch proximity. Banks however, might not find appealing managing small accounts because of the high administration costs associated with running them. Nevertheless, some efforts are being made to design savings products that meet the needs of the poor and are economically viable.[35] Adoption of new technologies such as mobile banking could be a promising venue. Future work should aim at examining the effects of such new savings technologies.

Some caveats apply to this study. First, while I consider a general sample of poor households in Nepal, future research is needed to assess whether the large and positive effects of offering a basic savings account without fees generalize to households in other countries. Similar results in other

[35] On november 2010 the Bill andMelinda Gates Foundation pledged $500 million over the next five years to expand financial services, particularly savings accounts, to the poor (Gates Foundation, 2010).

settings would validate the importance of account characteristics such as simplicity and lack of fees for poor households. Second, the design of the field experiment with randomization at the household level, rather than at the village level, does not allow me to study the general equilibrium effects of giving access to bank accounts to the entire sample of households. While this is a relevant topic on which future work should focus, my study aimed at showing first that basic savings accounts are in high demand and positively affect households' savings and investment behavior.

References

Abraham, Ronald, Felipe Kast, and Dina D. Pomeranz, 2011, "Insurance Through Savings Accounts: Evidence from a Randomized Field Experiment among Low-Income Micro-Entrepreneurs in Chile," mimeo.

Ananth, Bindu, Dean Karlan, and Sendil Mullainathan, 2007, "Microentrepreneurs and Their Money: Three Anomalies," Harvard University, mimeo.

Aportela, Fernando, 1999, "Effects of Financial Access on Savings by Low-Income People," mimeo, Banco de Mxico.

Ashraf, Nava, Dean Karlan, and Wesley Yin, 2007, "Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines," *Quarterly Journal of Economics,* 635-672.

Banerjee, Abhijit V., and Esther Duflo, 2007, "The Economic Lives of the Poor," *Journal of Economic Perspectives,* 21(1), 141-167.

Banerjee, Abhijit V., and Esther Duflo, 2011, *Poor Economics: A Radical Rethinking of the Way to Fight Global Poverty,* New York, NY: Public Affairs.

Banerjee, Abhijit V., Esther Duflo, Rachel Glennerster, and Cynthia Kinnan, 2010, "The Miracle of Microfinance? Evidence from a Randomized Evaluation," mimeo.

Bauer, Michal, Julie Chytilová, and Jonathan Morduch, 2010, "Behavioral Foundations of Microcredit: Experimental and Survey Evidence," IZA Discussion Paper No. 4901.

Benartzi, Shlomo, and Richard H. Thaler, 2004, "Save More Tomorrow: Using Behavioral Economics to Increase Employee Saving," *Journal of Political Economy,* 112(1), 164-187.

Bruhn, Miriam, and Inessa Love, 2009, "The Economic Impact of Banking the Unbanked: Evidence from Mexico," Wolrd Bank Policy Research Working Paper No. 4981.

Brune, Lasse, Xavier Giné, Jessica Goldberg, and Dean Yang, 2011, "Commitments to Save: A Field Experiment in Rural Malawi, Mimeo.

Burgess, Robin, and Rohini Pande, 2005, "Do Rural Banks Matter? Evidence from the Indian Social Banking Experiment," *American Economic Review,* 95(3), 780-795.

Choi, James, David I. Laibson, Brigitte Madrian, and Andrew Metrick, 2002, "Defined Contribution Pensions: Plan Rules, Participants Decisions, and the Path of Least Resistance," in *Tax Policy and the Economy,* James M. Poterba Ed., MIT Press, Cambridge, MA.

Collins, Daryl, Jonathan Morduch, Stuart Rutherford and Orlanda Ruthven, 2009, *Portfolios of the Poor: How the World's Poor Live on* 2 *a Day,* Princeton University Press.

Dupas, Pascaline, Sarah Green, Anthony Keats, and Jonathan Robinson, 2011 "Challenges in Banking the Rural Poor: Evidence from Kenya's Western Province," mimeo.

Dupas, Pascaline, and Jonathan Robinson, 2011a "Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya," NBER Working Paper No. 14693.

Dupas, Pascaline, and Jonathan Robinson, 2011b "Why Don't the Poor Save More? Evidence from Health Savings Experiments," NBER Working Paper No. 17255.

Ferrari, Aurora, Guillemette Jaffrin, and Sabin R. Shreshta, 2007, *Access to Financial Services in Nepal,* The World Bank, Washington, D.C.

Gates Foundation, 2010, http://www.gatesfoundation.org/press-releases/Pages/melinda-gates-at-global-savings-forum-101116.aspx

Goldman, Dana P., Geoffrey F. Joyce, and Pinar Karaca-Mandic, 2006, "Varying Pharmacy Benefits with Clinical Status: The case of Cholesterol-Lowering Therapy," *American Journal of Managed Care,* 12(1), 21-28.

Honohan, Patrick, 2008, "Cross-Country Variation in Household Access to Financial Services," *Journal of Banking and Finance,* 32, 2493-2500.

Karlan, Dean, and Jonathan Morduch, 2010, "Access to Finance," in *Handbook of Development Economics,* edited by Dani Rodrik and Mark Rosenzweig, Volume 5, Chapter 2, Amsterdam: North-Holland.

Lichtenberg, Frank R., 2000, "The Effect of Pharmaceutical Use and Innovation on Hospitalization and Mortality," In *Productivity, Technology and Economic Growth* edited by Bart van Ark, Simon K. Kuipers, Gerard H. Kuper. Boston, Dordrecht, and London: Kluwer Academic, 317344.

Lichtenberg, Frank R., 2002, "Benefits and Costs of Newer Drugs: An Update," NBER Working Paper No. 8996.

Lichtenberg, Frank R., 2007, "The Impact of New Drugs on U.S. Longevity and Medical Expenditure, 19902003: Evidence from Longitudinal, Disease-Level Data," *American Economic Review,* 97(2), 438443.

Madrian, Brigitte C., and Dennis F. Shea, 2001, "The Power of Suggestion: Inertia in 401(k) Participation and Savings Behavior," *Quarterly Journal of Economics,* 116(4), 1149-1187.

Mullainathan, Sendil, and Eldar Shafir, 2009, "Savings Policy and Decisionmanking in Low-Income Households," in *Insufficient Funds: Savings, Assets, Credit and Banking Among Low-Income Households,* edited by Michael Barr and Rebecca Blank, Russell Sage Foundation Press, Chapter 5,

121-145.

Nepal Rastra Bank, 2011, "Quarterly Economic Bulletin - Mid October 2011."

Orzsag, Peter, and Robert Greenstein, 2005, "Toward Progressive Pensions: a Summary of the U.S. Pension System and Proposals for Reform," in *Inclusion in the American Dream: Assets, Poverty, and Public Policy,* edited by Michael Sherradan, New York: Oxford University Press.

Tamblyn, Robyn, Rejean Laprise, James A. Hanley, Michael Abrahamowicz, Susan Scott, Nancy Mayo, Jerry Hurley, Roland Grad, Eric Latimer, Robert Perreault, Peter McLeod, Allen Huang, Pierre Larochelle, and Louise Mallet, 2001, "Adverse Events Associated with Prescription Drug Cost-Sharing Among Poor and Elderly Persons," *JAMA: The Journal of the American Medical Association,* 285(4), 421429.

