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TRUST AND SAVING IN FINANCIAL INSTITUTIONS BY THE POOR

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Trust and Saving in Financial Institutions by the Poor
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ABSTRACT

We randomly assigned beneficiaries of a conditional cash transfer program in Peru to attend a 3 hour training session designed to build their trust in financial institutions. We find that the intervention:(a) increased trust in banks, but had no effect on financial literacy, and (b) increased savings over a ten month period. The increase in savings represents a 1.4 percentage point increase in the savings rate out of the cash transfer deposits, and a 0.4 percentage point increase in the savings rate out of household income.

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"Virtually every commercial transaction has within itself an element of trust...It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence."
Arrow (1972)

1 Introduction

While bank accounts play a crucial role in everyday economic activities in high-income countries, fewer than 40% of the households in low- and middle-income countries (LMIC) have one (Demirgüç-Kunt et al., 2015). Instead, most poor households rely on informal, costly and risky alternatives and would benefit from access to a range of the financial services offered by formal institutions (see, for example, Bruhn and Love (2014); Célerier and Matray (2019); Dupas and Robinson (2013); Kast, Meier and Pomeranz (2018); Stein and Yannelis (2020)). Savings, in particular, facilitate investment in productive activities, education and household durables, and help smooth out income shocks. In light of these advantages, many LMIC governments and international organizations have set themselves the goal of improving these population groups' access to formal financial institutions.

One reason why poor households may not keep their savings in a bank account is that they do not trust that the money will be available to them when they want it (Bold, Porteous and Rotman, 2012; Dupas et al., 2014; McKay and Seale, 2000; Bachas et al., 2018).[1] Trust is an essential element of economic transactions and an important driver of economic development (La Porta et al., 1997; Algan and Cahuc, 2010). It is particularly crucial in financial transactions in which people exchange money for promises, and it is essential where the legal institutions that enforce contracts are weak (McMillan and Woodruff, 1999; Karlan et al., 2009).[2] A lack of trust may be one reason why beneficiaries of cash transfer programs

[1] There are a number of reasons why people may not trust that the bank will make their money available when they want it. People may be concerned that the bank or some bank official might commit fraud or the bank might deplete the deposit through unexpected and frivolous fees or place restrictions on access to the funds (Garz et al., 2021). However, in this paper, we are not able to distinguish between these different types of mistrust.

[2] In developed countries, trust has been shown to be key to stock market participation (Guiso, Sapienza and Zingales, 2008), use of checks instead of cash (Guiso, Sapienza and Zingales, 2004), mortgage refinancing (Guiso, Sapienza and Zingales, 2004, 2008; Johnson, Meier and Toubia, 2019), and decisions to not withdraw

quickly withdraw most of the funds deposited in their bank accounts by the program in one lump-sum withdrawal at the beginning of each pay period; this has been found to be the case, for example, in Brazil, Colombia and South Africa (Bold, Porteous and Rotman, 2012), India (Muralidharan, Niehaus and Sukhtankar, 2016), Niger (Aker et al., 2016) and Mexico (Bachas et al., 2021).

We examine this issue with a field experiment designed to improve trust in financial institutions among beneficiaries of Peru's Juntos ("together") conditional cash transfer program. We cooperated with the Instituto de Estudios Peruanos (IEP), a well known Peruvian NGO specializing in financial inclusion, to design and implement a three-hour workshop intended to foster trust among Juntos beneficiaries and to evaluate the intervention's impact on beneficiary savings. The Juntos program sets up savings accounts for each beneficiary in the Banco de la Nacion (BN), a public institution dedicated to increase the financial inclusion of underserved populations and regions. Juntos has been depositing bimonthly transfers of 200 Peruvian soles (about US$ 60) into those accounts since the beginning of the program in 2005.

We find that program beneficiaries who were assigned to a financial trust workshop were more likely to report trusting the bank 12 months after the workshop. Specifically, we constructed an index of five self-reported attitudinal questions regarding different aspects of trust in banks and found that the training increase the trust index by 0.38 standard deviations.[3] However, the workshops did not seem to have any effect on the beneficiaries' knowledge about the banking system, their financial literacy or their understanding of how savings, loans and interest rates work.

Next, using high-frequency administrative account-level data, we examined the effect of the treatment on bank use and savings. We found that the financial trust workshops resulted

deposits from financial institutions in times of financial crisis (Iyer and Puri, 2012; Sapienza and Zingales, 2012). In LMICS, there is evidence that trust affects borrowing money and the take-up of insurance (Karlan et al., 2009; Cole et al., 2013).

[3]These questions regarding trust are based on a survey where beneficiaries were asked to answer whether they trust the bank, the bank branch, the bank employees and their preferences about putting their savings in a bank account versus using informal alternatives such as savings in the form of assets such as cattle.

in the treatment group saving 10.84 Peruvian Soles more than the control group at the end of the post treatment period. The increase in savings is a 1.4 percentage point increase in the savings rate out of the cash transfer deposits, and a 0.4 percentage point increase in the rate of savings out of household income.

We argue that building trust in financial institutions is a necessary condition for promoting the use of formal financial services (i.e., financial inclusion requires trust). Moreover, it is likely that trust is an important element in the effectiveness of other strategies, such as lowering transactions costs or raising interest rates. Our main contribution to this literature is to provide experimental evidence that trust in financial institutions can be influenced by experience and information and that higher levels of trust may translate into an increase in the use of financial institutions.

Our study contributes to a small observational literature on the relationship between trust and savings (Karlan, Ratan and Zinman, 2014). Osili and Paulson (2014) show that immigrants who have experienced a systemic banking crisis in their country of origin are 11 percentage points less likely to use banks in the U.S. than otherwise similar immigrants who did not live through a crisis, and the effects are larger for people who experienced crises in countries without deposit insurance. Bachas et al. (2021) studies an at-scale natural experiment in Mexico in which debit cards are rolled out to beneficiaries of a cash transfer program, who already received transfers directly deposited into a savings account. They find that after two years with a card, beneficiaries accumulate a savings stock equal to 2 percent of their annual income. Debit cards increased account usage and savings through two mechanisms: first, they reduced the transaction costs of accessing money from the account; second, they reduced monitoring costs, which leads beneficiaries to check their account balances frequently and build trust in the bank.

2 Intervention

The workshop was delivered to beneficiaries of Juntos, Peru's conditional cash transfer program for poor households. Juntos gives 200 soles (approximately US$ 60) to the female head of beneficiary households once every two months provided that the household fulfills certain conditions related to schooling and to preventive health services. Juntos transfers are paid into a savings account that is opened for every beneficiary and managed by the Banco de la Nación (BN), a state-owned bank committed to service underserved populations. Typically, Juntos beneficiaries withdraw all the transfer in cash from the account soon after it is deposited. Juntos began its operation in 2005 and today covers over 700,000 beneficiaries residing in 1,325 (70%) of the country's 1,874 districts.[4] Juntos beneficiaries who participated in the randomization has been receiving the transfers through deposits into BN accounts for at least two years prior to the intervention and therefore were already familiar with banks and bank operations.

