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Bringing the Bank to the Doorstep: Does Financial Education Influence Savings Behavior among the Poor? Evidence from a Randomized Financial Literacy Program in India

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Abstract

One of the obstacles to the use of branchless banking has been the low level of familiarity and trust with the technology behind electronic cards and mobile phone banking among the poor. As a result, the banking correspondent (BC), or "doorstep banking" model was introduced in India to bring basic banking services to rural people. Clients of BC programs include mainly households with very low incomes and poor access to the formal banking system. This paper explores the uptake of branchless banking in one of the largest BC programs in the world, FINO, which

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currently has over 48 million activated savings accounts across India. Despite being open, many savings accounts have remained dormant, thus raising a question on whether access alone could result in real financial inclusion. In this paper, we present the results of a randomized financial literacy training program offered to FINO clients on the transaction activities in their (no-frills) savings account. About 3000 clients, in two districts of the state of Uttar Pradesh, were randomly assigned to a control and a treatment groups out of whom 1500 treatment clients received a two-day financial literacy program. Using the historical transaction data from their savings account, we estimate the short run impacts of the financial literacy training on account usage. Our results show a persistent treatment effect on account usage in the short run. Further, when we control for heterogeneity, it appears that, the treatment effect is more pronounced for female clients, while treatment clients who contracted outstanding loans at baseline, made more deposits and transactions in the post intervention period. Overall, the results suggest that financial literacy education can increase usage of no-frills savings accounts and consequently could go a long way in improving financial inclusion for the poor.

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1. Introduction

Financial literacy is the knowledge of basic financial concepts and the skills to translate this knowledge into improved financial behaviors. An increasingly common approach to fighting poverty is to provide training in financial literacy under the assumption that the poor need to, but do not currently, fully understand the basics of the financial world. The hope is that participants of financial literacy programs walk away with an increased awareness and comprehension of financial concepts, especially those focused on saving. Arguably, with the right knowledge, the poor can avoid scams, stay out of debt, build assets, and maintain financial independence.

This paper evaluates the short term impacts of a financial literacy program on the use of FINO smart card. A baseline survey covering 1500 individuals in control and 1500 individuals in treatment villages and including detailed questions on individual and household demographics, income, savings behavior and risk and time preferences, was carried out. The baseline information along with banking transactions made by FINO clients will help underscore the potential for financial literacy to influence savings behavior. We describe the data collection activities, balance of baseline variables between households in treatment and control villages, and explore some additional hypotheses to better understand who is making use of the FINO smart card. Using data on FINO client transaction activities, we look at the impact of financial literacy training on account usage in the short run, with a focus on the heterogeneity of impacts for gender, age, education level and baseline financial literacy or exposure to formal savings.

Despite the growing interest financial literacy has taken in individuals' livelihood, the current literature on financial literacy training is sparse. Much of the interest in financial literacy has been driven by correlations and studies in developed countries. For instance, Lusardia and Mitchell (2007) find that financial literacy is correlated with wealth levels at retirement.

To the best of our knowledge, the only published experimental trial of financial literacy education is the study by Cole, Sampson and Zia (2011). Working with unbanked households, they explore the impact of financial education and monetary incentives for opening bank accounts and find that training works for adults with low education and low financial knowledge, but not for other groups. Comparing education to simple payments for opening accounts, they find that payments have large effects on the full sample, and are significantly cheaper than the education program. These effects last after two years, though there is no effect on whether individuals keep savings, except for those who got both high incentives and financial literacy train-

ing. The researchers worked with a local no cost bank, but overall take up was very low, with only 10% at most opening an account. These results suggest there may not be much hope for the call for greater financial literacy.

An unpublished paper by Cole, Shapiro, Carpena and Zia finds financial education does not prepare people to make good choices between complicated financial options, though it can make them be more aware of financial products. They propose that numeracy is the limiting key factor.

However, there is evidence that financial education can work in specific circumstances. Duflo and Saez (2003) randomly encouraged staff at a university to attend retirement account information sessions. They find that enrollment in the account increases, though by a small amount.

The effect of training on business owners also looks more positive. Valdiva and Karlan (2010) find, in Peru, some evidence of effect of business training for entrepreneurs on business practices, but no effect on profit. Working with business owners in Bosnia and Herzegovina, Bruhn and Zia (2011) find that training leads to improvements in knowledge and attitudes, and success of surviving firms, but does not increase the likelihood of survival. The results are driven by surviving businesses investing more into their businesses and refinancing more favorably. Again looking at the heterogeneity of impacts, those with better baseline financial literacy knowledge had more profit, but with no effect on survival or default rates. The authors conclude that lack of business knowledge is unlikely to be the major constraint for new businesses.

Rather than focusing on the standard workshop method of teaching financial literacy to businesses, Drexler et al. (2010) compare a "rule of thumb" program, which focused most heavily on the need to keep separate records between home and business, and the more common classroom financial literacy training. They find that rule-of-thumb training has some effect on whether business owners kept accounting records at all, how they calculated revenue and if they kept separate books for business and home. Businesses also had better sales during bad weeks, suggesting training can help with adverse shocks. Follow-up training had modest improvements for those in classroom training.

There is some macro evidence that utilizing banking has significant implications for development. Beck et al (2007) find a correlation between financial depth and poverty across countries, and Levine (2005) finds a correlation between financial depth and economic growth.

This macroeconomic evidence seems to be consistent with the fact that most poor people in developing countries simply don't bank. About 90% of the 2.5 billion people around the world making less than $2 per day don't have a bank account (FAI and McKinsey 2009). Many of these participate in other savings options, such as ROSCAs, but most don't use formal savings options. This may be due in part to lack of knowledge of the value of formal banking, but access is also a problem. Most banks simply are not located where the poor live or near them and they do not offer services for low depositors. Reducing transaction costs for banks -local branches and ATMs are expensive, especially when working with very small amounts of money- and for customers –given that fees, travel and wait times can be costly- could be a solution to this lack of access.

Doorstep banking is also often called "last mile" banking as the bank reaches out to those who can't make it to the banks themselves. This is sometimes done in retail shops, other times by agents who live in or near the villages, such as FINO, or through mobile banking vehicles or even mobile phones, such as those being pioneered by MPESA and M-Kesho.

The value of saving for the poor can be numerous. Savings can be used to generate lump sum cash to invest in businesses or mitigate risk, such as adverse shocks to employment, health or crops. Also, given that income for poor people comes often very irregularly, a place to store cash could be used to smooth consumption. All of these issues can be solved through loans and microfinance, though interest rates can often be beyond the poor's ability to repay. As Murdoch et al. (2010) show, the poor often use a mix of options, which includes savings and loans at the same time. The lack of full usage of savings is often attributed to a mix of psychological commitment issues, hyperbolic discounting, and the value of risk sharing.

Saving, whether formal or informal, is hard. Dupas and Robinson (2011) find that demands for transfers to others and unplanned luxury expenditures are the two biggest reasons for people not saving. Reducing the barriers to acquiring a formal savings option significantly reduced both of these issues. Their results suggest that self-control issues can be overcome through savings devices.

There are some advantages to formal banking. Unlike village savings programs, banks offer privacy from villagers and family members, both of which can present significant demands on cash holdings, decreased risk of theft or default from other savings members and reliability, if

the banking agent is regularly available. They can also, when financed by NGOs or through government regulation, be lower cost or even free of any charges.

Dupas and Robinson (2010) find that giving micro enterprises in Kenya access to a low cost savings account increases savings, productive investment and food expenditures for women, but not for men. The accounts also helped to mitigate health shocks. Even with a de facto negative interest rate, usage was high, though heterogeneous, with only about half utilizing the account in the first six months.

Sometimes, unique savings programs offer the best chance for households. Duflo, Kremer and Robinson (2009) experiment with alternative money storage by encouraging farmers at harvest time to spend money on fertilizer for next season, which was then delivered for free. The program was found to increase fertilizer usage. Brune et al (2010) gave Malawi farmers either normal savings accounts or commitment savings accounts where the farmers specified when money could be withdrawn. The rates of deposits were high for commitment savings accounts at almost twice that of the normal account. Ashraf et al (2006, 2010) also introduced commitment savings accounts in the Philippines for those who already had savings accounts. They find increased savings rates.