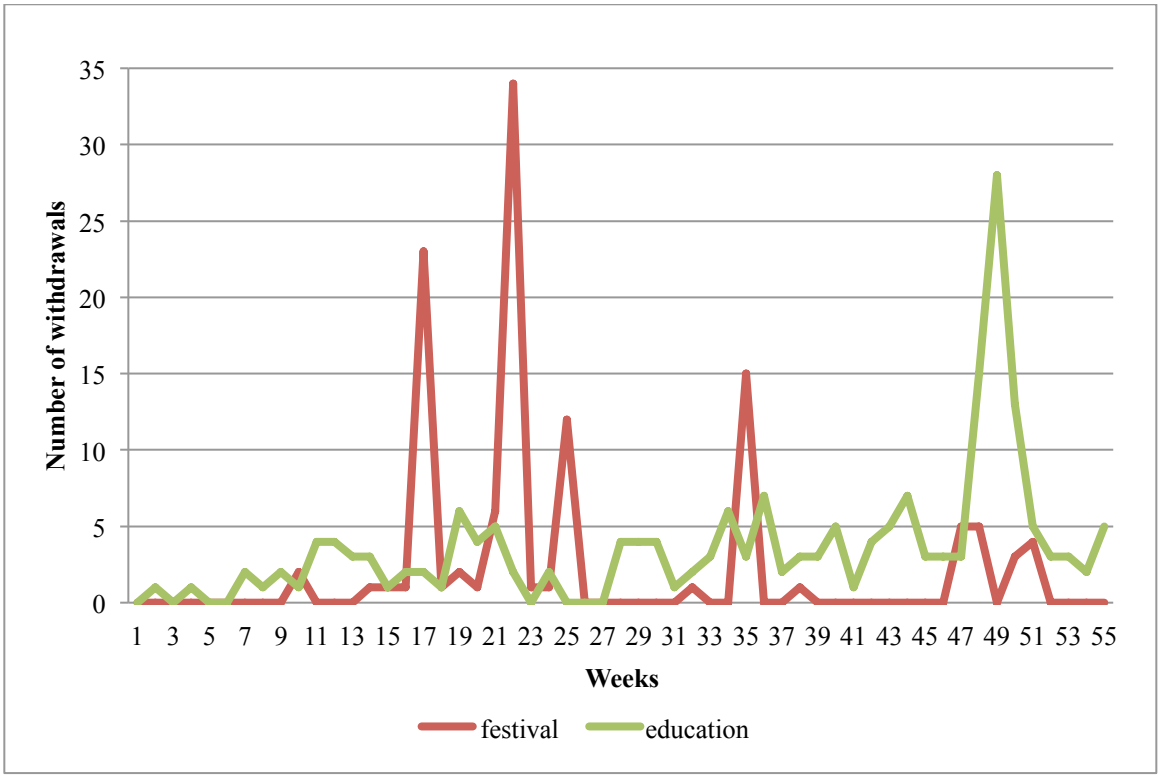

Figure 1: Number of withdrawals per week for education- and festival-related expenditures

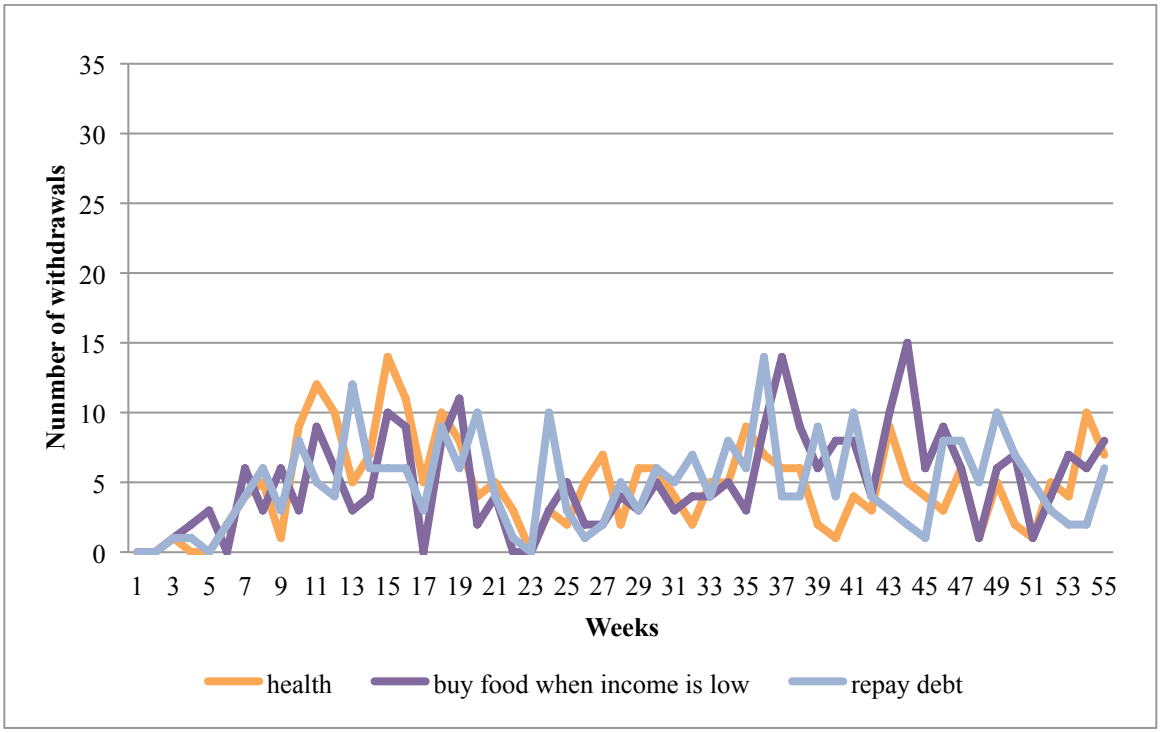

Figure 2: Number of withdrawals per week for health-related expenditures, to buy food when income is low, and to repay a debt