The trust workshop was designed and implemented by Instituto de Estudios Peruanos (IEP), a well known Peruvian NGO that specializes in financial inclusion. The goal was to foster the trust that money deposited in beneficiaries' bank accounts would be there when beneficiaries wanted it by explaining participants why accounts are secure, that accounts are protected by government regulation, that there is a consumer-help telephone line available, and by conducting a trust building demonstration exercise. The workshop did not discuss the value of savings or the motives for why someone would want to save.

Specifically, the following topics were covered during the approximately 3-hour workshop:

A. *Account Access and Security*

Messages: The account into which Juntos transfers are deposited is like a lock box. The money deposited into the account will be there when wanted. The beneficiary must use an ATM card and password to withdraw money from the account. The card with the password is similar to a key that only the beneficiary can use to withdraw the money. No money

[4] https://www.juntos.gob.pe.

can be deducted or withdrawn from the account without using the card and the password. Hence, nobody else can access the account except the beneficiary.

B. *Government Consumer Protection Programs*

Messages: The Government protects all money deposited into bank accounts. The Government makes sure that all banks, including Banco de la Nacion, safely manage and protect your money. The Superintendencia de Banca, Seguros y AFP (Peruvian Superintendent of Bank) is in charge of making sure that banks safely manage your money and to impede unlawful deductions from your account. Fondo de Seguro de Depositos (Deposit Insurance Fund) is in charge of giving your money back in case of bankruptcy of Banco de la Nacion or fraud. If you have difficulty getting access to your funds or have a complaint you can call a toll free telephone hotline and obtain help in your own language. Cards with the free phone numbers were handed out.

C. *Multi-Red Agents*

Multi-red agents are small stores in underserved rural areas with POS machines that account holders can use to make deposits and withdrawals. The agents were fairly new so that there was some information as to who they were and how they worked. Messages: The workshop emphasized that agents were just as trustworthy as bank branches, that the accounts could only be accessed with the ATM card and password, that consumer protection laws applied to them, and that they could use the consumer hotline to report any problem with these agents.

D. *How to Keep Money Safe*

Messages: Discussion about the relative safety of alternative places to allocate the money. In particular, it was explained why leaving money in Banco de la Nación is safer than keeping cash at home or purchasing animals or other assets that can be stolen or more easily appropriated by relatives, especially husbands, or friends.

E. *Trust Building Activity*

One out of the approximately 30 participants in each workshop was randomly given 50

Soles to deposit in her account during the workshop and then was asked to go to the bank to withdraw 30 soles during the week and report back to the group.

3 Experimental Design, Analysis Sample and Compliance

The sample was drawn from Juntos beneficiaries who live in rural villages in 17 districts in the Sierra region of Peru. These beneficiaries receive the Juntos transfers deposited in a BN savings account linked to a debit card. Beneficiaries can access their account either through the BN branch located in the capital district or through a MultiRed agent. These agents are private store owners located near rural beneficiary households and are certified as BN agents to conduct account transactions (deposits and withdrawals) for Juntos beneficiaries via a wireless point-of-sale (POS) device. We included villages with 15 or more Juntos beneficiaries who received the program transfer payment via direct deposit into their BN account. This gave us a universe of 130 villages from which we randomly assigned 64 villages to the treatment group and 66 to the control group. The workshops were conducted between November 2014 and July 2015 and were rolled out over time at the district level.

At the time of the randomization, there were 4,562 Juntos beneficiaries in the 130 villages. We excluded Juntos beneficiaries who had been dropped from the program due to noncompliance with the conditionalities or who had moved away from their village (803). In addition, we trimmed off the top 0.1% of our sample to exclude outliers in relation to the banking variables analyzed (251). Finally, we excluded households that, for scheduling reasons, had received Juntos payments twice in one bimester and that, as a result, did not receive a Juntos payment during the next period (321). This process left us with a total of 3,187 Juntos beneficiaries, of whom 1,450 resided in treatment villages and 1,737 resided in control villages. In all, 1,166 of the beneficiaries assigned to treatment actually participated in the financial trust workshop, resulting in a take-up rate of 80%. In addition, 198 out

of the 1,737 people assigned to the control group attended the training, resulting in 11% noncompliance rate in the control group.[5]

4 Data and Measurement

Our primary source of information are administrative records from November 2013 to August 2015. Juntos provided the list of all beneficiaries living in the 130 villages as well as program compliance information for each of the beneficiary households. The Ministry of Development and Social Inclusion merged the information from Juntos with socio-demographic information from the national poverty mapping system (Sistema de Focalizacion de Hogares (SISFOH)) using the beneficiaries' national identification numbers (DNIs). BN then added transaction-level data on each deposit and withdrawal for each account, and then provided us with the merged data after scrambling the DNIs to anonymize it. We aggregated the transaction-level data into account-level data by Juntos payment bimester, including the number of deposits, value of deposits, number of withdrawals, value of withdrawals, and savings.[6]

Ideally, we would like to know bank balances (i.e. the stock of savings) at the beginning of each payment bimester. Since that information was not provided to us, we instead measure the initial stock of savings as the value of all deposits minus withdrawals made during the five bimesters (10 months) prior to the intervention. Then, to compute the stock of savings in each bimester of the post-treatment period, we added to the last period's stock of savings the value of deposits minus withdrawals made during that bimester.

We have data for 11 bimesters (November 2013 to August 2015). However, information on withdrawals is not available for one bimester (July and August of 2014). We therefore exclude this bimester from the analysis. Thus, we relied on the remaining 5 pre-treatment bimesters for which we have complete data to compute the stock of savings at baseline and on

[5]By collecting data at individual level we know which individuals attended the training or did not. Therefore, we have been able to identify 198 individuals who attended the training even though they were assigned to the control group. All these noncompliers attended a workshop in a treatment village.

[6]Each beneficiary receives one deposit of 200 Soles every bimester with the exception of Christmas, where they receive 2 depostis for a total amount of 300 soles.

the 5 post-treatment bimester periods to analyze the effect of the training on the outcomes of interest.