Natural experimental evidence utilizing banks expansions also suggests a value to offering savings accounts to individuals, though it is hard to disentangle all of the effects. Aportela (1999) studies the expansion of a Mexican savings program in post offices in communities. Savings rates in the areas increased, though it is possible they came at the expense of other savings options. Two other studies that look at bank expansion, Burgess and Pande (2005) in India and Bruhn and Love (2009) in Mexico, find increases in welfare, though they can't distinguish between the effect of increased banking, or increased or subsidized credit opportunities.

The results of previous research on financial education and savings account access provide the main impetus for the research described here. By randomly providing financial literacy training to those with formal savings options, we hope to increase the knowledge of what works and what does not in financial literacy training.

The remainder of the paper is organized as follows. The next section outlines the FINO program and why it presents a unique opportunity to study the intersection of financial literacy and financial access. In section 3, we describe the experimental design, sampling and data, including issues that arose during the survey implementation. Section 4 presents the graphical

analysis using transaction data on account activity followed by an econometric estimation of the treatment effects and in section 5, we provide concluding remarks.

2. The FINO Program and Intervention

While the benefits of banking access and financial literacy are well acknowledged, the evidence of their impact for most people, as previously discussed, is lacking. This could be due to a number of reasons, including people's low interest in utilizing banking. This section discusses the FINO banking and financial literacy training programs.

2.1 Doorstep banking

In 2006, the government of India instituted a requirement of banks that 20% of all bank accounts in India must be held by the poor. FINO was thus developed in order to help banks bring accounts to the poorest people.

FINO works with partner banks to establish financial distribution platforms in rural villages, ensuring that people in previously hard to reach areas have access to bank accounts. This outreach is done through a hierarchical system, with the bandhu, or business correspondent, being based in the villages and hence being most in contact with individual clients. Ideally, the bandhus would be interacting with clients multiple times in a week, though in practice, as will be discussed, this occurred significantly less.

There is, however, very little regulation on such programs, and the law holds that there must be so many accounts, not that they are actively in use. This is important for an organization like FINO, where the majority of accounts are inactive. Mobile money operators, who are growing in popularity and offering an increasing range of services, focus now on active accounts, not just registered accounts. FINO accounts are also no frills, with no interest nor many service options other than deposit and withdrawal.

FINO has trained more than 10,000 bandhus and has over 48 million customers. And it is growing by up to 1 million clients *per month*. While this doorstep banking model looks very attractive, the reality on the ground is actually more complicated than the model would suggest. Of the baseline sample of 3000 clients, 88% were found to have not done any transaction during the pre-intervention period (March- May 10 2011), whereas around 10% held positive balances in FINO account as of May10, 2012.

FINO had only recently begun opening accounts in the areas of this study, but after 12 months, only 10% had maintained more than Rs. 50 of balances in their accounts as of April 2012. This is partly due to the fact that, many bandhus are not catering to the needs of clients in the villages, despite living with them. As the account activity crucially depends on the agent (Bandhu) visit in the village/neighborhood, a follow up was conducted on a subsample of clients to collect information on Bandhu presence. Out of total 1363 who were sampled for the follow up survey, only 28% of people report having seen their bandhus during a monitoring survey conducted in October and November 2011.

2.2 Financial education intervention

In partnership with the World Bank evaluation team, FINO developed and implemented a pilot financial education training program. The program was designed to support the increased use of FINO's savings accounts to encourage and facilitate saving. The financial education program focused on teaching the knowledge and skills required to adopt good money management practices for budgeting, spending, and saving.

The program took place in two districts in Uttar Pradesh over the course of several months. There were a number of delays reported by FINO due to the rainy season, as well as training delays in the head office. Originally, the financial education program was to be delivered by the bandhus, but to ensure that the quality of the training is maintained, a team of seasoned trainers was deployed for the various FE workshops. The training consisted of 2-day financial education workshop for the beneficiaries. Each day, people were given 2 to 3 hours of training with up to 30 people in the sessions. The beneficiaries of the training were the sampled clients who were assigned to the treatment group and administered the baseline survey. Initially, client attendance was very low as information regarding the program was not spread well and many clients are poor farmers who rely on daily wage earnings for their subsistence. To ensure that the treatment clients attend the training, CMF assisted FINO in the information campaign by making door to door visits before the training workshop was carried out. In addition, a small remuneration was given to clients as an incentive for attending the training. The initial attendance level was only 46% of the total sample, but rose significantly after the additional campaigning was carried out. About 71% of all treatment clients attended both days of the program, 12% attended one of the two days of training and 17% did not attend any of the sessions.

The training material consisted of a video program shown to people by projector, roll playing and discussions after relevant topical sections are presented. The sections included (1) the role of banking in people's lives, (2) borrowing and spending, including a discussion of interest rates, and (3) cash management.

3. Experimental Design

3.1 Methodology

In order to understand the causal impact of the financial literacy training program, the experiment was conducted on a random sample of individuals in villages where FINO operates. Villages were selected to either receive the training, or receive no training. Individuals from treatment villages that had FINO smart cards were then randomly selected to be given a baseline survey and the financial literacy training while individuals in control villages were just administered the baseline survey. To decrease contamination, randomization was done at Bandhu level, i.e., at the village level.

When treatment assignment is randomized and compliance with treatment assignment is perfect, all those assigned to the training complete it, and all those in the comparison group do not pursue training by other means – then the average treatment effect, or ATE, is simply the difference in performance among the individuals in the treatment versus control groups. With baseline data on particular outcomes, one can also calculate an ATE on the differential improvement over time between treatment and control individuals.

In the real world, it is likely that some individuals selected for the training would not attend it, and those not selected could find alternative means to receive the "treatment". Under such circumstances, an instrumental variables approach is the ideal estimation method, where being treated is instrumented by being assigned to treatment. This is sometimes referred to as a local ATE, or LATE. However, what the LATE estimate does not tell us is the impact of the program on individuals who would have found a way to enroll in training in any case, or those who would never enroll regardless of assignment. One might argue that the impact of treatment on the compliers is a key policy parameter of interest. It will not, however, be representative of the average impact on all participants.

Another set of parameters of interest are the conditional ATEs—the average impacts of the program on individuals with different initial characteristics, such as sex, literacy, education, etc. To identify these heterogeneous impacts, treatment can be interacted with initial values of these characteristics and the conditional impact identified. In these cases, however, it will be important to recognize that many initial characteristics are inter-correlated (i.e. high education with urban presence and high family incomes), and so attribution of the conditional effect to a particular initial trait must be done with care, primarily by controlling for the maximum number of such interactions.

3.2 Sampling

The program was rolled out with the clients of 200 bandhus who were working in 244 villages in the two experiment districts, Varanasi and Azamgarh. A description of the sample size requirements is presented in Appendix A.

These 200 bandhus were selected from the list of all FINO bandhus who work in these districts based on a distance calculation method. Under this method, in order to prevent contamination in control and treatment groups due to overlap of bandhu service areas, the evaluation team decided to adopt a random dropping method in which from a pair of bandhus who are very close to each other, one bandhu was decided to be dropped randomly (to minimize spillovers) and bandhus who serve areas that are far apart also to be dropped (in order to make data collection and training easier). Using the GPS coordinates of bandhu service areas, distance between each pair of bandhus and distance between the service areas of each bandhu were calculated and then a drooping rule was applied to drop bandhus based on the calculated values of distance. In the next step, these 200 bandhus were randomly assigned into treatment or control. In total, 108 bandhus were kept as treatment and the remaining, 92, as control using the following procedure: from the list of 200 bandhus, 25 clients were randomly selected from each Bandhu using FINOs account records.[1]After the 25 clients were randomly selected, a random assignment of bandhus

[1] Buffers of 10 clients per bandhu were kept to ensure that for each bandhu the target of 15 clients could be surveyed. The first 15 clients (based on sorted client ids) per bandhu was treated as the priority and the buffer only used in the extreme case where, in spite of making every effort the survey team is unable to find the client from the original list.

into treatment and control was done by district. Using the random treatment assignment, a pre-baseline randomization check was undertaken to ensure that the sample was well balanced with respect to available demographics and account activity information. From the FINO client database, information on age, gender, and account activity status (whether a client has done at least one transaction during the 6 month period before February 2011) was collected. These parameters (% of female; % of clients in the age groups 18-24, 25-59, 60 and above; and % of clients who made at least one transaction in the 6 months period before February 2011) were individually regressed on treatment dummy and the regression results showed that, in all the cases, the treatment dummy was statistically insignificant indicating that there was no observable difference between the treatment and control bandhus with respect to these parameters before the baseline. Finally, a sample of 15 clients per bandhu was drawn for the survey interview.