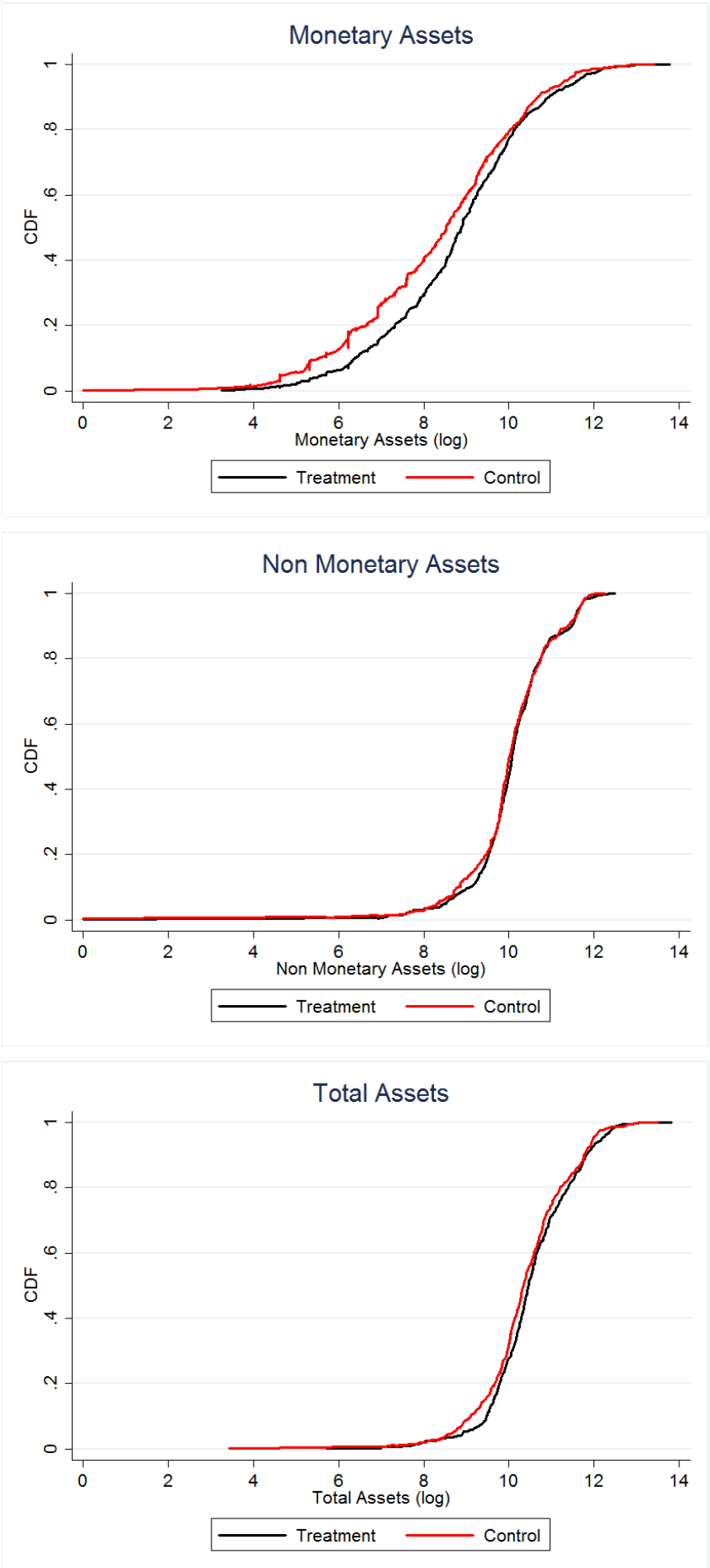

Figure 3: CDFs of Monetary, Non Monetary, and Total Assets by treatment status (after a year)

Table 1A: Descriptive Statistics by Treatment Status

	Obs.	Mean			T-stat
		Sample	Control	Treatment	
Characteristics of the Female Head of Household)					
Age	1,118	36.63	36.56	36.69	0.19
		(11.45)	(11.51)	(11.41)	
Years of Education	1,114	2.35	2.29	2.42	0.86
		(2.57)	(2.45)	(2.68)	
Percent Married/Living with Partner[1]	1,118	0.89	0.88	0.90	0.99
		(0.29)	(0.30)	(0.28)	
Household Characteristics					
Household size	1,118	4.51	4.52	4.49	-0.33
		(1.67)	(1.66)	(1.68)	
Number of Children	1,118	2.16	2.16	2.16	-0.11
		(1.29)	(1.29)	(1.29)	
Total Income Last Week	1,118	1,687.16	1,656.57	1,716.89	0.18
		(5,718.20)	(5,338.91)	(6,068.69)	
Log(Total Income Last Week + 1)	1,118	3.49	3.48	3.50	0.08
		(3.70)	(3.69)	(3.72)	
Percentage of Households Entrepreneurs	1,118	0.17	0.17	0.17	0.26
		(0.37)	(0.37)	(0.38)	
Experienced a Negative Income shock	1,118	0.41	0.39	0.43	1.42
		(0.49)	(0.49)	(0.50)	
Coped Using Cash Savings	462	0.52	0.51	0.52	0.05
		(0.50)	(0.51)	(0.50)	
Coped Borrowing from Family/Friends	462	0.17	0.18	0.16	-0.51
		(0.38)	(0.37)	(0.37)	
Coped Borrowing from a Moneylender	462	0.17	0.15	0.18	0.75
		(0.37)	(0.36)	(0.38)	
Coped Cutting Consumption	462	0.01	0.01	0.005	0.68
		(0.08)	(0.10)	(0.06)	
Owns the house	1,115	0.84	0.83	0.85	0.74
		(0.37)	(0.38)	(0.36)	
Owns the land on which the house is built	1,112	0.78	0.77	0.79	0.77
		(0.41)	(0.42)	(0.41)	

[1]Marital status has been modified so that missing values are replaced by the village averages.

Table 1B: Descriptive Statistics by Treatment Status

	Obs.	Mean			T-stat
		Sample	Control	Treatment	
Assets					
Total Assets	1,118	46,414.03	44,272.35	48,495.28	1.25
		(56,860.40)	(53,303.61)	(61,758.13)	
Total Monetary Assets	1,118	16,071.82	14,063.67	18,023.31	1.50
		(44,335.77)	(37,620.67)	(49,961.80)	
Log(Total Assets + 1)	1,118	10.23	10.20	10.25	0.81
		(1.08)	(1.06)	(1.09)	
Log(Total Monetary Assets + 1)	1,118	7.90	7.87	7.92	0.37
		(2.27)	(2.24)	(2.31)	
Percentage of Households with Money in a ROSCA	1,118	0.18	0.17	0.19	0.78
		(0.39)	(0.38)	(0.39)	
Log(Total Money in ROSCA + 1)	1,118	1.61	1.52	1.70	0.85
		(3.44)	(3.36)	(3.53)	
Percentage of Households with Money in an MFI	1118	0.54	0.56	0.52	-1.18
		(0.50)	(0.50)	(0.50)	
Log(Total Money in MFIs + 1)	1,118	4.31	4.44	4.19	-1.00
		(4.11)	(4.08)	(4.13)	
Percentage of Households with Money in a Bank	1,118	0.17	0.16	0.17	0.35
		(0.37)	(0.37)	(0.38)	
Log(Total Money in Bank Accounts + 1)	1,118	1.51	1.46	1.57	0.56
		(3.46)	(3.37)	(3.54)	
Log(Total Amount of Cash at Home + 1)	1,118	6.32	6.26	6.39	1.12
		(1.99)	(2.00)	(1.98)	
Total Nonmonetary Assets	1,118	30,342.21	30,208.68	30,471.96	0.15
		(28,826.34)	(29,088.98)	(28,593.90)	
Log(Total Nonmonetary Assets + 1)	1,118	9.85	9.85	9.86	0.16
		(1.32)	(1.28)	(1.36)	
Log(Nonmonetary Assets from Consumer Durables + 1)	1,118	9.85	9.85	9.86	0.16
		(1.32)	(1.28)	(1.36)	
Log(Nonmonetary Assets from Livestock + 1)	1,118	3.36	3.21	3.52	1.24
		(4.20)	(4.18)	(4.22)	
Grams of Gold in Savings	1,118	12.46	12.39	12.52	0.12
		(17.79)	(18.34)	(17.25)	
Liabilities					
Total Amount Owed BY the Household	1,118	50,968.62	53,834.81	48,183.31	-0.44
		(210,366.50)	(281.568.80)	(101,388.80)	
Log(Total Amount Owed BY the Household + 1)	1,118	8.55	8.38	8.71	1.64
		(3.39)	(3.53)	(3.25)	
Percentage of Households with Outstanding Loans	1,118	0.89	0.88	0.91	1.61
		(0.31)	(0.33)	(0.29)	
Received Loan from Grocery/Shop	1,118	0.40	0.38	0.42	1.26
		(0.49)	(0.49)	(0.49)	
Received Loan from MFI	1,118	0.38	0.37	0.39	0.74
		(0.49)	(0.48)	(0.49)	
Received Loan from Family/Friends/Neighbors	1,118	0.31	0.33	0.30	-1.10
		(0.46)	(0.47)	(0.46)	
Received Loan from Moneylender	1,118	0.13	0.12	0.14	1.33
		(0.34)	(0.32)	(0.35)	
Received Loan from Bank	1,118	0.05	0.05	0.05	0.29
		(0.22)	(0.22)	(0.23)	
Received Loan from Dhukuti	1,118	0.03	0.03	0.03	0.80
		(0.17)	(0.16)	(0.18)	