In order to collect information on trust and financial literacy, we supplemented the administrative data with a household survey conducted between 12 and 18 months after the intervention.[7] On our behalf, Innovations for Poverty Action (IPA) conducted a survey of the beneficiary households between April and May 2016. IPA enumerators were not informed about the intervention and did not know who was in a treatment area and who was in a control one. They identified themselves as IPA staff and did not refer to the workshop or IEP in anyway during the interviews. BN merged the survey data with the administrative data using the DNI of the beneficiaries, and provided us an anonymized data base for our analysis.

The survey collected information about household interactions with and perceptions of BN and covered the topics of trust, savings behavior and financial knowledge. The questions about trust inquired about trust in the bank, bank staff, and bank branch and on preferences regarding saving in the bank versus holding cash in the house or purchasing assets such as animals. To measure knowledge/financial literacy, respondents were asked what a savings account is, what a MultiRed agent is, what savings and loans institutions are, and what interest rates are. The specific questions used to measure trust and knowledge/financial literacy are provided in the Appendix Table A.1.[8]

5 Methods

We examine the impact of treatment on two types of outcomes. The first set are measures of trust and knowledge/financial literacy obtained using data from the cross-sectional household

[7]Due to budget constraints and the fact that we were able to rely on administrative data to establish baseline balance, we only conducted an endline survey post treatment.

[8]Each survey question has substantially different response rates, especially questions used to measure knowledge. The knowledge questions were administered at the very end of the questionnaire and may suffer from respondent fatigue (Jeong et al., 2022). Appendix Table A.3 shows that results seem robust irrespective of the imputation method for missing values.

survey. Since treatment was randomized and the experimental groups were balanced (see Table 1), we simply contrast the difference in the means of the treatment and control groups outcomes using the following regression:

$$Y_{iv} = \alpha + \beta \ ITT_v + \epsilon_{iv} \tag{1}$$

where Y_{iv} is an outcome variable for individual i in village v, ITT_v is a dummy variable that indicates whether or not village v has been assigned to treatment and ϵ_{iv} is the error term. We cluster the standard errors at the village level to account for any intra-cluster correlation. β, the intention-to-treat, is out parameter of interest.

Naturally, statistically significant effects may emerge simply by chance. The larger the number of independent tests, the greater the likelihood of incurring in a type I error. We correct for this possibility by using Bonferroni family-wise error rates that, very conservatively, adjust the p-values of the individual tests as a function of the number of outcome variables. We rely on Bonferroni FWER corrections at the 10% level of statistical significance among conceptually similar blocks of outcomes.[9]

The second set of outcomes are account use and savings gathered from the longitudinal administrative account-level data.[10] Given that Juntos transfers are made every two months, the data is organized in bimesters, following the timing of the transfers. This allows us to examine how the treatment effect evolves over exposure – i.e., the number of bimesters since treatment.

We estimate the effect of treatment on the account use outcomes and savings by means of the following regression function:

[9]For example, if there are 5 independent outcome variables in a group, the Bonferroni corrected significance level is 0.02 (=0.1/5).

[10]Table 3 presents results for our main outcome of interest, the stock of savings. Table 4 presents results for the probability of ever making a deposit, the number of deposits, the number of withdrawals and the probability of using an agent for withdrawal. In Appendix Table A.4 we present additional results related to our main measure of savings, such as deposit flow, withdrawal flow and net savings flow.

$$Y_{ivt} = \alpha_i + \sum_{k \neq 0} \beta_k \; ITT_{v,k} + \lambda_t + \epsilon_{ivt} \tag{2}$$

where Y_{ivt} is an outcome variable for individual i in village v in calendar period t. $ITT_{v,k}$ takes a value of 1 if the village v is assigned to treatment and k is the number of bimesters since treatment, with treatment happening during $k = 1$.[11] Then, the coefficients of interest, $\beta_{k=1,2,3,4,5}$, represents the average change between bimester k and the last bimester before treatment (i,e. the omitted period, $k = 0$) among beneficiaries in treatment areas relative to that same change over time among beneficiaries in control areas. We also include bimester fixed effects (λ_t) and individual fixed effect (α_i). However, the results are almost identical with and without individual fixed effects. The term ϵ_{ivt} is a random error term that is possibly correlated within villages. We therefore cluster standard errors at the village level.

6 Results

6.1 Descriptive Statistics and Balance Checks

Descriptive statistics for the analysis sample at baseline for households in the treatment and control groups are presented in Table 1. In two cases, out of 17 contrasts, we reject the null hypothesis of equal means between groups at conventional levels of statistical significance. However, using Bonferroni family-wise error rates, we never reject the null hypothesis. In Appendix Table A.2, we compare the means of baseline variables for the analysis sample and for those excluded from the analysis and find only one variable for which we reject the null hypothesis of equal means. Again, using Bonferroni family-wise error rates, we never reject the null hypothesis, suggesting that the analysis sample is representative of the population of Juntos beneficiaries in the 17 districts studied.

[11] The treatment might have happened at any time during the $k = 1$ bimester. For some treatment areas, the training took place at the beginning of the bimester which implies that these areas have been treated for the entire k=1 bimester, while others were treated later in the bimester and, hence, were only partially treated during $k = 1$.

The analysis sample (see Table 1) consists of households where the primary Juntos beneficiary is female, is on average about 40 years old, has completed 6 years of schooling and whose primary language is not Spanish. About two thirds of these beneficiaries work in agriculture but only 12% own their own farm. Very few beneficiaries have contact with formal financial institutions, as only 4% have a bank account other than their Juntos BN account and only 3% participate in a rotating savings and credit association (ROSCA). On average, individuals make one deposit (the Juntos transfer) into their BN account and one withdrawal from it each bimester (two transactions per bimester). The difference between the baseline stock of savings (i.e. the difference between all deposits and withdrawals in the 10 month period prior to the intervention) between the treatment and control group is -3.8 Peruvian Soles and is not statistically significant at conventional levels.

6.2 Trust and Knowledge/Financial Literacy

As explained in section 4, beneficiaries were asked yes/no questions about their trust on the banking system which were later converted into binary variables (see Appendix Table A.1).[12] This allow us to analyze how trust attitudes change due to the intervention.

Mean trust levels in the control group are low. Only 48% of the control group trusts the bank and 36% trust bank staff. Moreover, 54% believe money is safer at home than in a bank and 71% believe it is safer to purchase animals as a store of value than to keep money in a bank (Table 2). Overall, the training workshops appear to have increased trust in the banking system substantially (see Figure 1, Panel A, and Table 2). All of the treatment effects on all of the outcome variables are sizable in magnitude and statistically significant at conventional levels, although the effect on trust in bank staff is not statistically significant when relying on Bonferroni family-wise error rates. Treatment increases the number of beneficiaries who reported that they trusted the BN by 13 percentage points. Trust in BN staff increases by 4.5 percentage points and trust in the BN branch increases by 7.8 percentage points.