3.3 Data Collection

A questionnaire was designed by the evaluation team to understand clients' current knowledge of financial tools and their current financial behaviors. The questionnaire also collected detailed information on various variables that are assumed to play an important role in household behavior and financial wellbeing. These include:

- Household demographics such as number of family members, age, educational attainment, primary, secondary and tertiary occupation, income earned in the preceding 14 days;
- Household income from various sources;
- Household financial and non-financial assets ownership;
- Household savings and borrowings;
- Household expenditures
- Respondent's perception towards budgeting
- Measure of respondent's numeracy
- Respondent's involvement and knowledge regarding household financial matters like savings, investment and insurance etc.
- Respondent's time preference and preference for risk

The survey was conducted using a Samsung mobile device with Windows Mobile 6.5 operating system. The questionnaire was programmed into the mobile devise using C++ programming language. After the completion of the survey, the entire database was exported from the mobile devise into CSV files and a baseline survey database was created in excel and STATA.

As the data was collected using a mobile devise, the software enabled standard logical checks and as a result no further cleaning was necessary. However, given that the survey was conducted using mobile devise to directly feed the responses into the database, to eliminate the possibility of data entry error and to ascertain quality and consistency of data, 10% of the responses were selected randomly and values were crosschecked by telephonic verification from the respondents.

Additionally, for most of the important variables, a thorough outlier checking was conducted to eliminate the possibility of data entry error. Extreme values in the top and bottom of the distribution were crosschecked by telephonic verification and in case of any mismatch, the incorrect responses of the survey data were overridden by the values provided by the respondents over phone.

3.4 Summary Statistics and Balance Test

In this section, we first present a brief summary of the major baseline variables and then discuss the results of the balance test.

The majority of households own livestocks, although most did not receive income from them, in the week preceding the interview. Half of the respondents have national bank accounts, which suggests that, while banking is not easy in the areas where FINO operates, some people are interested enough in obtaining formal savings that they will go through the effort. Children represent about half of the household size at just over 3 minors per household. Literacy also appears to be low with only half of household heads reporting that they are literate. The household heads are on average about 45 years old. There is also a small percentage (5%) of Muslims in the sample.

Interestingly, only 86% of households report having a FINO account. This suggests that some of the population are either not aware they have accounts, or were not aware of what they were signing up for when they opened their account.

As the next step, we have conducted the balance checks using regression method. The results of the balance test are presented in Appendix B. Most of the baseline variables were balanced except for the following: per-capita expenditure, standardized index for numeracy, standardized index for financial literacy, dummy for having outstanding loans from formal sources, dummy for clients who completed at least secondary level of education.

Thus, in order to avoid the bias that might arise in estimating treatment effects, we will use these variables as controls in the empirical analysis.

4. Empirical Analysis of Short Run Treatment Effects of the FE training

In this section, we investigate whether the FINO financial literacy intervention has had any influence on the usage of FINO smart card by the clients, in the short run. For this, a unique dataset of transactions made by the clients was collected on a regular basis, from March 2011 up to April 2012. To the best of our knowledge, this is the first transaction database with such detailed information made available for research to understand the impact of financial literacy on savings behaviors. In particular, the FINO transaction data provides the number of debit and credit transactions reported on the client's account for a stipulated time period. It also gives the amount of balance held at any specific date.

For the purpose of our analysis, activity of the client account has been captured in various periods covering the pre-intervention period through the post intervention period. The pre- intervention data went from March to mid May 2011 whereas the post- intervention period started from August 2011 to April 2012 data. In the meantime, the financial literacy intervention took place between May and August 2011.

From the transaction data, we constructed measures of average daily account usage. First, the *total number (amount) of transactions,* for given period, was computed as the sum of the total number (amount) of debit and credit transactions during that period. Then, a measure of *average number (amount) of daily transactions* was calculated by dividing the total number (amount) of

transactions by the total number of days in that period and then converted into monthly average by multiplying by 30. Similarly, the *monthly average number (amount) deposit*, and the *monthly average number (amount) of withdrawals* were calculated for various reference periods. While constructing the monthly average values of the dependent variables, we have trimmed the distribution of deposit, withdrawal and total transactions at 99 percentile to remove the outliers.

The table below presents the summary statistics of the variables of interest, including the set of dependent variables and the set of control variables that were found to be imbalanced at the baseline :

Table 1: Summary of Variables used in Analysis

	Number of Observations	Mean	Standard Deviation
Dependent Variables			
Before Intervention			
Monthly average deposits: March- May 2011	2974	2.25	12.14
Monthly average withdrawal March- May 2011	2974	1.02	6.31
Monthly average total transactions (sum of deposits and withdrawals) March- May 2011	2967	2.92	14.40
During Intervention			
Monthly average deposits: May- August 2011	2974	6.18	28.62
Monthly average withdrawals May- August 2011	2974	3.94	23.16
Monthly average total transactions (sum of deposits and withdrawals): May- August 2011	2969	9.59	46.05
Post Intervention			
Monthly average deposits: August 2011 - April 2012	2916	3.31	14.46
Monthly average withdrawals: August 2011 - April 2012)	2907	1.79	8.62
Monthly average total transactions (sum of deposits and withdrawals): August 2011 - April 2012	2886	4.23	17.09
Explanatory Variables			
Dummy for having loan outstanding with formal financial institutions (Bank, MFI, SHG, NBFC)	3004	0.11	0.31
Number of female members in the household	3004	3	1.93
Per capita total expenditure: 14 days prior to survey, capped at 99 percentile	2994	260	204.38
Standardized index of competency in numeracy	2986	0	1
Standardized index of competency in financial literacy	3004	0	1
Dummy: client has at least secondary education level	2992	0.24	0.43
Dummy: client is female	2992	0.40	0.49
Dummy for having a non-FINO savings/post office bank account at baseline	3004	0.56	0.50
Balance held in FINO account as of May 2011	3004	11.5	110.43

As can be seen from Table 1, even though the last three variables were found to be balanced in the baseline, we will use them as controls in the empirical analysis since they may have important bearing on account activity.

Using the transaction data, we will explore how the usage of the no frills account offered by FINO has been influenced by the financial literacy intervention. For this purpose, we start with a graphical analysis of account usage in the pre, during and post intervention periods and then present an econometric estimation of the treatment effects.

4.1 Graphical Analysis

4.1.1 Trends in FINO Account Usage: From Pre to Post Intervention Analysis

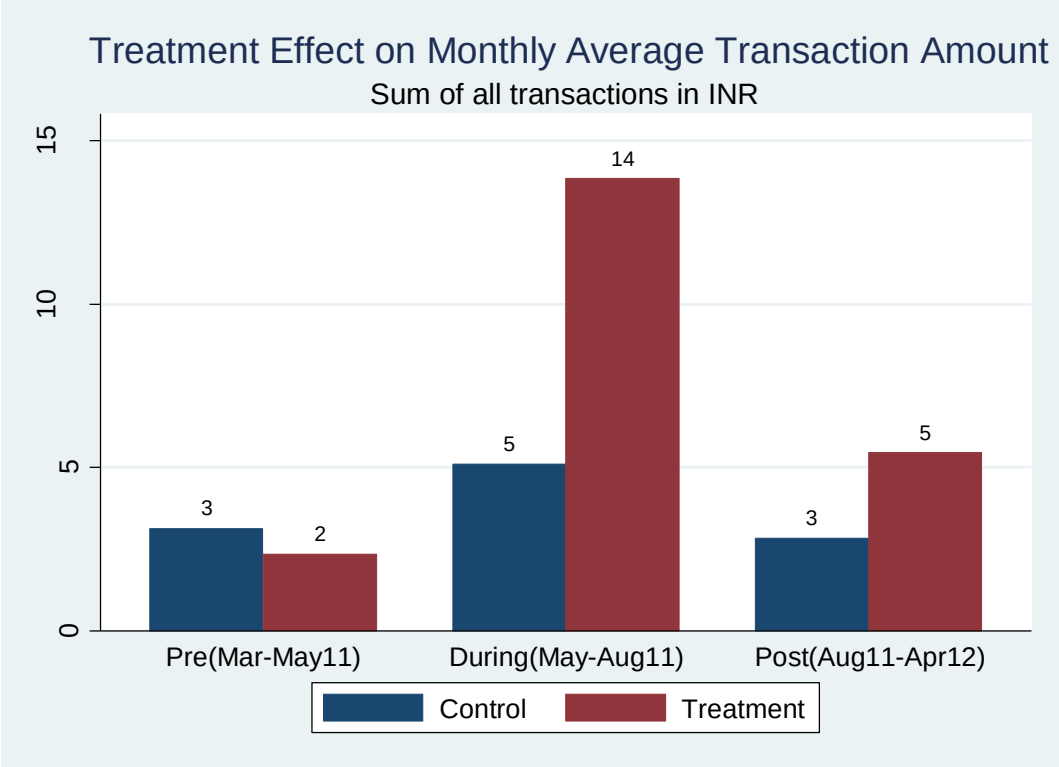
As mentioned previously, one of the key features of this intervention is the availability of client transaction data. This section presents a graphical analysis of account activity where we clubbed various time periods in such a way that trends in pre, during and post intervention periods could be readily compared.