Table 2: Account Usage

	Obs	Mean	Std. Dev.	Median	Min	Max
Take-Up Rate	567	0.84	0.37	-	0	100
Proportion Actively Using the Account[1]	477	0.95	0.23	-	0	100
Weeks Savings Product has been in Operation (By Village)	19	53.59	2.23	54	53	55
Total Number of Transactions Made	451	47.54	28.17	46.00	2.00	106.00
Total Number of Deposits Made	451	44.02	26.32	42.00	2.00	98.00
Number of Deposits per Week	451	0.82	0.49	0.78	0.04	1.81
Weekly Amount Deposited	451	131.04	187.33	73.43	0.83	1,649.44
Average Size of Deposits per Week	451	268.95	422.62	140.63	14.38	3,962.88
% of Times Deposits Made in the 1st Open Day of the Week	451	0.46	0.29	0.45	0.00	1.00
Amount Deposited in the 1st Open Day of the Week	451	71.72	102.73	37.45	0.00	969.69
% of Times Deposits Made in the 2nd Open Day of the Week	451	0.46	0.28	0.43	0.00	1.00
Amount Deposited in the 2nd Open Day of the Week	451	75.82	119.96	38.83	0.00	935.53
Total Number of Withdrawals Made	451	3.52	3.59	2.00	0.00	28.00
Average Amount Withdrawn	376	1,774.26	3,471.19	957.74	133.33	35,000.00
Total Amount Withdrawn	451	5,081.01	8,415.65	2,250.00	0.00	70,000.00
Average Balance After 55 Weeks	451	2,361.66	5,144.16	704.28	1.46	51,012.51

Source: Bank administrative data. [1]Made at least two deposits within the first year of being offered the account.

Table 3: Determinants of Active Use

	Active Use of Bank Account[1]		Total Deposits After a Year[2]	
	(1)	(2)	(3)	(4)
Background Characteristics				
Age	-0.003	-0.001	0.008	0.004
	(0.002)	(0.002)	(0.008)	(0.009)
Years of schooling	0.010**	0.005	0.003	-0.010
	(0.005)	(0.005)	(0.022)	(0.026)
Married/Living with Partner[3]	-0.040	-0.024	0.135	0.109
	(0.069)	(0.076)	(0.214)	(0.231)
# children below 16		0.036***		-0.038
		(0.013)		(0.089)
# HH members		-0.027**		0.023
		(0.011)		(0.028)
Main source of HH income		0.000		0.002
		(0.002)		(0.013)
Money in ROSCAs[2]		0.007**		0.049**
		(0.003)		(0.021)
Money in banks[2]		0.008**		0.009
		(0.004)		(0.015)
Value of Livestock and Poultry[2]		0.002		0.001
		(0.005)		(0.015)
Constant	0.602***	0.587***	7.004***	7.068***
	(0.114)	(0.108)	(0.351)	(0.425)
Village dummies	Yes	Yes	Yes	Yes
Observations	565	565	449	449
Adjusted R-Squared	0.154	0.174	0.157	0.176

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. [1]Made at least two deposits within the first year of being offered the account.[2]In natural logs. [3]Marital status has been modified so that missing values are replaced by the village averages.

Table 4: Effects on Assets

	Monetary Assets[1]		Non-Monetary Assets[1]		Total Assets[1]	
	(1)	(2)	(3)	(4)	(5)	(6)
ITT: Offered the Savings Account	0.461***	0.404***	0.075	0.058	0.154**	0.112**
	(0.110)	(0.091)	(0.077)	(0.056)	(0.065)	(0.047)
Age of female HH head		0.005		0.000		0.001
		(0.005)		(0.003)		(0.003)
Years of schooling		0.092***		0.026***		0.033***
		(0.014)		(0.010)		(0.008)
Married/living with partner[2]		-0.071		0.073		-0.012
		(0.160)		(0.145)		(0.095)
# children below 16		0.023		0.009		0.027
		(0.054)		(0.030)		(0.027)
# HH members		-0.003		0.041		0.005
		(0.040)		(0.019)		(0.014)
Main source of HH income		-0.001		0.006		0.002
		(0.009)		(0.005)		(0.004)
Value of Livestock and Poultry[1]		0.026**		0.024***		0.014**
		(0.012)		(0.008)		(0.006)
Money in ROSCAs[1]		0.026		0.013**		0.008
		(0.017)		(0.006)		(0.007)
Money in banks[1]		0.049***		0.022***		0.011
		(0.012)		(0.006)		(0.008)
Monetary assets[1]		0.321***				
		(0.053)				
Non-monetary assets[1]				0.467***		
				(0.088)		
Total assets[1]						0.609***
						(0.050)
Constant	8.319***	4.825***	9.990***	4.799***	10.369***	3.812***
	(0.136)	(0.548)	(0.069)	(0.829)	(0.071)	(0.493)
Village dummies	No	Yes	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113	1,118	1,113
R^2 (overall)	0.015	0.340	0.001	0.433	0.005	0.520
Mean of Dep.Var. (Control Group)	19,284.06		34,067.52		53,351.58	
Std. Dev. of Dep.Var. (Control Group)	48,869.22		32,793.38		65,864.47	

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. [1]In natural logs. [2]Marital status has been modified so that missing values are replaced by the village averages.