[12] For example, the variable that indicates whether they trust the bank takes one if the individual answered "yes" to the question "Do you trust the bank? (i.e., do you feel that your money is safe at the bank?)"

Treatment also increases the preference for holding savings in the bank over keeping savings at home by 14 percentage points. Treatment increases the preference for holding savings in the bank over holding savings in the form of assets such as livestock by 12 percentage points. Finally, the impact of the treatment in an overall trust in banking index is 0.38 standard deviations.[13]

Another possible explanation for any increase in savings associated with the workshop is that the workshops may have also increased the beneficiaries' knowledge about the banking system and financial literacy. If that were the case, it would be hard to distinguish the effect on saving behaviour of trust from that of knowledge/financial literacy. However, there is little evidence to support this hypothesis. Baseline levels of financial literacy are high. About 74% of control households understand what a saving account is, 99% report knowing how to use a multired agent, 85% seems to understand interest rates, and 32% understand the difference between savings and loans. By and large we find very small and not statistically significant effects of the workshop on knowledge/financial literacy (see Figure 1, Panel B, and Table 2). Regardless, there is little evidence from other studies that financial literacy leads to higher use of financial services or better financial outcomes.[14] Thus, together, these results suggest that any effect on savings in the treatment areas was likely driven by increased trust as opposed to increased knowledge/financial literacy.

6.3 Use of Accounts and Savings

The effect of the financial trust workshop on the stock of savings is shown in Figure 2 (see also Table 3), where the treatment effects by bimester since the workshop was offered are presented.[15] The difference between the groups in treatment and control areas is positive

[13]The trust index is the sum of the 6 trust dummy variables divided by 6. Similarly, the knowledge index variable is the sum of the 4 knowledge dummy variables divided by 4. Both indexes are normalized relative to the control group.

[14]See for example Bruhn and Love (2014); Carpena et al. (2011); Cole, Sampson and Zia (2011); Cole, Paulson and Shastry (2016); Drexler, Fischer and Schoar (2014).

[15]Appendix Table A.4 presents results for additional saving variables, such as, deposit flows, withdrawal flow and net savings flow.

and increases over time. This suggests that beneficiaries in treatment areas are saving more than those in control areas during each period and that their stock of savings is rising. After 5 bimesters (10 months), the difference in the stock of savings averaged 10.84 soles and it is statistically significant at conventional levels.[16] This treatment effect translates into a 1.4 percentage point increase in the savings rate out of Juntos transfers and a 0.4 percentage point increase in the savings rate out of household income during the period studied.[17]

Figure 3 presents the distributions of the stock of savings at bimester k=5 for the treatment and control groups. Relative to the control group, around 4% of the treatment group has non-negligible savings (i.e., more than 5 soles). The beneficiaries that increased their savings as a result of treatment show widespread positive savings.

The positive effect of the financial trust workshop on savings appears to have been driven by beneficiaries withdrawing lower amounts of the Juntos cash transfer deposits rather than making additional deposits. In fact, there was no overall effect of treatment on the number of deposits or the number of withdrawals in a bimester (see Figure 4 and Table 4). However, there is a positive effect on the number of deposits in the bimester of treatment (i.e., $k = 1$), but no effect thereafter. Similarly, there is a negative effect on the number of withdrawals five bimesters after treatment (i.e., $k = 5$), but none before that. None of these effects (i.e., an increase in number deposits and a decrease in number withdrawals) are persistent over time as we see with the effect on savings. Altogether, these results suggest that the effect on saving is explained not by an increase on account use for transactions but rather by the fact that beneficiaries keep their money in their bank accounts for a longer period of time. One possible reason is that the closest BN branch or agent was still quite far away from most of the households. For example, on average, the closest agent was 4 kilometers away, which represents, on average, a total travel time of over 50 minutes. This is consistent with

[16] In Appendix Table A.4 we present the estimates for net savings flows which follow a similar pattern to the stock of savings and are also statistically significant at conventional levels. In addition, we report results on the two components of net savings flow: deposit flow and withdrawal flow.

[17] After the bimester during which training took place, JUNTOS beneficiaries have received 800 soles in four 200 soles payments and, based on the information on the Survey (2016), their average total income over the same period was 2835 soles.

evidence from Mexico that shows that transactions fall the further a household is located from bank branches and ATMs (Bachas et al., 2018).

Finally, in the workshop it was also discussed the relatively new multi-red agent network, i.e. small shops with POS devices that beneficiaries can use to access their accounts with their ATM card and password. These agents are substantially closer to beneficiary households than bank branches and were set up to lower the transaction cost of account access. Using administrative data we estimate the effect of the treatment on the location to make withdrawals (branch versus agent) by bimester of exposure. We find no effect of the workshop on agent use (Figure 5). This result is consistent with the workshop not affecting knowledge about the use of bank functions.

7 Conclusion

We conducted a field experiment to assess the extent to which the level of trust in financial institutions among Peruvian cash transfer program beneficiaries could be raised and, if their level of trust was raised significantly, whether it would be effective to increase bank account use and savings. The results suggest that it was possible to substantially increase Juntos beneficiaries level of trust on banks and bring about an increase of 10.84 Peruvian soles in their savings account balances. The savings effect represents a 1.4 percentage point increase in the saving of Juntos cash transfers and a 0.4 percentage point increase out of household income.

While there is strong evidence that the workshop built trust, there is no evidence that the intervention increased beneficiary knowledge about the banking system or their financial literacy. This implies that the mechanism by which the workshop increased savings was through enhanced trust on banks and not through enhanced financial literacy or knowledge and experience with banks.

Our results suggest that trust in financial institutions is an important factor in encourag-

ing poor households to hold their savings in bank accounts. The magnitude of the treatment effect is similar to other interventions such as lowering monetary and non-monetary transactions costs, increasing the rate of return to savings, as well as behavioral nudges and reminders (Figure 6). Trust is also likely to increase the effectiveness of these other other interventions as well, such as those involving a reduction in transaction costs or increased returns, in terms of influencing savings.

Although the workshop used several different messages to try to build trust (account access security, consumer protection, safe savings, and a trust building exercise), we did not attempt to empirically disentangle the effect of each of them separately since our primary interest is in the overall effect of trust on the use of formal financial services. However, a fruitful area for future research would be to assess which types of messages and activities build trust best.

As the trust training increased beneficiaries' saving behavior, it may potentially improve long-run welfare. However, trust may evolve overtime leading to changes in the use of financial services and the effect of that use on welfare. This opens up a set of important questions: how does trust change over time, how is it affected by different experiences, the dynamic effects of trust on the use of financial services and welfare? Overall, while more research is needed, our results do suggest that simple cheap trust building exercises, like our workshop, maybe a transformative jumpstart in the financial inclusion of the poor.