Figure 1 in the next page shows the *monthly average transaction amount* from March 2011 to April 2012. The period Mar-May11 represents the pre-intervention period whereas May-Aug11 corresponds to the intervention period and period Aug11- Apr12 represents the window of entire post-intervention period. The treatment and control means show that, the monthly average amount of transaction was quite similar[2] for both treatment and control clients before the intervention, suggesting that the overall sample is balanced across observable and unobservable characteristics of clients. On the other hand, the monthly average amount of transaction increased significantly during the intervention, in May-Aug11, for both groups, but the jump in the monthly average amount of transactions of the treatment group is much greater than that in the

[2] A ttest shows no difference in treatment and control mean for the period March- May.

control group. This observed increase seems to be transitory and could be due to seasonality effect, as can be seen from the post intervention period Aug11-April 12. However, the immediate effect of the financial literacy intervention appears quite prominent.

Figure 1

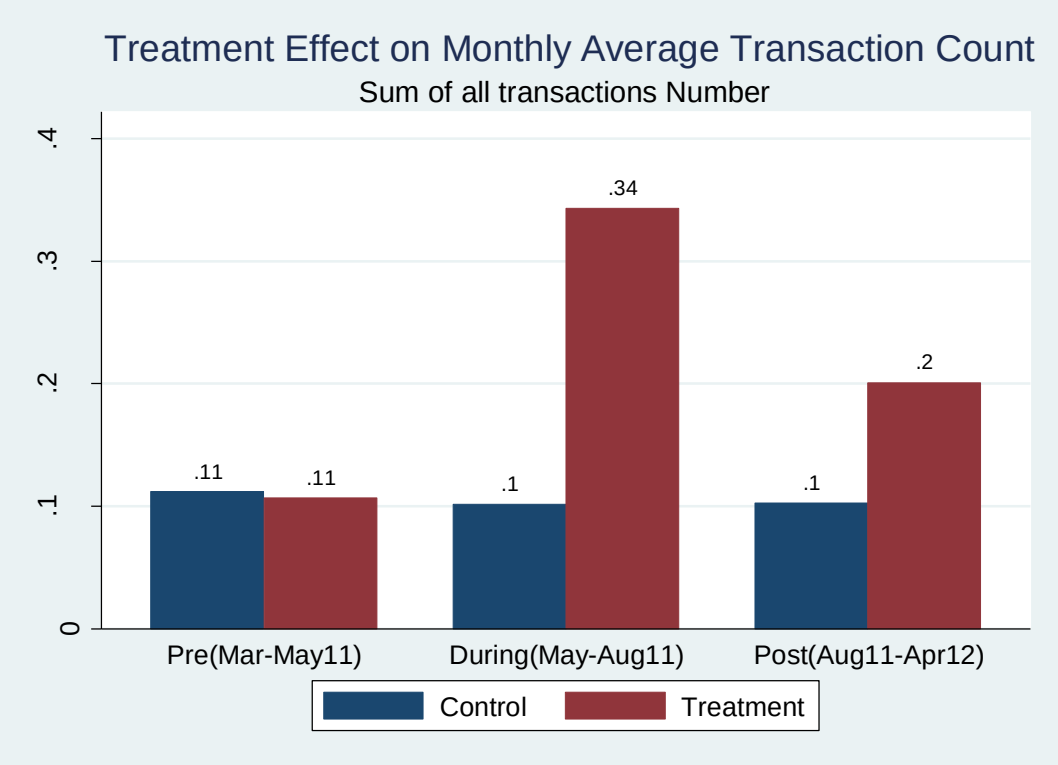


The data from the post intervention period (Aug11- Apr12) quite clearly shows that the treatment sample does significantly greater amount of transactions than the control sample, as can be seen from the last two bars, despite the decreasing effect of the training over time. [3]

[3] A ttest on the difference between treatment and control mean in the post intervention period (Aug11- Apr12) confirms this.

In addition to the amount of transactions, we look at the number of transactions made by FINO clients. Figure 2 shows the monthly *average number of transactions* generated between March 2011 and April 2012.

Figure 2

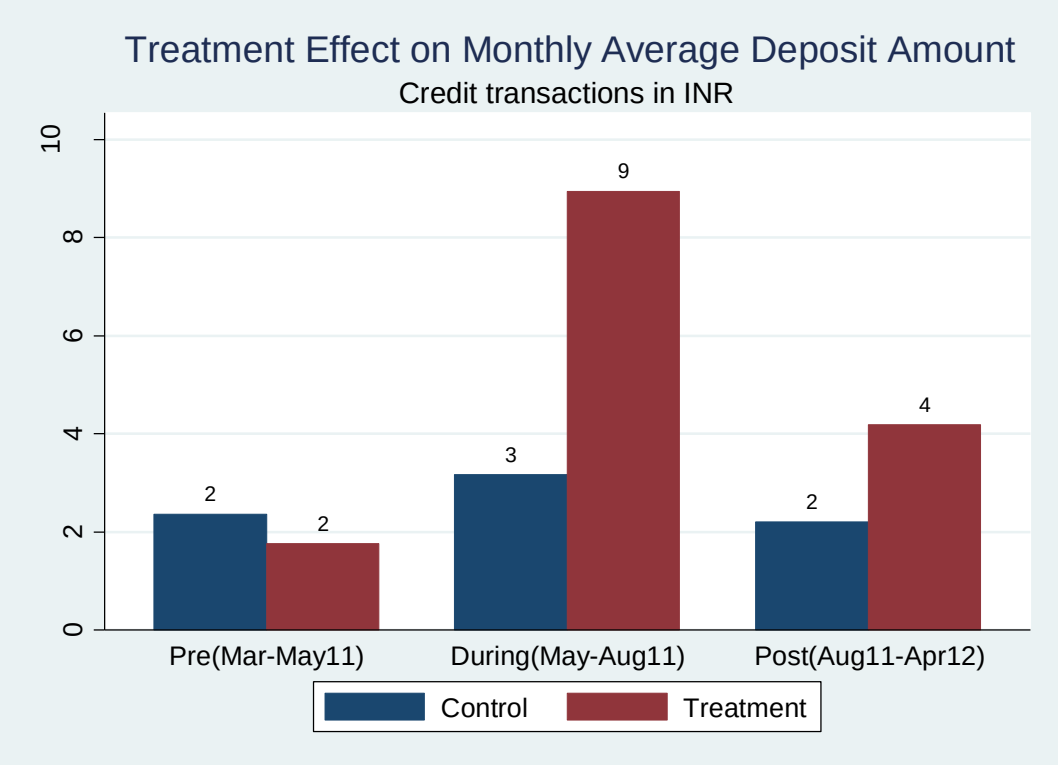


The *monthly average number of transaction* data also demonstrates the treatment effects. At baseline, we observe similar values and when the training program got implemented, the data shows significant increase in the monthly *average number of transactions*, for the treatment sample, as compared to the control sample. This effect did linger, even during the post intervention period, suggesting some persistence in the impact of the training. [4]

[4] A ttest on the difference in treatment and control mean in the post intervention period (Aug11- Apr12) confirms this.

To be able to unpack the effect of the total transactions made in the client account, we decompose the transactions into deposits and withdrawals. We start with Figure 3 which shows the *monthly average amount of deposits made* between March 2011 and April 2012.