Table 5: Impact on Assets (Quantile Regressions)

	Monetary Assets[1]	Non-Monetary Assets[1]	Total Assets[1]
25th percentile	(1)	(2)	(3)
ITT: Offered the Savings Account	0.765***	0.013	0.088
	(0.144)	(0.072)	(0.086)
Constant	6.909***	9.636***	9.831***
	(0.101)	(0.051)	(0.061)
50th percentile			
ITT: Offered the Savings Account	0.366***	0.068	0.117**
	(0.112)	(0.041)	(0.058)
Constant	8.517***	10.010***	10.340***
	(0.080)	(0.030)	(0.042)
75th percentile			
ITT: Offered the Savings Account	0.192	-0.009	0.152
	(0.140)	(0.080)	(0.120)
Constant	9.741***	10.567***	11.019***
	(0.100)	(0.057)	(0.085)
Obs.	1,118	1,118	1,118

Note: Each individual coefficient is statistically significant at the *10%, **5%, or ***1% level. [1]In natural logs.

Table 6: Assets Shifting to/from Other Financial Institutions

	Cash at Home[1]		Money in Banks[1]		Money in MFIs[1]		ROSCA's Contributions[1]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ITT: Offered the Savings Account	-0.126	-0.193	-0.024	-0.098	0.186	0.218	0.042	-0.146
	(0.149)	(0.133)	(0.189)	(0.147)	(0.200)	(0.201)	(0.166)	(0.212)
Age of female HH head		0.007		0.030**		-0.008		0.021
		(0.007)		(0.010)		(0.014)		(0.018)
Years of schooling		0.115***		0.177**		0.105**		0.048
		(0.019)		(0.055)		(0.045)		(0.043)
Married/living with partner[2]		0.218		-0.297		0.630		-0.455
		(0.148)		(0.340)		(0.406)		(0.563)
# children below 16		-0.040		0.016		-0.041		0.155
		(0.057)		(0.086)		(0.119)		(0.157)
# HH members		-0.011		0.008		0.064		0.048
		(0.038)		(0.067)		(0.058)		(0.113)
Main source of HH income		0.007		0.027		-0.020		0.002
		(0.008)		(0.018)		(0.020)		(0.022)
Value of Livestock and Poultry[1]		0.026*		0.008		0.049*		0.001
		(0.015)		(0.016)		(0.025)		(0.022)
Money in ROSCAs[1]		0.035**		0.097**		-0.003		
		(0.015)		(0.040)		(0.031)		
Money in banks[1]		0.052***		0.436***		0.084**		0.024
		(0.018)		(0.043)		(0.036)		(0.032)
Cash at home[1]		0.167***						
		(0.030)						
Money in MFIs, savings org.[1]						0.469***		
						(0.049)		
Constant	6.668***	4.425***	2.068***	-1.121**	4.531***	1.436***	8.707***	7.463***
	(0.149)	(0.449)	(0.934)	(0.149)	(0.381)	(0.852)	(0.122)	(0.995)
Village dummies	No	Yes	No	Yes	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113	1,118	1,113	145	145
R^2 (overall)	0.001	0.221	0.000	0.269	0.001	0.320	0.000	0.241
Mean of Dep.Var. (Control Group)	2,601.92		8,247.19		4,060.48		2,799.58	
Std. Dev. of Dep.Var. (Control Group)	5,830.98		40,378.34		8,185.08		21,343.82	

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. [1]In natural logs. [2]Marital status has been modified so that missing values are replaced by the village averages.

Table 7: Heterogeneous Treatment Effects

	Monetary Assets[1]							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ITT: Offered the Savings Account	0.438***	0.442***	0.382***	0.261***	0.439***	0.513***	0.441***	0.406***
	(0.118)	(0.109)	(0.126)	(0.101)	(0.135)	(0.115)	(0.134)	(0.118)
Having a bank account at baseline	1.436***	0.549***						
	(0.227)	(0.168)						
ITT*Having a bank account	0.066	-0.220						
	(0.246)	(0.217)						
No financial access at baseline			-1.465***	-0.506***				
			(0.238)	(0.253)				
ITT*No financial access			0.278	0.460*				
			(0.288)	(0.259)				
Above average education at baseline					0.749***	0.508***		
					(0.173)	(0.141)		
ITT*Above average education					0.040	-0.256		
					(0.261)	(0.246)		
Entrepreneurial activity at baseline							0.735***	0.157
							(0.192)	(0.152)
ITT*Entrepreneurial activity							-0.036	-0.017
							(0.245)	(0.220)
Constant	8.085***	4.759***	8.800***	4.868***	8.070***	4.900***	8.099***	4.847***
	(0.142)	(0.550)	(0.145)	(0.637)	(0.131)	(0.534)	(0.137)	(0.552)
Additional controls[2]	No	Yes	No	Yes	No	Yes	No	Yes
Village dummies	No	Yes	No	Yes	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113	1,118	1,113	1,118	1,114
R^2 (overall)	0.100	0.340	0.126	0.338	0.052	0.336	0.046	0.341

Note: Robust standard errors clustered at the village level in parenthesis. Each individual coefficient is statistically significant at the *10%, **5%, or ***1% level. [1]Dependent variable in natural logs. [2]Additional controls include monetary assets at baseline, age, education, and marital status of the account holder, number of household members, number of children below 16 years of age, most relevant source of household income (not included in specifications 7 and 8), value of livestock and poultry, money in ROSCAs (not included in specifications 3 and 4), and money in banks (not included in specifications 1 and 2) at baseline.

Table 8: Effects on Weekly Income and Entrepreneurial Activities

	Earning Income		Income[1]		Entrepreneurial Activity		Income[1]	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ITT: Offered the Savings Account	0.037**	0.033**	0.386**	0.356**				
	(0.016)	(0.016)	(0.170)	(0.147)				
Earning income at baseline	0.220***	0.177***	1.664***	1.284***				
	(0.033)	(0.039)	(0.284)	(0.346)				
ITT*Earning income at baseline	-0.062	-0.056	-0.462	-0.379				
	(0.049)	(0.047)	(0.425)	(0.398)				
ITT: Offered the Savings Account					-0.010	-0.010	0.107	0.106
					(0.026)	(0.023)	(0.233)	(0.234)
Entrepreneurial activity at baseline					0.433***	0.389***	1.316***	1.136***
					(0.043)	(0.054)	(0.314)	(0.319)
ITT*Entrepreneurial activity at baseline					0.098**	0.082**	-0.018	0.001
					(0.042)	(0.034)	(0.421)	(0.454)
Constant	0.470***	0.317**	3.517***	2.632**	0.228***	-0.271***	3.932***	2.731***
	(0.038)	(0.133)	(0.319)	(1.032)	(0.019)	(0.061)	(0.359)	(0.985)
Additional controls[2]	No	Yes	No	No	No	Yes	No	Yes
Village dummies	No	Yes	No	No	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,118	1,118	1,113	1,118	1,113
R^2 (overall)	0.038	0.093	0.035	0.093	0.221	0.287	0.025	0.108

Note: Robust standard errors clustered at the village level in parenthesis. Each individual coefficient is statistically significant at the *10%, **5%, or ***1% level. [1]Dependent variables in natural logs. [2]Additional controls include age, education, and marital status of the account holder, number of household members, number of children below 16 years of age, value of livestock and poultry, money in ROSCAs, and money in banks at baseline.