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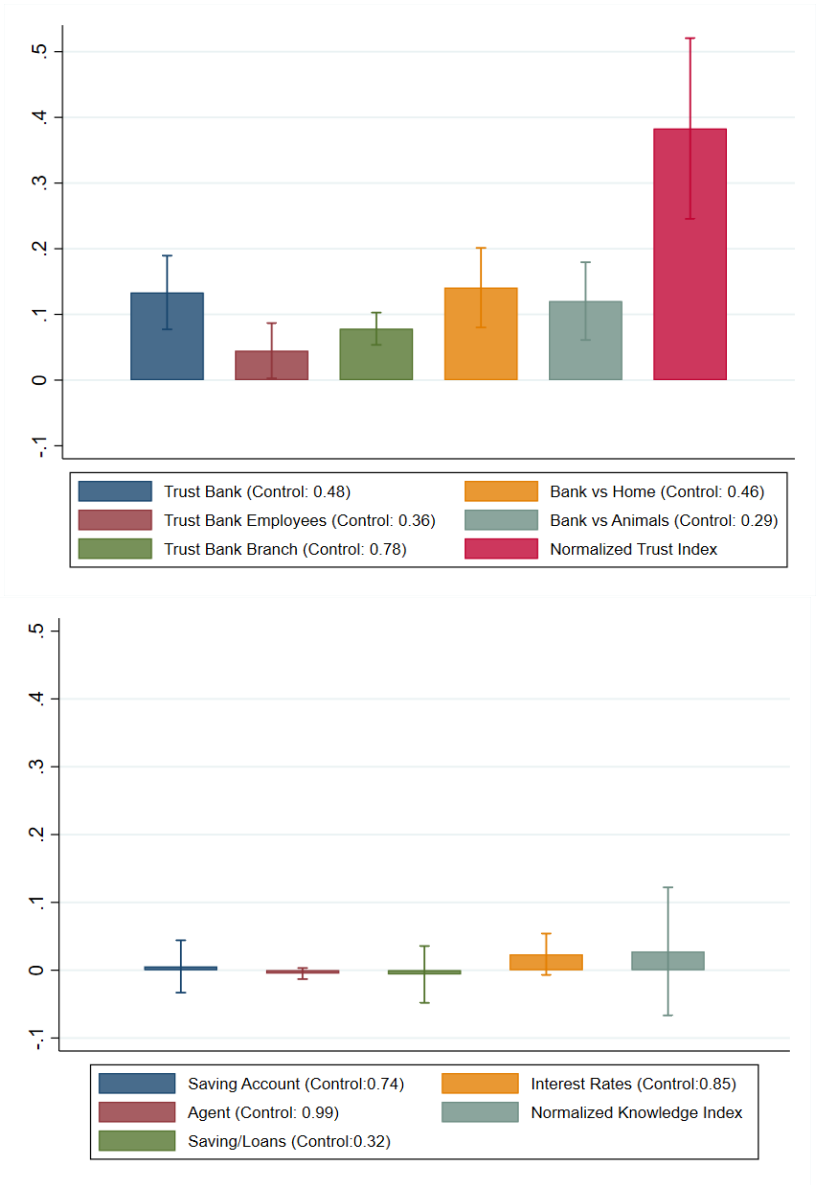
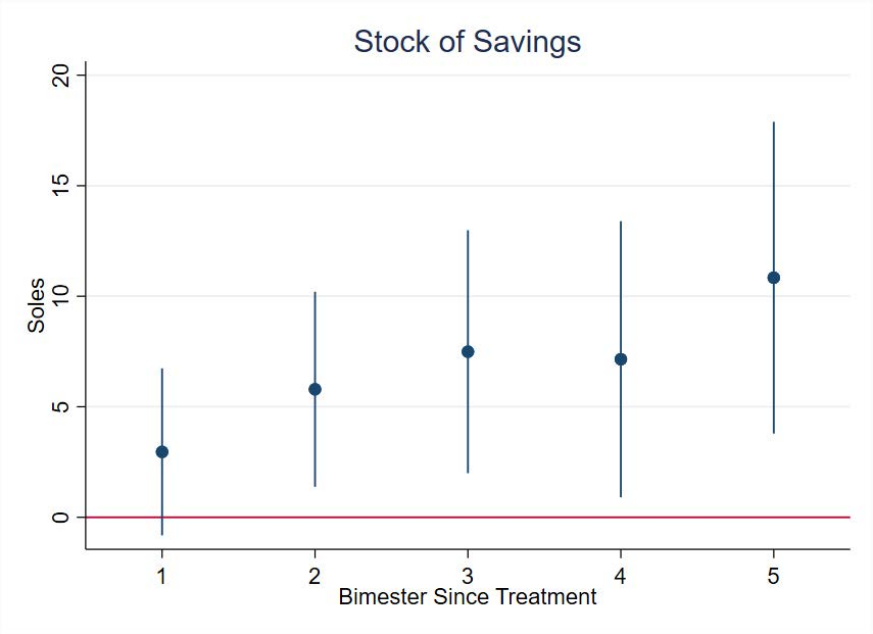
Figures and Tables

Figure 1: Effect of Financial Trust Workshops on Trust and Knowledge/Financial Literacy



Notes: This figure reports the differences of the means for each variable between the treatment and control groups and their 95% confidence region. These estimates are based on equation (1). The mean outcomes for the control group are within parentheses. The estimates associated with this figure are shown in Table 2. Appendix Table A.1 reports the questions used to collect the outcome measures. Trust and knowledge indices are normalized relative to the control group.

Figure 2: Effect of Financial Trust Workshops on Saving

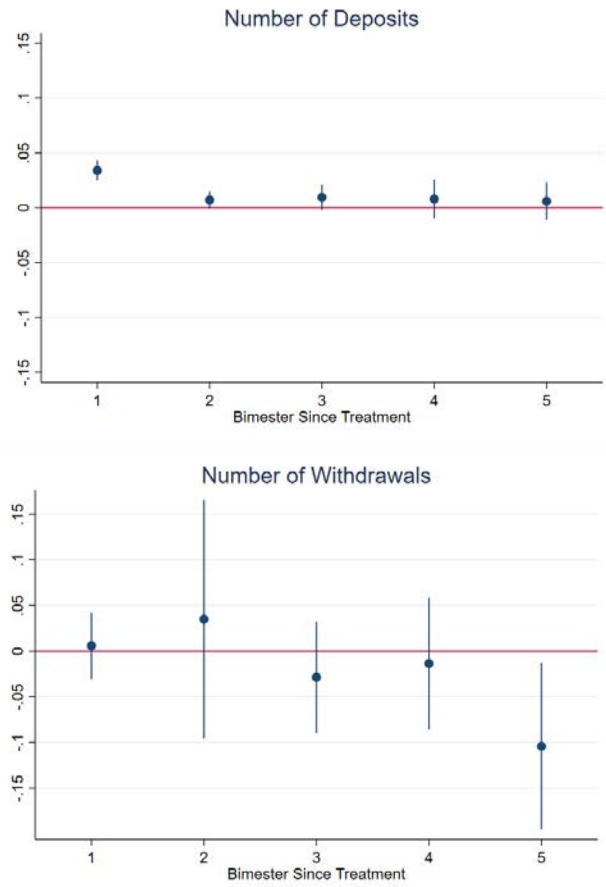


Notes: This figure presents the estimated treatment effects and 95% confidence intervals of the financial trust workshop on the stock of savings in bank accounts at the end of each post-treatment bimester. The estimates associated with this figure are based on equation (2) and are presented in Table 3.