Figure 3

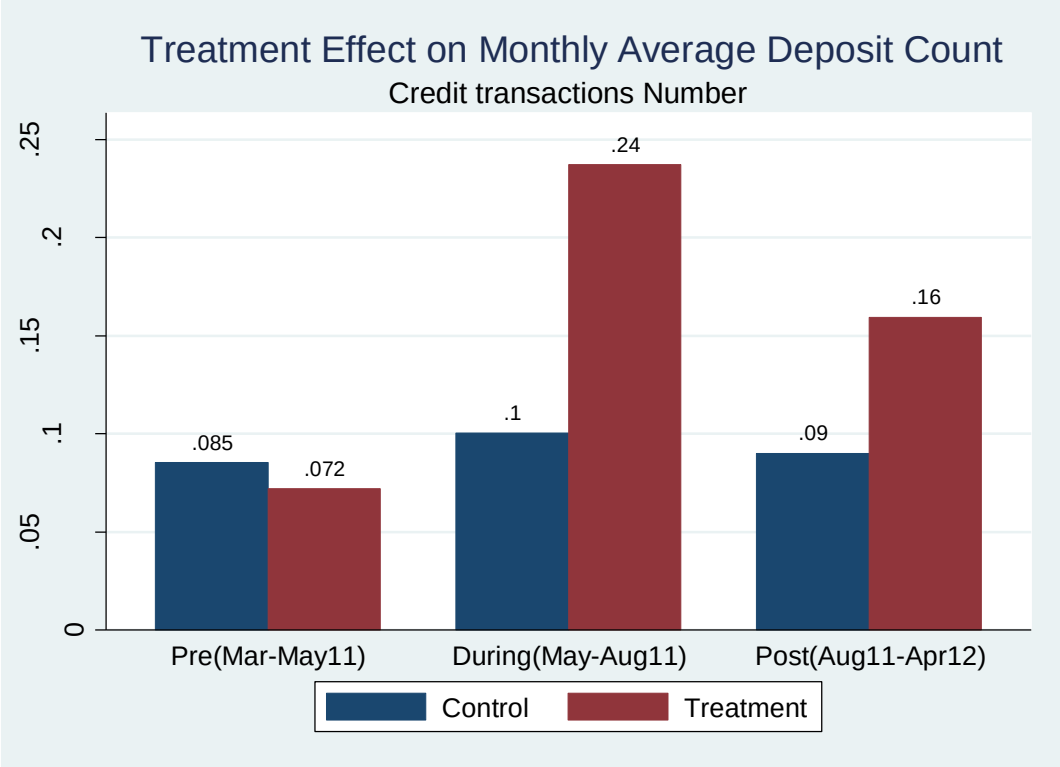


As can be observed from the Figure 3, the treatment clients started depositing more money during and after the intervention. Starting from similar values before the intervention, the *monthly average amount of deposits* has increased by more than four times, for the treatment sample, during the intervention, while it only increased by around 50% for the control sample, during the same period. Further, treatment clients deposited, on average, significantly greater amounts, as compared to the control sample over the entire post intervention period. [5]

[5] A ttest on the difference in treatment and control mean in the post intervention period (Aug11- Apr12) confirms this

A similar trend is shown by the *monthly average number of deposits* – starting from similar pre-intervention values, the treatment mean records a big spike during the FE intervention and remains way above the control mean (Figure 4) during the post intervention, as the difference between control and treatment appears to be highly statistically significant. [6]

Figure 4

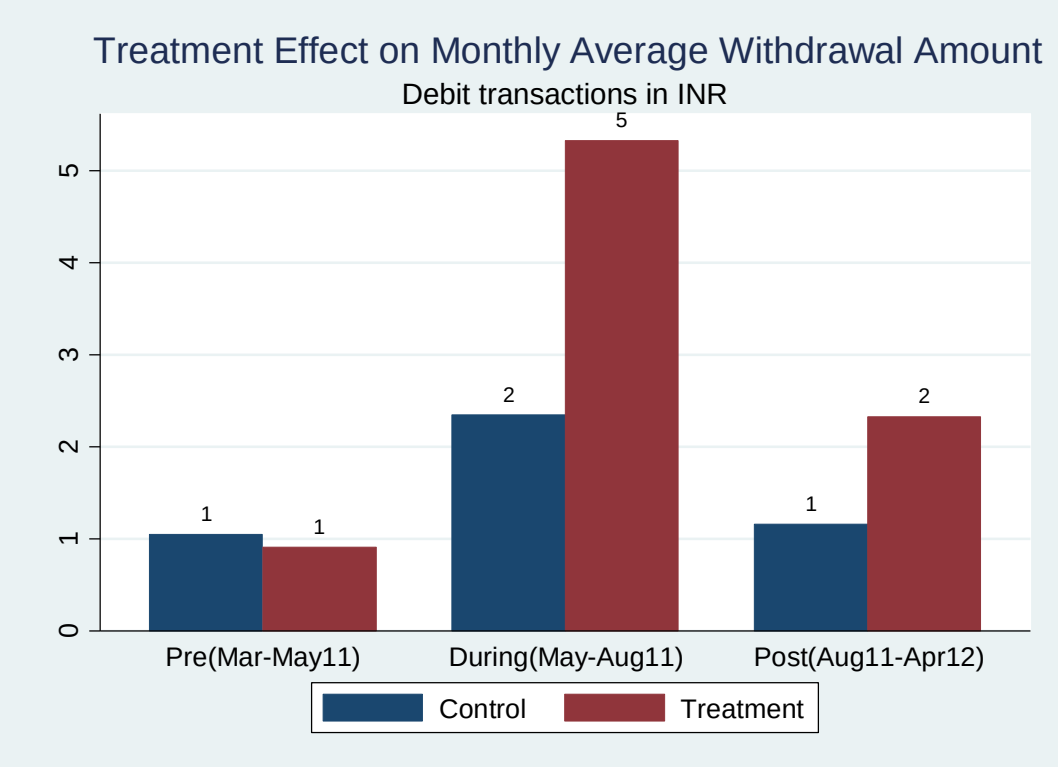


We also look at the withdrawal activity in the client account, to see whether there were any significant differences between treatment and control groups. The data on the monthly *average withdrawal amount* has been plotted in Figure 5.

[6] A ttest on the difference in treatment and control mean in the post intervention period (Aug11- Apr12) confirms this.

Both treatment and control means increase during the intervention. But, the increase in treatment mean is very steep, while the post intervention data (Aug11- Apr12) shows that treatment clients withdrew significantly larger amounts of cash, as compared to the control clients.[7] What explains such behavior? Does this cancel out the positive impact of the training program on the total deposits made by FINO clients? We will attempt to address these questions in the next sections.

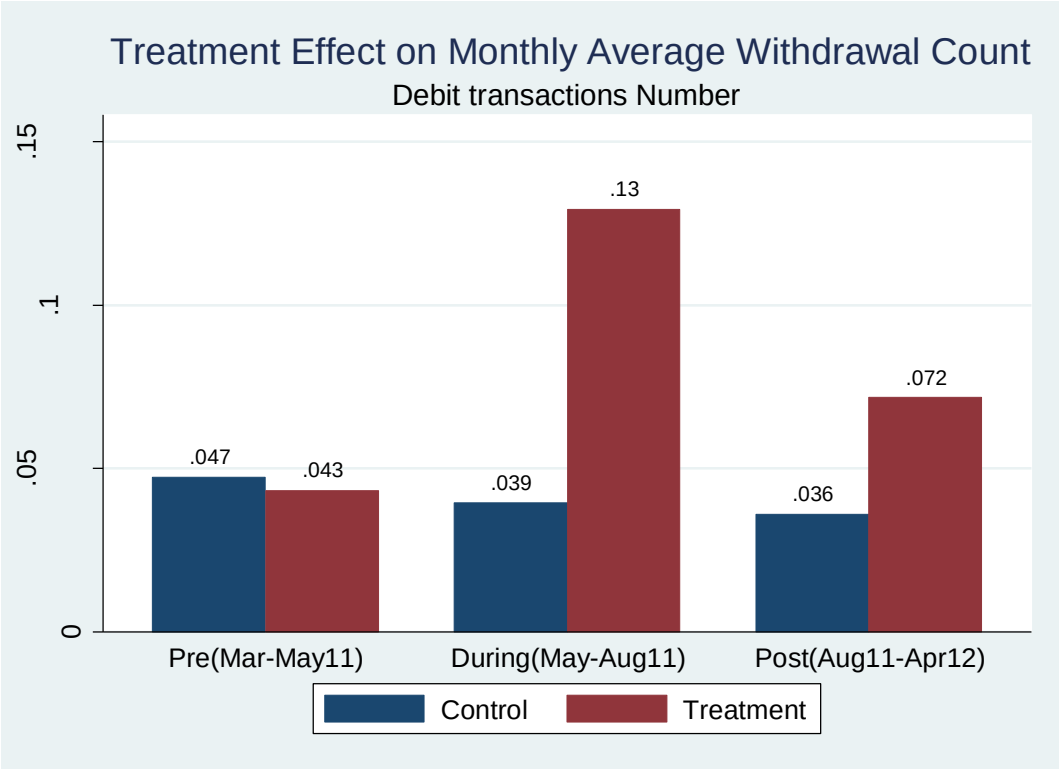
Figure 5



[7] A ttest on the difference in treatment and control mean in the post intervention period (Aug11- Apr12) confirms this.