Table 9: Effects on Lending, Borrowing, and Net Worth

	Lending[1]		Borrowing[1]		Net Worth	
	(1)	(2)	(3)	(4)	(5)	(6)
ITT: Offered the Savings Account	0.220	0.036	0.170	0.056	13,739.11**	8,564.68
	(0.279)	(0.278)	(0.149)	(0.120)	(6,293.01)	(9,066.68)
Age of female HH head		0.004		-0.016		1,023.651*
		(0.008)		(0.014)		(552.834)
Years of schooling		0.032		0.025		5,925.808**
		(0.033)		(0.041)		(2,302.52)
Married/living with partner		0.384		0.190		-4,160.356
		(0.361)		(0.402)		(12,481.79)
# children below 16		-0.024		-0.043		1,071.59
		(0.116)		(0.153)		(4,012.746)
# HH members		0.002		0.153		-678.311
		(0.066)		(0.084)		(2,811.083)
Main source of HH income		-0.019		0.019		-1,246.979*
		(0.020)		(0.020)		(650.299)
Value of Livestock and Poultry[1]		0.009		0.030*		
		(0.030)		(0.017)		
Money in ROSCAs[1]		0.082**		-0.013		
		(0.037)		(0.023)		
Money in banks[1]		0.143***		-0.063*		
		(0.056)		(0.034)		
Amount Lent at baseline[1]		0.253***				
		(0.043)				
Amount Borrowed at baseline[1]				0.400***		
				(0.060)		
Net Worth at baseline[1]						0.367***
						(0.033)
Constant	2.006***	0.152	8.465***	4.770***	3,410.28	-23,778.41
	(0.336)	(0.759)	(0.126)	(0.954)	(7,463.53)	(28,404.52)
Additional controls[2]	No	Yes	No	Yes	No	Yes
Village dummies	No	Yes	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113	1,118	1,113
R^2 (overall)	0.001	0.175	0.001	0.174	0.002	0.336
Mean of Dep.Var. (Control Group)	9,726.62		59,667.93		3,410.28	
Std. Dev. of Dep.Var. (Control Group)	43,789.80		139,721.90		158,949.40	

Note: Robust standard errors clustered at the village level in parenthesis. Each individual coefficient is statistically significant at the *10%, **5%, or ***1% level. [1]Dependent variables in natural logs. [2]Additional controls include age and marital status of the account holder, number of household members, number of children below 16 years of age, and most relevant source of household income.

Table 10A: Effects on Household Expenditure on Health[1]

	Full Sample				Restricted Sample (Households Hit by a Health Shock Only)			
	Medicines and Traditional Remedies		Health Services (e.g. hospital charges)		Medicines and Traditional Remedies		Health Services (e.g. hospital charges)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ITT: Offered the Savings Account	0.389**	0.385**	-0.215	-0.206	1.048**	1.181**	-1.279**	-1.351***
	(0.166)	(0.172)	(0.166)	(0.160)	(0.494)	(0.505)	(0.551)	(0.447)
Age of female HH head		-0.006		0.006		-0.005		0.038
		(0.011)		(0.010)		(0.021)		(0.028)
Years of schooling		-0.037		0.029		-0.091		0.122
		(0.031)		(0.041)		(0.066)		(0.104)
Married/living with partner[2]		0.132		0.177		0.274		0.838*
		(0.257)		(0.380)		(0.662)		(0.484)
# children below 16		0.016		0.014		-0.100		-0.315
		(0.099)		(0.113)		(0.207)		(0.260)
# HH members		0.010		0.033		0.010		0.013
		(0.061)		(0.046)		(0.159)		(0.067)
Main source of HH income		-0.004		0.011		-0.013		-0.018
		(0.010)		(0.012)		(0.024)		(0.044)
Value of Livestock and Poultry[1]		0.005		0.003		-0.016		0.030
		(0.018)		(0.015)		(0.047)		(0.079)
Money in ROSCAs[1]		-0.047*		-0.037*		-0.0124		-0.014
		(0.028)		(0.020)		(0.086)		(0.067)
Money in banks[1]		0.020		0.028		0.030		0.095
		(0.022)		(0.029)		(0.063)		(0.075)
Constant	1.263***	1.037*	1.309***	1.196*	3.408***	1.501*	4.742***	3.893**
	(0.298)	(0.625)	(0.256)	(0.719)	(0.919)	(1.215)	(0.746)	(1.719)
Village dummies	No	Yes	No	Yes	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113	253	253	253	253
R^2 (overall)	0.004	0.153	0.002	0.114	0.018	0.546	0.028	0.388
Mean of Dep.Var. (Control Group)	719.973		1,144.644		2,666.364		4,362.521	
Std. Dev. of Dep.Var. (Control Group)	4,902.117		9,564.301		10,092.630		18,769.550	

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%.
[1]In natural logs. [2]Marital status has been modified so that missing values are replaced by the village averages.

Table 10B: Effects on Household Expenditure on Education[1] and on School Enrollment

	Expenditure on Education								School Enrollment	
	School Fees		Textbooks		School Uniforms		School Supplies (e.g. pencils, pens)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
ITT: Offered the Savings Account	0.280	0.194**	0.696***	0.636***	0.573***	0.519***	0.412	0.370*	0.008	0.005
	(0.286)	(0.252)	(0.255)	(0.238)	(0.167)	(0.154)	(0.271)	(0.222)	(0.013)	(0.012)
Age of female HH head		-0.024**		-0.022**		-0.028***		-0.026***		0.004***
		(0.252)		(0.009)		(0.009)		(0.009)		(0.001)
Years of schooling		0.125***		0.068*		0.067*		0.015		-0.002
		(0.042)		(0.041)		(0.036)		(0.036)		(0.002)
Married/living with partner[2]		0.491		0.050		0.258		0.060		0.021
		(0.439)		(0.297)		(0.339)		(0.243)		(0.018)
# children below 16		-0.335		0.521***		0.325***		0.666***		0.029***
		(0.239)		(0.120)		(0.100)		(0.139)		(0.009)
# HH members		0.469		0.106*		0.014		0.148**		-0.010**
		(0.143)		(0.061)		(0.060)		(0.069)		(0.005)
Main source of HH income		0.028**		0.018		0.015		0.020		-0.001
		(0.011)		(0.014)		(0.016)		(0.015)		(0.001)
Value of Livestock and Poultry[1]		0.065***		0.031		0.017		0.030		0.000
		(0.024)		(0.024)		(0.019)		(0.019)		(0.002)
Money in ROSCAs[1]		-0.035		0.011		0.042		-0.039		-0.001
		(0.038)		(0.031)		(0.036)		(0.031)		(0.002)
Money in banks[1]		0.049		0.091***		0.019		0.052**		-0.001
		(0.032)		(0.024)		(0.027)		(0.022)		(0.002)
Constant	2.816***	-0.549	2.285***	-1.159	1.500***	-0.413	3.031***	0.716	0.967***	0.809***
	(0.365)	(0.910)	(0.369)	(0.656)	(0.223)	(0.527)	(0.302)	(0.581)	(0.009)	(0.036)
Village dummies	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113	1,118	1,113	1,118	1,113	935	931
R^2 (overall)	0.002	0.176	0.010	0.251	0.009	0.136	0.005	0.227	0.001	0.092
Mean of Dep.Var. (Control Gr.)	878.022		555.036		268.577		280.844		0.967	
Std. Dev. of Dep.Var. (Control Gr.)	1,944.47		1,231.845		676.024		468.245		0.179	

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. [1]In natural logs. [2]Marital status has been modified so that missing values are replaced by the village averages.