Figure 3: Distribution of the Stock of Savings at k=5

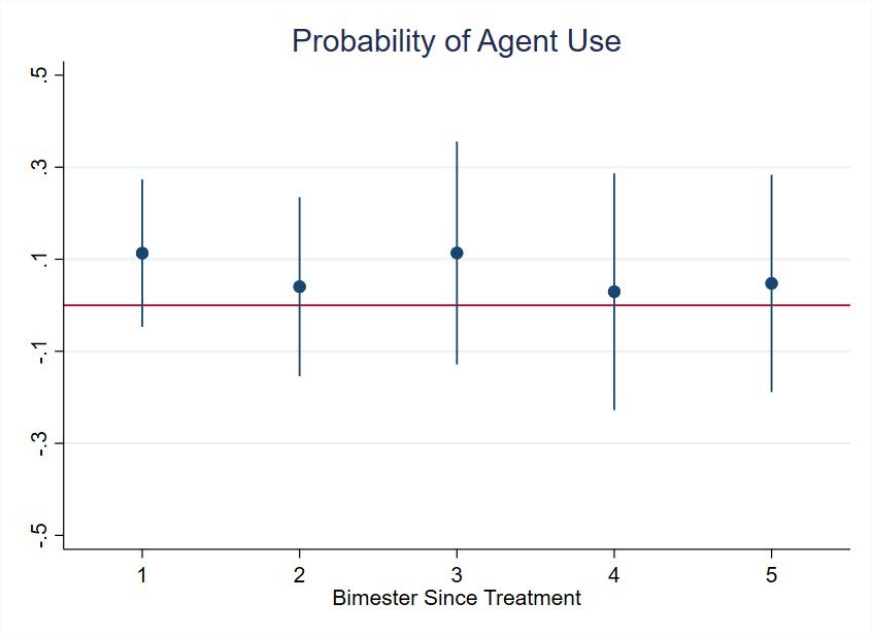
Notes: This figure presents the distribution of the stock of savings (in soles) for treatment (red) and control (blue) groups at the last bimester in our sample (k=5).

Figure 4: Effect of Financial Trust Workshops on the Number of Deposits and Withdrawals



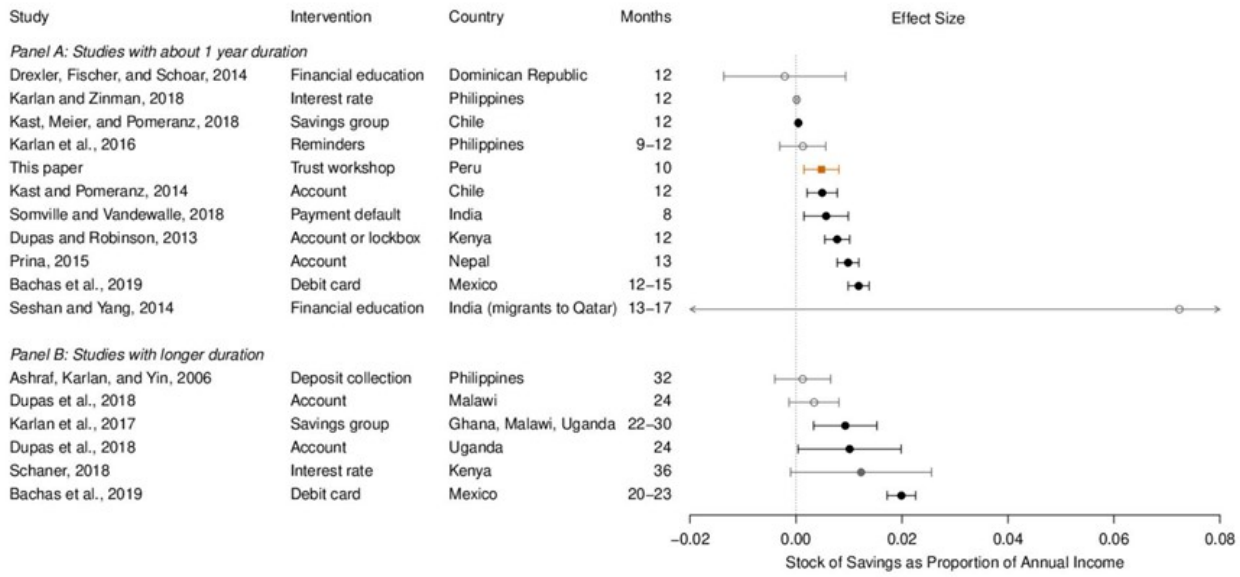
Notes: This figure presents the estimated treatment effects and 95% confidence regions of the financial trust workshops on the number of deposits and withdrawals by bimester. The estimates associated with this figure are based on equation (2) and are presented in Table 4.

Figure 5: Effect of Financial Trust Workshops on Use of Agent for Withdrawal



Notes: This figure presents the estimated treatment effects and 95% confidence regions of the financial trust workshops on the use of an agent to make at least one withdrawal by bimester. The estimates associated with this figure are based on equation (2) and are presented in Table 4.

Figure 6: Comparison of Treatment Effects of Various Interventions on Household Savings as a Proportion of Income



Notes: Adapted from Bachas et al. (2021). This figure includes field experiments that estimate the effect of an intervention on savings and has income data available so it is possible to convert the effect on the stock of savings into the savings rate out of income. Studies that did not have income information available were excluded from this comparison. Bachas et al. (2021) describes each of these studies in detail as well as the construction of this figure.