Finally, Figure 6 presents the data on the *monthly average number of withdrawals.* It again shows a similar trend. Throughout the post intervention period, treatment clients withdrew almost twice as much as they did before the intervention.

Figure 6



Comparison of deposit and withdrawal data show quite clearly that the treatment clients are doing more of both credit and debit transactions after the intervention as compared to the control sample. However, the amount deposited outweighs the amount withdrawn, on average, suggesting some positive effect of the training program in the sense it has induced change in the savings behaviors of FINO clients. The persistent treatment effect suggests some effectiveness in the financial education program implemented. This effect will be further investigated when the endline data become available.

4.1.2 Trend in Non-Trivial Accounts

The no-frills savings accounts served by the business correspondents often remain dormant – maintaining just minimum or very negligible balances. To examine whether the financial literacy training has had any impact on the fraction of non-trivial accounts, we first classify the *non trivial accounts* as those that maintain balances of more than Rs. 50, at a given date (the cutoff date when the data for a given period was collected) and also conduct at least two transactions, in the given period. Then, we plot the data on the percentage of non-trivial accounts, for both treatment and control samples, during the same time period, as shown in Figure 7.

Figure 7

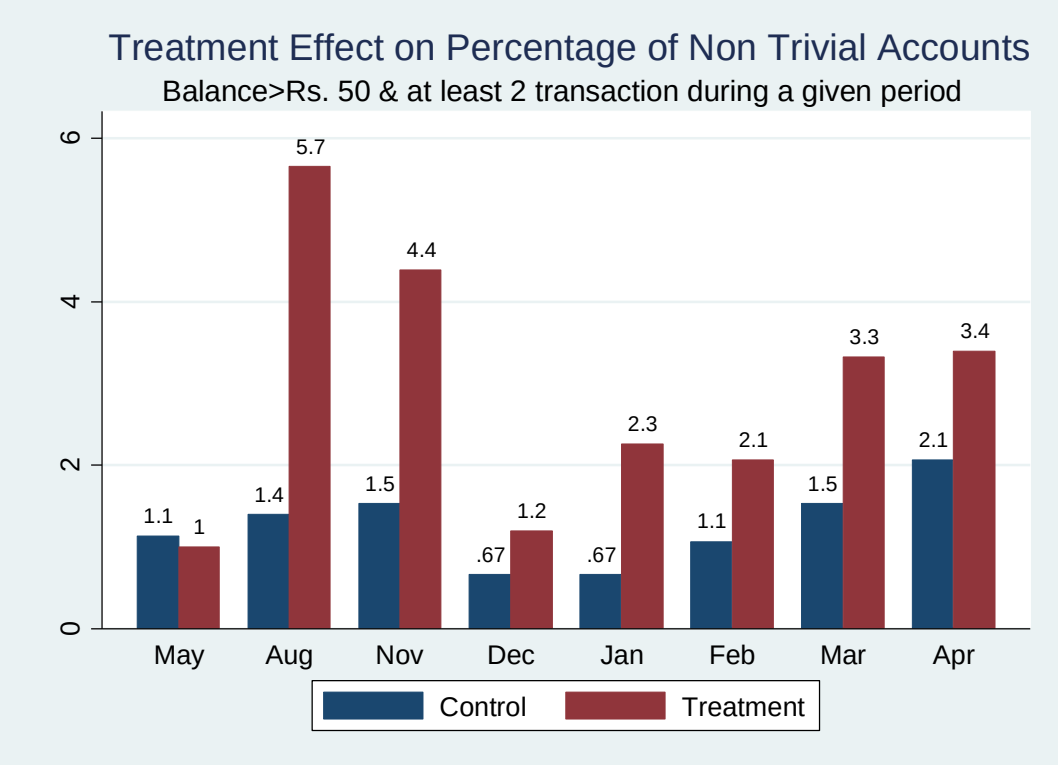


Figure 7 above shows that, before the intervention, both treatment and control groups had around 1% of non-trivial accounts. But, the intervention has induced a large increase in the share of non-trivial accounts in the treatment sample. In the period immediately following the intervention,

that share went back to the pre-treatment level, but increased in the subsequent periods. Over-time, in the months following the intervention, the percentage of non-trivial accounts among treatment clients, has remained significantly greater than in the control sample. This seems to indicate that the financial literacy training has not only had significant potential to increase the fraction of the no-frills accounts that maintain non-trivial balances, but it may have also allowed client transactions to remain particularly active, for the treatment sample.

4.2 Econometric Analysis: Estimating the Treatment effect on FINO Account Usage

Before proceeding with the econometric analysis, it is important to reiterate that we have conducted a detailed analysis to explore whether, at baseline, the treatment and control samples were balanced with respect to important variables. As mentioned in Section 3, we have identified the variables which were not balanced at baseline to include them as controls in the regression analysis.

To explore whether the financial literacy treatment affects the usage of no-frills accounts (hereafter NFAs) served by FINO in the short run, we estimate the treatment effect on total transactions, total deposits and withdrawals using three specifications: in the first specification, we only estimate the basic treatment effect; in the second specification, we incorporate interactions between the treatment variable and some important variables to estimate their effect on the treatment, and, in the final specification, as a measure of robustness check of the heterogeneity effects observed, we include these interaction terms simultaneously along with a set of baseline controls to pick up the heterogeneity effects.

4.2.1 Econometric Specification

To estimate the treatment effect on the transactions in NFA served by FINO, we estimate the following regression:

$$Z_i = a_0 + a_1 T_i + a_2 X_i + e_i \quad (1)$$

Where Z_i represents the dependent variable of interest for client i, T_i represents the treatment dummy (=1 if the client was assigned into treatment group and zero otherwise), and X_i includes a set of independent variables that were found to be imbalanced at baseline. [8] The error term e_i is an iid random error variable with a zero mean and the standard errors are clustered around the unit of randomization (at the agent level).

We will estimate the above equation for three dependent variables – total deposits, total withdrawal amounts and total transaction amounts, which are the sum of deposits and withdrawals in a given period.

The coefficient a_1 estimates the average treatment effect. However, since some of the clients who were assigned to the treatment did not actually attend the financial literacy training, we will present instead the Intent-to-treat (ITT) effect.

Further, to reduce biases that might arise from differences in key baseline variables between treatment and control samples, we use the latter as controls in the above regression. Additionally, we include, as controls, client's gender, education and amount of balances held in the account before the intervention. All estimations have standard errors clustered at the bandhu level (equivalent to the village level).

[8] Bruhn and McKenzie (2009)

4.2.2 Estimated Treatment Effects

Table 1 – 6 presents the regression results with the coefficient estimates of equation 1 in which the dependent variables are the monthly average amount and number of deposits, withdrawals, and of total transactions. For each of the regression equations, we present the estimates of the effect during the intervention period (May- August 2011), and the post treatment period (August 2011- April 2012) to explore the overall treatment effect.

Column 1 of Table 1 presents the results of the treatment effect on the amount of deposit during the intervention period, May- August 2011. The coefficient estimate on the treatment variable shows that the treatment effect is positive and statistically significant: on average, the treatment clients deposited Rs. 5.4 more than the control clients during the intervention period.

Column 2 shows that the treatment effect persists in the post intervention period: during the entire post intervention period of August 2011- April 2012, the monthly average deposit of the treatment clients was Rs. 2 more than the monthly deposits of the control clients.

In light of these results, it seems that the treatment clients made significantly more deposits after they were exposed to the financial literacy training. Looking at the magnitude of the treatment effect during and post intervention, it appears that the strongest treatment effect was observed during the intervention period.

Tables 2 and 3 present the estimates of treatment effect on monthly withdrawals and total transactions respectively. Similar to the treatment effects on monthly average deposits, we find a statistically significant impact of the treatment on withdrawals and total transactions during and after the intervention, with the strongest effect observed during the intervention period.

When we look into the effect of treatment on the monthly number of transactions undertaken during and after the intervention, we find similar results. Tables 4- 6 show that the monthly average number of deposits, withdrawals and total transactions of the treatment clients are statistically significantly greater than that of the control clients during and after the intervention. Also, the

magnitudes of the treatment effect follow the same trend as before – largest effect during the FE intervention with a fading effect over time.