Table 11: Spending on Temptation Goods

	In the last week, has your household bought any cigarettes and tobacco, alcohol, or gambled?		In the last week, how much was spent on such goods?[1]	
	(1)	(2)	(3)	(4)
ITT: Offered the Savings Account	-0.025	-0.021	-0.119	-0.096
	(0.022)	(0.017)	(0.120)	(0.093)
Age of female HH head		0.008***		0.043***
		(0.002)		(0.027)
Years of schooling		-0.007		-0.34
		(0.006)		(0.027)
Married/living with partner[2]		-0.038		0.281
		(0.025)		(0.364)
# children below 16		-0.011		0.066
		(0.011)		(0.061)
# HH members		0.006		0.059
		(0.010)		(0.054)
Main source of HH income		-0.003		0.017
		(0.003)		(0.017)
Value of Livestock and Poultry[1]		0.000		-0.003
		(0.003)		(0.016)
Money in ROSCAs[1]		-0.007		-0.037
		(0.005)		(0.024)
Money in banks[1]		0.005		-0.014
		(0.005)		(0.023)
Constant	0.274***	-0.012	1.357***	-0.400
	(0.032)	(0.125)	(0.166)	(0.676)
Village dummies	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113
R^2 (overall)	0.001	0.157	0.001	0.166
Mean of Dep.Var. (Control Group)	0.274		60.900	
Std. Dev. of Dep.Var. (Control Group)	0 .446		153.430	

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. [1]In natural logs. [2]Marital status has been modified so that missing values are replaced by the village averages.

Table 12: Effects on Risk-Coping Ability

	Coped Using Cash		Coped Using Bank Savings		Coped Selling HH Possessions		Coped Borrowing Money	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ITT: Offered the Savings Account	-0.0526	-0.0489	0.040[+]	0.037[+]	-0.006	-0.005	-0.027	-0.018
	(0.047)	(0.048)	(0.025)	(0.023)	(0.006)	(0.005)	(0.047)	(0.045)
Age of female HH head		0.004*		0.001		-0.001		-0.003
		(0.002)		(0.001)		(0.001)		(0.003)
Years of schooling		0.019*		-0.001		0.001		-0.018**
		(0.009)		(0.003)		(0.001)		(0.009)
Married/living with partner[2]		0.058		-0.043		-0.003		-0.116
		(0.103)		(0.030)		(0.003)		(0.085)
# children below 16		-0.037		0.013		-0.006		0.001
		(0.033)		(0.010)		(0.007)		(0.023)
# HH members		-0.001		-0.000		0.001		0.018
		(0.019)		(0.003)		(0.002)		(0.012)
Main source of HH income		0.003		-0.002		-0.001		0.001
		(0.006)		(0.002)		(0.001)		(0.005)
Value of Livestock and Poultry[1]		0.008*		-0.002		-0.001		-0.012***
		(0.004)		(0.002)		(0.001)		(0.005)
Money in ROSCAs[1]		0.011*		0.003		-0.001		-0.015***
		(0.006)		(0.002)		(0.001)		(0.005)
Money in banks[1]		0.011		0.001		-0.001		-0.019***
		(0.010)		(0.004)		(0.000)		(0.007)
Constant	0.650***	0.348*	0.006	-0.001	0.006	0.033	0.430***	0.780***
	(0.045)	(0.183)	(0.005)	(0.032)	(0.006)	(0.030)	(0.051)	(0.179)
Village dummies	No	Yes	No	Yes	No	Yes	No	Yes
Obs.	337	337	337	337	337	337	337	337
R^2 (overall)	0.003	0.170	0.015	0.139	0.003	0.055	0.001	0.203
Mean of Dep.Var. (Control Gr.)	0.650		0.006		0.006		0.430	
Std. Dev. of Dep.Var. (Control Gr.)	0.478		0.078		0.078		0.497	

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows:[+]12%; *10%; **5%; ***1%. [1]In natural logs. [2]Marital status has been modified so that missing values are replaced by the village averages.

Table 13: Effects on the Household Self-Reported Financial Situation

	On the whole, I feel secure with the financial situation of my household		How would you describe your household's financial situation?		How financially stretched your household is, month to month?	
	1 if "strongly agree," or "disagree." 0 if "feel neutral," "disasgree," or "strongly disagree."		1 if "live comfortably," or "meet basic expenses with little left for extras." 0 if "just meet basic expenses," or "don't even have enough to meet basic expenses."		1 if "not very stretched," or "not at all stretched." 0 if "stretched to the absolute limit," "very stretched," or "somewhat stretched."	
	(1)	(2)	(3)	(4)	(5)	(6)
ITT: Offered the Savings Account	0.031	0.023	0.106***	0.093***	0.078***	0.078***
	(0.025)	(0.024)	(0.028)	(0.026)	(0.023)	(0.021)
Age of female HH head		-0.000		-0.001		-0.002
		(0.001)		(0.002)		(0.002)
Years of schooling		0.004		0.019***		0.010**
		(0.005)		(0.004)		(0.003)
Married/living with partner[2]		0.022		0.007		0.075*
		(0.042)		(0.047)		(0.045)
# children below 16		-0.020		-0.033**		-0.045***
		(0.013)		(0.016)		(0.014)
# HH members		-0.006		-0.011		0.004
		(0.008)		(0.011)		(0.011)
Main source of HH income		0.005***		0.005**		0.003
		(0.002)		(0.002)		(0.002)
Value of Livestock and Poultry[1]		0.005**		0.008***		0.001
		(0.002)		(0.003)		(0.002)
Money in ROSCAs[1]		0.013***		0.018***		0.011**
		(0.004)		(0.004)		(0.005)
Money in banks[1]		0.014**		0.030***		0.017***
		(0.006)		(0.005)		(0.005)
Constant	0.214***	0.035	0.303***	0.162**	0.292***	0.076
	(0.030)	(0.070)	(0.038)	(0.071)	(0.050)	(0.085)
Village dummies	No	Yes	No	Yes	No	Yes
Obs.	1,118	1,113	1,118	1,113	1,118	1,113
R^2 (overall)	0.001	0.142	0.012	0.247	0.007	0.252

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. [1]In natural logs. [2]Marital status has been modified so that missing values are replaced by the village averages.