Table 1: Baseline Descriptive Statistics (Analysis Sample)

Variable	Treatment			Control			Means	P Value
	Mean	SD	N	Mean	SD	N	Difference	
Age	39.73	10.03	1408	40.80	10.16	1661	-1.07	0.12
Female	0.97	–	1408	0.96	–	1661	0.01	0.17
Household Size	4.77	1.61	1408	4.82	1.60	1661	-0.05	0.59
Years of Schooling	5.74	4.16	1407	6.05	4.05	1661	-0.31	0.54
Preferred Language	0.17	–	1408	0.20	–	1661	-0.03	0.54
Work at Farm	0.65	–	1257	0.65	–	1565	-0.01	0.93
Own Farm	0.12	–	1257	0.11	–	1565	0.01	0.79
Own Home	0.82	–	1408	0.79	–	1661	0.03	0.55
Have Other Bank Accounts	0.04	–	1408	0.03	–	1661	0.00	0.66
Have ROSCA	0.03	–	1392	0.03	–	1642	0.00	0.57
Ever Deposit	0.002	0.05	1408	0.001	0.03	1661	0.001	0.53
Number of Deposits	0.97	0.19	1408	0.98	0.15	1661	-0.01	0.05
Number of Withdrawals	0.93	0.28	1408	0.93	0.30	1661	0.01	0.83
Number of Transactions	1.90	0.44	1408	1.91	0.39	1661	-0.01	0.76
Deposit Flow	192.79	37.95	1408	195.82	28.74	1661	-3.03	0.04
Withdrawal Flow	186.23	55.37	1408	184.10	58.29	1661	2.13	0.70
Net Savings Flow	6.56	41.47	1408	11.72	53.51	1661	-5.16	0.36
Stock of Savings	7.07	53.65	1408	10.83	67.60	1661	-3.77	0.53
Use Agent for Withdrawal	0.24	–	1408	0.26	–	1661	-0.02	0.84

Notes: This table uses Survey Data (2016) for the socioeconomic variables and administrative data for the bank variables (in the bimester before the beginning of the Financial Trust Training). The Stock of Savings variable is calculated using the bank balances in the five bimesters before the beginning of the intervention. The Preferred Language variable has a value of 1 if Spanish and 0 if Quechua or Aymara. All monetary values are expressed in Soles.

Table 2: Effect of Treatment on Trust and Knowledge

	Trust bank	**Trust bank staff**	**Trust bank branch**	**Bank vs home**	**Bank vs livestock**	**Normalized trust index**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Panel A: Trust						
ITT: OLS $\hat{\beta}$	0.133	0.045	0.078	0.141	0.120	0.383
Standard error	(0.028)	(0.021)	(0.012)	(0.031)	(0.03)	(0.07)
P Value	[0.028]	[0.037]	[0.000]	[0.000]	[0.000]	[0.000]
Mean control group	0.48	0.36	0.79	0.46	0.29	0.49
Obs.	3,187	3,187	3,187	3,187	3,187	3,187
Obs. Imputed	0	0	1,127	166	208	-
Panel B: Knowledge/Financial literacy						
	Savings account	**Agent**	**Savings/ Loans**	**Interest rates**	**Normalized knowledge index**	
	(7)	**(8)**	**(9)**	**(10)**	**(11)**	
ITT: OLS $\hat{\beta}$	0.005	-0.005	-0.006	0.024	0.028	
Standard error	(0.020)	(0.004)	(0.021)	(0.016)	(0.048)	
P Value	[0.778]	[0.232]	[0.767]	[0.130]	[0.562]	
Mean control group	0.74	0.99	0.32	0.85	0.75	
Obs.	3,187	3,187	3,187	3,187	3,187	
Obs. Imputed	1,359	0	964	293	-	

Notes: This table shows the results of the estimation of equation 1, which are used to construct Figure 1 in the main text. The data source for estimation is the 2016 household survey of the 3,187 individuals in our analysis sample. The number of observations imputed indicates the number of missing values that has been replaced by the mean by group of each survey question. The response rate for each variable is orthogonal to treatment status and results remain unchanged without imputing missing values (see Appendix Table A.3). Clustered standard errors are given in parentheses (village) and p-values in brackets. The Bonferroni corrected p-value for columns (1) to (5) in panel A is 0.02 and for columns (7) to (10) in panel B is 0.025. The exact questions used to measure the trust and knowledge/financial literacy outcomes are presented in Appendix Table A.1. Trust and knowledge indices in columns (6) and (11) are normalized relative to the control group.

Table 3: Effect of Treatment on Stock of Savings

	Stock of Savings
Bimester Since Treatment	
K=1	2.959
	(1.927)
	[0.127]
K=2	5.790
	(2.251)
	[0.011]
K=3	7.491
	(2.804)
	[0.008]
K=4	7.150
	(3.187)
	[0.027]
K=5	10.840
	(3.597)
	[0.003]
Pooled	4.282
	(2.051)
	[0.039]
Control Mean	2.30
Obs	18,754

Notes: This table shows the results of the estimation of equation 2 for the stock of savings. These results are used to construct Figure 2 in the main text. The data source for estimation is the administrative account level data for the 3,187 individuals in our analysis sample. Calendar time and individual fixed effects are included but not reported. Clustered standard errors are reported in parentheses (village) and p-values in brakets.

Table 4: Effect of Treatment on Account Use

	Ever Deposit	**Number of Deposits**	**Number of Withdrawals**	**Use Agent for Withdrawal**
	(1)	**(2)**	**(3)**	**(4)**
Bimester Since Treatment				
K=1	0.029	0.034	0.006	0.113
	(0.004)	(0.005)	(0.018)	(0.082)
	[0.000]	[0.000]	[0.750]	[0.168]
K=2	0.001	0.007	0.035	0.040
	(0.002)	(0.004)	(0.067)	(0.099)
	[0.600]	[0.078]	[0.601]	[0.684]
K=3	0.000	0.009	-0.028	0.114
	(0.002)	(0.006)	(0.031)	(0.124)
	[0.990]	[0.111]	[0.357]	[0.359]
K=4	-0.003	0.008	-0.014	0.029
	(0.004)	(0.009)	(0.037)	(0.131)
	[0.417]	[0.377]	[0.713]	[0.822]
K=5	-0.005	0.006	-0.104	0.048
	(0.004)	(0.009)	(0.046)	(0.120)
	[0.133]	[0.498]	[0.026]	[0.693]
Pooled	0.016	0.022	0.016	0.089
	(0.003)	(0.004)	(0.031)	(0.082)
	[0.000]	[0.000]	[0.618]	[0.280]
Control Mean	0.19	1.20	1.03	0.52
Obs	18,754	18,754	18,754	18,754

Notes: This table shows the results of the estimation of equation 2 for ever deposit (column 1), number of deposits (column 2), number of withdrawals (column 3) and the probability of using an agent to make at least one withdrawal (column 4). These results are used to construct Figures 4 and 5. The data source for estimation is the administrative account level data for the 3,187 individuals in our analysis sample. Calendar time and individual fixed effects are included but not reported. Clustered standard errors are reported in parentheses (village) and p-values in brakets. The Bonferroni corrected p-value in this table is 0.025.