Overall, these results suggest that the financial literacy training has been quite effective at inducing participants to increase the use of their FINO smart card.

4.3 Heterogeneity Results

4.3.1 Econometric Specification

After having singled out the estimated treatment effects, we now explore, in this section, the heterogeneity effects by estimating the following equation:

$$Zi = a_0 + a_1 Ti + a_2 Ti * Yi + ei \quad (2)$$

Where Yi is the variable of interest, which is interacted with the treatment to identify heterogeneity in the treatment effects.

This specification allows to identify the independent effect of key baseline variables on. For this purpose, we interact one variable at a time with the treatment and measure the heterogeneity effect.

Given the difference in the effect that gender and education can have, we include interactions of client gender and education with the treatment. As earlier, we include interactions with variables that were found to be imbalanced at baseline. Additionally, to capture the effect of exposure to formal savings instruments, we interact the dummy of having non-FINO savings bank account with the treatment. Finally, we include an interaction of baseline measure of financial literacy with the treatment to identify whether initial difference in financial literacy results in heterogeneous treatment effect.

4.3.2 Estimated Heterogeneity effect

The coefficient estimates of equation 2 are presented in Tables 7-12. Columns 1-14 in Table 7 present the heterogeneity effects on monthly average deposits. Columns 1 and 8 present the heterogeneity with client's gender. The coefficient estimates on client gender and interaction term with treatment indicate that the female treatment clients deposit statistically significantly larger amount in their FINO savings account during the post intervention period as compared to the male clients (irrespective of their treatment status) and as compared to female control clients. This result clearly indicates that the financial literacy treatment has been effective in increasing deposits for FINO female clients.

The heterogeneity results with client's educational attainment are presented in columns 2 and 9 in Table 7. The coefficient estimates indicate that being a client with at least secondary education level does not induce any heterogeneous effect on their monthly deposits.

Similarly, the results shown in columns 5 &12 and 6 & 13 indicate that measures of per-capita expenditure, and competency in numeracy do not have any heterogeneous effects on treatment. Interaction of baseline financial literacy measure with treatment (presented in columns 7 & 14) is also found to be statistically insignificant suggesting that the treatment effect is independent of the pre-existing financial literacy status.

We next consider whether having previous exposures to other non-FINO savings bank account and previous exposures to formal loans have had any heterogeneous effect. Results shown in column 3 and 10 in Table 7 indicate that treatment clients who had loan outstanding at the baseline made more deposits during the post intervention period of August 11 – April 12. As shown in column 10, treatment clients' with outstanding loan deposited Rs. 2.76 more than the control clients, although this effect was absent at the beginning of the intervention. Columns 4 and 11 of Table 7 indicate that, treatment clients with non-FINO savings account made Rs. 2.58 additional deposits than the control clients in the August11- April12 period, possibly suggesting that finan-

cial literacy training is more effective for clients with pre-existing exposure to formal savings account, compared to those who have not been exposed.

We also estimate the treatment heterogeneity effect on withdrawals and total transactions. Tables 8 & 9 present the heterogeneity effects. Table 8 shows that gender has no heterogeneity effect on treatment, as can be seen from the coefficient estimate in the post intervention period (column 8).

Clients with formal loan outstanding do more withdrawal and total transactions in the post intervention period. Additionally, results reported in column 11 of tables 8 and 9 indicate that having a non FINO savings account does not make any difference on client's withdrawal and total transactions in the post intervention period.

Finally, as a robustness check, we estimate a specification in which all interactions found to be statistically significant are simultaneously regressed on the dependent variable along with other key baseline controls. Tables 13- 18 present the results of such specification. The coefficient estimates of this nested model grossly support the findings discussed in the previous section.

5. Conclusions

Basic financial literacy is viewed as a critical step in enabling poor households to improve their financial status. Though there are studies indicating financial literacy education can lead to increased awareness about financial products and services, there are limited studies evaluating the impact of financial literacy education on financial behavior. However, financial literacy interventions in the absence of easy and secure access to formal financial services, might not be sufficient in generating changes in the financial behavior of the beneficiaries. On the other hand, though innovative financial services delivery channels could solve the easy access issue, low levels of financial literacy might result in sub-optimal use of formal financial products that are made available through innovative financial services delivery channels.

In this paper, we explore whether financial literacy interventions could affect the usage of no-frills savings bank accounts that are made available at the door-step of poor households by one of

the largest Business Correspondents in India. Using data on transactions in savings account, we estimate the short run impacts of financial literacy interventions on account usage. Results of our experimental study indicate persistent treatment effects where usage of no-frills savings account by the treatment group significantly increases in the post intervention period. While controlling for heterogeneity, we find that, the treatment effect is more pronounced for female clients, while treatment clients who contracted outstanding loans at baseline, made more deposits and transactions in the post intervention period. Overall, the results suggest that financial literacy education can increase usage of no-frills savings accounts and consequently could go a long way in improving financial inclusion for the poor.

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Regression Results

Table 1: Amount of Deposits (monthly average - Trimmed at the 99pct)

This note describes tables 1 to 6: Each column presents monthly averages of each variable using the periods that are indicated, periods which are named in reference to the implementation of the financial literacy training (during and post), which took place on May-Aug 2011. 'Transactions' include both deposits and withdrawals. All regressions control for: Client's gender, Client has secondary and above education, Household had a loan outstanding with formal sources, Household had a non-FINO savings bank account, Per capita total expenditure, Numeracy index, Number of female members in household, Amount of balances held as of May 11 in FINO savings account, An indicator variable of the Varanasi district and Standardized index of financial literacy at the baseline. Robust s.e. in parenthesis, clustered at the agent level. Levels of significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	5.382***	2.006***
	(1.434)	(0.664)
Control Mean	3.190	2.221

Table 2: Amount of Withdrawals (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	3.248***	1.208***
	(1.037)	(0.401)
Control Mean	2.369	1.170

Table 3: Amount of Transactions (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	8.939***	2.717***
	(2.308)	(0.848)
Control Mean	5.159	2.855

Table 4: Number of Deposits (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	0.130***	0.068***
	(0.036)	(0.024)
Control Mean	0.101	0.091

Table 5: Number of Withdrawals (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	0.089***	0.036***
	(0.017)	(0.011)
Control Mean	0.040	0.036

Table 6: Number of Transactions (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	0.235***	0.098***
	(0.042)	(0.029)
Control Mean	0.102	0.103

Table 7: Heterogeneity Effect: Amount of Deposits (monthly average - Trimmed at the 99pct)

This note describes tables 7 to 12: Each column presents monthly averages of each variable using the periods that are indicated, periods which are named in reference to the implementation of the financial literacy training (during and post), which took place on May-Aug 2011. 'Transactions' include both deposits and withdrawals. Robust s.e. in parenthesis, clustered at the agent level. Levels of significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

	(1) DURING May-Aug	(2) DURING May-Aug	(3) DURING May-Aug	(4) DURING May-Aug	(5) DURING May-Aug	(6) DURING May-Aug	(7) DURING May-Aug	(8) POST Aug-Apr	(9) POST Aug-Apr	(10) POST Aug-Apr	(11) POST Aug-Apr	(12) POST Aug-Apr	(13) POST Aug-Apr	(14) POST Aug-Apr
Treatment	4.659**	5.985***	5.424***	4.362**	5.573***	5.819***	5.766***	1.044	1.372**	1.688**	0.551	2.785**	2.061***	1.997***
	(1.804)	(1.408)	(1.557)	(1.763)	(1.661)	(1.515)	(1.484)	(0.713)	(0.668)	(0.692)	(0.893)	(1.071)	(0.670)	(0.675)
Treatment X Female	2.947							2.296**						
	(1.873)							(1.008)						
Treatment X Secondary or above		-0.376							2.852					
		(2.629)							(1.945)					
Treatment X Had Loan			2.972							2.765*				
			(3.363)							(1.553)				
Treatment X Had Non-FINO sav acc				2.573							2.585**			
				(2.156)							(1.125)			
Treatment X Per cap Exp					0.001							-0.003		
					(0.005)							(0.004)		
Treatment X numeracy						0.904							0.206	
						(1.251)							(0.497)	
Treatment X financ_literacy							-0.484							0.322
							(1.154)							(0.471)
Control Mean	3.165	3.165	3.162	3.162	3.173	3.177	3.162	2.204	2.204	2.198	2.198	2.206	2.208	2.198