Table 14: Impact on Transfers

	From Regular Partners		From Non-Regular Partners		From All Partners	
	(1)	(2)	(3)	(4)	(5)	(6)
Volume of Transfers						
Loans and Gifts	192.563	-30.085	-440.645	-381.325	-248.082	-411.410
	(1,630.102)	(1,709.202)	(794.626)	(795.189)	(2,132.107)	(2,186.144)
Constant	4,232.868***	-5,466.253	2,261.466**	2,610.978	6,494.334***	-2,855.275
	(994.108)	(5,501.602)	(1,125.624)	(2,028.564)	(1,857.936)	(4,512.332)
Loans only	88.691	-128.6988	-601.577	-524.075	-512.886	-652.774
	(1,619.363)	(1,697.651)	(778.811)	(777.102)	(2,105.630)	(2,160.740)
Constant	4,163.194***	-5,524.134	2,161.887*	2,369.127	6,325.082***	-3,155.007
	(978.134)	(5,532.500)	(1,127.768)	(2,056.530)	(1,844.739)	(4,507.610)
Gifts only	103.872	98.614	160.933**	142.751**	264.804**	241.365**
	(71.222)	(74.177)	(70.321)	(63.667)	(125.087)	(119.721)
Constant	69.673***	57.881	99.579***	241.851**	169.252***	299.733
	(24.068)	(253.898)	(36.428)	(106.114)	(43.008)	(190.981)
Net Transfers						
Loans and Gifts	-439.371	-424.514	163.829	70.986	-275.542	-353.528
	(1,429.711)	(1,487.712)	(742.842)	(782.836)	(1,785.128)	(1,840.262)
Constant	-2,913.466***	1,411.14	-1,635.078	-3,698.541	-4,548.544***	-2,287.402
	(755.143)	(4,952.734)	(862.066)	(3,645.448)	(1,250.855)	(5,662.915)
Loans only	-333.049	-321.707	251.284	150.336	-81.765	-171.371
	(1,413.982)	(1,473.069)	(740.055)	(777.529)	(1 ,761.474)	(1,819.875)
Constant	-2,881.270***	1,500.79	-1,573.503*	-3,796.107	-4,454.773***	-2,295.316
	(748.659)	(4,937.147)	(860.060)	(3,640.932)	(1,244.417)	(5,616.594)
Gifts only	-106.323	-102.807	-87.455	-79.350	-193.777	-182.157
	(71.246)	(73.976)	(69.690)	(65.495)	(128.578)	(125.573)
Constant	-32.196**	-89.652	-61.575	97.566	-93.771**	7.914
	(15.265)	(259.668)	(38.290)	(106.479)	(42.681)	(200.950)

Note: Each individual coefficient is statistically significant at the *10%, **5%, or ***1% level. Columns 2, 4, and 6 includes the following controls: age, education, and marital status of the account holder, number of household members, number of children below 16 years of age, most relevant source of household income, value of livestock and poultry, money in ROSCAs, and money in banks at baseline.

Table A1: Attrition

	Completed Endline		
	(1)	(2)	(3)
ITT: Offered the Savings Account	0.014	0.013	0.013
	(0.016)	(0.016)	(0.015)
Age of female HH head			0.001
			(0.001)
Years of schooling			0.000
			(0.003)
Married/living with partner[1]			0.009
			(0.037)
# children below 16			0.003
			(0.010)
# HH members			0.005
			(0.005)
Main source of HH income			0.001
			(0.001)
Constant	0.897***	0.859***	0.805***
	(0.022)	(0.008)	(0.045)
Village dummies	No	Yes	Yes
Obs.	1,236	1,236	1,223
R^2 (overall)	0.001	0.045	0.052
Mean of Dependent Variable		0.91	

Note: Robust standard errors clustered at the village level in parenthesis. Each individual coefficient is statistically significant at the *10%, **5%, or ***1% level. [1]Marital status has been modified so that missing values are replaced by the village averages.

Table A2: Savings Account Characteristics and Savings Motives

Panel A: Reasons for Saving in the Account (Multiple Choice)

Savings Motives	% of account holders
To pay for a health emergency	88.86%
To buy food when income is low	66.38%
To pay for school fees or school material	50.66%
To pay for a festival	18.34%
To repay a debt	9.82%
To pay for home maintenance	7.21%
To buy poultry or livestock	6.33%
To invest in my current business	6.11%
To buy agricultural inputs (pesticides, fertilizer, etc.)	5.02%
To pay bills	4.80%
To start a new business	3.49%
To pay for a funeral	1.97%
To buy gold	1.31%

Panel B: Most Valued Feature of the Savings Account

Savings Account Characteristics	% of account holders
Easy to deposit and withdraw any amount of money any time	70.24%
The account is simple to understand	13.57%
Trust	8.75%
Bank opens twice a week in the community	3.50%
Bank has a female employee	2.63%
Cannot open a savings account in another bank/fin. institution	0.66%
The account offers a high interest rate	0.44%
Don't feel confident opening a savings account in another bank/fin. institution	0.22%
Don't know any other financial institution	0.00%

Table A3: Effects on Number of Loans[1] and Total Amount Borrowed[2] by Reason (after 1 year)

	Loans for HH Consumption		Loans to Expand/Maintain Current Business		Loans for House Maintenance		Loans for Health Emergencies		Loans to Repay Another Debt		Loans for Festivals and Cerimonies		Loans for School Fees		Loans for Other Reasons	
	# Loans	Amount	# Loans	Amount	# Loans	Amount	# Loans	Amount	# Loans	Amount	# Loans	Amount	# Loans	Amount	# Loans	Amount
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
ITT: Offered the Savings Account	0.042	0.242	0.048**	0.299***	0.010	0.188	-0.017	-0.037	-0.022	-0.204*	-0.001	0.043	-0.003	-0.007	-0.019	-0.109
	(0.041)	(0.226)	(0.022)	(0.109)	(0.025)	(0.219)	(0.027)	(0.177)	(0.014)	(0.124)	(0.014)	(0.142)	(0.011)	(0.104)	(0.046)	(0.325)
Constant	0.561***	4.069***	0.167***	1.350***	0.151***	1.291***	0.109***	0.855***	0.084***	0.772***	0.045***	0.350***	0.044***	0.380***	0.358***	2.941***
	(0.030)	(0.211)	(0.040)	(0.247)	(0.018)	(0.154)	(0.023)	(0.150)	(0.144)	(0.123)	(0.013)	(0.097)	(0.011)	(0.095)	(0.039)	(0.310)
Village dummies	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No
Obs.	1,118	1,117	1,118	1,117	1,118	1,117	1,118	1,117	1,118	1,117	1,118	1,117	1,118	1,117	1,118	1,117
R^2 (overall)	0.001	0.001	0.002	0.002	0.000	0.001	0.001	0.000	0.002	0.002	0.000	0.000	0.000	0.000	0.000	0.000
Mean of Dep.Var.	0.561	4.069	0.167	1.350	0.151	1.291	0.109	0.855	0.084	0.772	0.045	0.350	0.044	0.380	0.358	2.941
Std. Dev. of Dep.Var.	0.606	4.257	0.461	3.783	0.432	3.469	0.399	2.776	0.290	2.637	0.255	1.930	0.213	1.830	0.639	4.775

Note: Robust standard errors, clustered at the village level, reported in parenthesis. Statistically significant coefficients are indicated as follows: *10%; **5%; ***1%. [1]Columns (1), (3), (5), (7), (9), (11), (13), (15). [2]In natural logs, columns (2), (4), (6), (8), (10), (12), (14), (16).