A Supplemental Appendix Tables

Table A.1: Definitions of Trust and Knowledge/Financial Literacy Variables

Variable Name	Survey Questions
Trust Variables	
Trust bank	Do you trust the bank? (i.e., do you feel that your money is safe at the bank?) (=1 Yes; =0 No)
Trust bank staff	Do you trust the bank staff? (=1 Yes; =0 No)
Trust bank branch	Do you trust your bank branch? (=1 Yes; =0 No)
Prefer to save in bank vs home	Do you feel safer having your savings in a bank or at home? (=1 Bank; =0 Home)
Prefer to save in bank vs assets (livestock)	Do you feel safer having your savings in a bank or in the form of assets (livestock)? (=1 Bank; =0 Livestock)
Trust Index	Sum of the answers variables divided by the total number of variables (5)
Knowledge/Financial Literacy Variables	
Savings account	Do you know what a savings account is? (=1 having money in the bank; =0 otherwise)
Savings/loans	Do you think you understand savings and loans? (=1 Yes; =0 No)
Agent	Do you know what a MultiRed Agent is? (=1 Yes; =0 No)
Interest rates	Suppose Bank A offers a savings account with an annual interest rate of 15% while Bank B offers an interest rate of 18%. Which bank do you think is better for saving? (=0 Bank A; =1 Bank B)
Knowledge Index	Sum of the answers variables divided by the total number of variables (4)

Notes: This table displays the variable name and full question text for data from household survey (2016).

Table A.2: Comparison of Full Sample with Analysis Sample

Variables	Analysis Sample			Sample Excluded			Difference	P-Value
	Mean	SD	N	Mean	SD	N	in Means	
Age	40.31	10.11	3069	40.91	11.43	887	-0.60	0.14
Female	0.97	–	3069	0.95	–	887	0.02	0.04
Household size	4.80	1.60	3069	4.83	1.92	887	-0.03	0.68
Years of schooling	5.90	4.10	3068	6.13	4.18	887	-0.22	0.29
Preferred language	0.19	–	3069	0.19	–	887	-0.01	0.70
Work on farm	0.65	–	2822	0.63	–	824	0.02	0.31
Own farm	0.12	–	2822	0.09	–	824	0.02	0.08
Own home	0.81	–	3069	0.81	–	886	0.00	0.86
Have other bank accounts	0.04	–	3069	0.03	–	887	0.00	0.62
Participate in a ROSCA	0.03	–	3034	0.03	–	873	0.00	0.71

Notes: This table is based on our 2016 household survey data and compares the sample used in the analysis with the sample excluded.

Table A.3: Effect of Treatment on Trust and Knowledge

	Trust bank	**Trust bank staff**	**Trust bank branch**	**Bank vs home**	**Bank vs livestock**	**Normalized trust index**
	(1)	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
Panel A: Trust						
ITT: OLS $\hat{\beta}$	0.133	0.045	0.078	0.141	0.120	0.360
Standard error	(0.028)	(0.021)	(0.019)	(0.032)	(0.032)	(0.075)
P Value	[0.000]	[0.037]	[0.000]	[0.000]	[0.000]	[0.000]
Mean control group	0.48	0.36	0.78	0.46	0.29	0.49
Obs.	3,187	3,187	2,060	3,021	2,979	1,866
Panel B: Knowledge/Financial literacy						
	Savings account	**Agent**	**Savings/ Loans**	**Interest rates**	**Normalized knowledge index**	
	(7)	**(8)**	**(9)**	**(10)**	**(11)**	
ITT: OLS $\hat{\beta}$	0.009	-0.005	-0.005	0.024	0.009	
Standard error	(0.034)	(0.004)	(0.030)	(0.017)	(0.073)	
P Value	[0.777]	[0.232]	[0.878]	[0.163]	[0.905]	
Mean control group	0.74	0.99	0.32	0.85	0.75	
Obs.	1,828	3,187	2,223	2,894	1,432	

Notes: This table shows the results of the estimation of equation 1, which are used to construct Figure 1 in the main text. The data source for estimation is the 2016 household survey of the 3,187 individuals in our analysis sample. Each regression analysis uses only observations with non-missing responses and therefore the sample sizes vary depending on the response rate. However, the response rate for each variable is orthogonal to treatment status. The overall trust/knowledge indices were constructed using the subset of observations for which respondents replied to all five/four questions included in the corresponding trust/knowledge index. Clustered standard errors are given in parentheses (village) and p-values in brackets. The Bonferroni corrected p-value for columns (1) to (5) in panel A is 0.02 and for columns (7) to (10) in panel B is 0.025. The exact questions used to measure the trust and knowledge/financial literacy outcomes are presented in Appendix Table A.1. Trust and knowledge indices in columns (6) and (11) are normalized relative to the control group.

Table A.4: Effect of Treatment on Additional Savings Variables

	Deposit Flow	**Withdrawal Flow**	**Net Savings Flow**
	(1)	**(2)**	**(3)**
Bimester Since Treatment			
K=1	2.217	-1.840	4.057
	(0.556)	(1.789)	(1.828)
	[0.000]	[0.306]	[0.028]
K=2	1.137	-3.354	4.491
	(0.679)	(1.748)	(1.696)
	[0.096]	[0.057]	[0.009]
K=3	1.825	-2.492	4.316
	(0.994)	(3.135)	(2.533)
	[0.069]	[0.428]	[0.091]
K=4	2.168	-3.069	5.237
	(1.348)	(2.330)	(1.839)
	[0.110]	[0.190]	[0.005]
K=5	1.891	-7.088	8.980
	(1.341)	(2.640)	(2.593)
	[0.161]	[0.008]	[0.001]
Pooled	1.790	-2.327	4.117
	(0.615)	(1.582)	(1.498)
	[0.004]	[0.144]	[0.007]
Control Mean	219.67	219.66	0.01
Obs	18,754	18,754	18,754

Notes: This table shows the results of the estimation of equation 2 for deposit flow (column 1), withdrawal flow (column 2), and net savings flow (column 3). Deposit and withdrawal flows are defined as the value of deposits and withdrawals in soles during a bimester, and net savings flow is the difference between deposit and withdrawal flows. The data source for estimation is the administrative account level data for the 3,187 individuals in our analysis sample. Calendar time and individual fixed effects are included but not reported. Clustered standard errors are reported in parentheses (village) and p-values in brakets. The Bonferroni corrected p-value, even though these variables are highly dependent, is 0.033.