Table 8: Heterogeneity Effect: Amount of Withdrawals (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) DURING May-Aug	(3) DURING May-Aug	(4) DURING May-Aug	(5) DURING May-Aug	(6) DURING May-Aug	(7) DURING May-Aug	(8) POST Aug-Apr	(9) POST Aug-Apr	(10) POST Aug-Apr	(11) POST Aug-Apr	(12) POST Aug-Apr	(13) POST Aug-Apr	(14) POST Aug-Apr
Treatment	1.173	2.521**	2.719**	1.046	3.090**	3.123***	3.037***	0.848*	1.054***	0.869**	0.834	1.212***	1.197***	1.187***
	(1.466)	(0.996)	(1.173)	(1.241)	(1.246)	(1.135)	(1.120)	(0.459)	(0.401)	(0.397)	(0.506)	(0.429)	(0.409)	(0.412)
Treatment X Female	4.615***							0.806						
	(1.732)							(0.635)						
Treatment X Secondary or above		2.469							0.578					
		(2.553)							(1.017)					
Treatment X Had Loan			2.031							2.687*				
			(3.416)							(1.428)				
Treatment X Had Non-FINO sav acc				3.502**							0.609			
				(1.654)							(0.699)			
Treatment X Per cap Exp					-0.000							-0.000		
					(0.005)							(0.001)		
Treatment X numeracy						0.667							0.030	
						(0.844)							(0.286)	
Treatment X financ_literacy							0.061							-0.083
							(0.853)							(0.312)
Control Mean	2.350	2.350	2.344	2.344	2.352	2.355	2.344	1.161	1.161	1.159	1.159	1.163	1.164	1.159

Table 9: Heterogeneity Effect: Amount of Transactions (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) DURING May-Aug	(3) DURING May-Aug	(4) DURING May-Aug	(5) DURING May-Aug	(6) DURING May-Aug	(7) DURING May-Aug	(8) POST Aug-Apr	(9) POST Aug-Apr	(10) POST Aug-Apr	(11) POST Aug-Apr	(12) POST Aug-Apr	(13) POST Aug-Apr	(14) POST Aug-Apr
Treatment	5.274*	8.503***	8.195***	5.765**	8.088***	8.953***	8.789***	1.589*	2.192***	2.048**	1.457	3.051***	2.683***	2.655***
	(3.102)	(2.172)	(2.567)	(2.624)	(2.599)	(2.491)	(2.454)	(0.933)	(0.799)	(0.837)	(1.068)	(0.959)	(0.858)	(0.863)
Treatment X Female	8.848***							2.526*						
	(3.350)							(1.332)						
Treatment X Secondary or above		1.887							2.056					
		(4.824)							(2.193)					
Treatment X Had Loan			4.156							5.089**				
			(6.569)							(2.546)				
Treatment X Had Non-FINO sav acc				5.358							2.104			
				(3.398)							(1.414)			
Treatment X Per cap Exp					0.002							-0.002		
					(0.009)							(0.002)		
Treatment X numeracy						0.783							-0.017	
						(1.793)							(0.570)	
Treatment X financ_literacy							-0.665							-0.086
							(1.873)							(0.604)
Control Mean	5.118	5.118	5.111	5.111	5.128	5.135	5.111	2.833	2.833	2.827	2.827	2.837	2.839	2.827

Table 10: Heterogeneity Effect: Number of Deposits (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) DURING May-Aug	(3) DURING May-Aug	(4) DURING May-Aug	(5) DURING May-Aug	(6) DURING May-Aug	(7) DURING May-Aug	(8) POST Aug-Apr	(9) POST Aug-Apr	(10) POST Aug-Apr	(11) POST Aug-Apr	(12) POST Aug-Apr	(13) POST Aug-Apr	(14) POST Aug-Apr
Treatment	0.100**	0.151***	0.128***	0.107**	0.165***	0.139***	0.137***	0.046*	0.083***	0.066***	0.060**	0.071**	0.072***	0.067***
	(0.039)	(0.040)	(0.039)	(0.046)	(0.050)	(0.038)	(0.038)	(0.028)	(0.026)	(0.025)	(0.031)	(0.028)	(0.025)	(0.025)
Treatment X Female	0.094**							0.057*						
	(0.045)							(0.031)						
Treatment X Secondary or above		-0.061							-0.058*					
		(0.047)							(0.032)					
Treatment X Had Loan			0.089*							0.025				
			(0.050)							(0.038)				
Treatment X Had Non-FINO sav acc				0.053							0.017			
				(0.046)							(0.038)			
Treatment X Per cap Exp					-0.000							-0.000		
					(0.000)							(0.000)		
Treatment X numeracy						0.037							0.001	
						(0.024)							(0.015)	
Treatment X financ_literacy							0.026							-0.019
							(0.028)							(0.016)
Control Mean	0.100	0.100	0.100	0.100	0.101	0.101	0.100	0.090	0.090	0.090	0.090	0.090	0.090	0.090

Table 11: Heterogeneity Effect: Number of Withdrawals (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) DURING May-Aug	(3) DURING May-Aug	(4) DURING May-Aug	(5) DURING May-Aug	(6) DURING May-Aug	(7) DURING May-Aug	(8) POST Aug-Apr	(9) POST Aug-Apr	(10) POST Aug-Apr	(11) POST Aug-Apr	(12) POST Aug-Apr	(13) POST Aug-Apr	(14) POST Aug-Apr
Treatment	0.078***	0.099***	0.083***	0.084***	0.117***	0.092***	0.090***	0.026**	0.036***	0.032***	0.029**	0.044***	0.036***	0.035***
	(0.018)	(0.018)	(0.017)	(0.022)	(0.022)	(0.017)	(0.017)	(0.011)	(0.013)	(0.012)	(0.013)	(0.012)	(0.012)	(0.011)
Treatment X Female	0.032							0.024*						
	(0.020)							(0.013)						
Treatment X Secondary or above		-0.041*							-0.006					
		(0.021)							(0.013)					
Treatment X Had Loan			0.060**							0.029				
			(0.025)							(0.020)				
Treatment X Had Non-FINO sav acc				0.011							0.013			
				(0.021)							(0.014)			
Treatment X Per cap Exp					-0.000*							-0.000		
					(0.000)							(0.000)		
Treatment X numeracy						0.018							0.004	
						(0.011)							(0.006)	
Treatment X financ_literacy							0.004							-0.002
							(0.011)							(0.007)
Control Mean	0.039	0.039	0.039	0.039	0.040	0.040	0.039	0.036	0.036	0.036	0.036	0.036	0.036	0.036

Table 12: Heterogeneity Effect: Number of Transactions (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) DURING May-Aug	(3) DURING May-Aug	(4) DURING May-Aug	(5) DURING May-Aug	(6) DURING May-Aug	(7) DURING May-Aug	(8) POST Aug-Apr	(9) POST Aug-Apr	(10) POST Aug-Apr	(11) POST Aug-Apr	(12) POST Aug-Apr	(13) POST Aug-Apr	(14) POST Aug-Apr
Treatment	0.219***	0.263***	0.230***	0.216***	0.288***	0.246***	0.243***	0.075**	0.103***	0.092***	0.073**	0.117***	0.100***	0.097***
	(0.042)	(0.048)	(0.045)	(0.052)	(0.059)	(0.044)	(0.044)	(0.030)	(0.033)	(0.031)	(0.035)	(0.033)	(0.031)	(0.031)
Treatment X Female	0.058							0.057						
	(0.051)							(0.038)						
Treatment X Secondary or above		-0.098*							-0.025					
		(0.056)							(0.035)					
Treatment X Had Loan			0.107*							0.058				
			(0.062)							(0.048)				
Treatment X Had Non-FINO sav acc				0.045							0.046			
				(0.053)							(0.044)			
Treatment X Per cap Exp					-0.000							-0.000		
					(0.000)							(0.000)		
Treatment X numeracy						0.055*							0.008	
						(0.029)							(0.017)	
Treatment X financ_literacy							0.034							-0.009
							(0.033)							(0.018)
Control Mean	0.101	0.101	0.102	0.102	0.102	0.102	0.102	0.103	0.103	0.103	0.103	0.103	0.103	0.103

Table 13: Heterogeneity Effect: Amount of Deposits (monthly average - Trimmed at the 99pct)

This note describes tables 13 to 18: Each column presents monthly averages of each variable using the periods that are indicated, periods which are named in reference to the implementation of the financial literacy training (during and post), which took place on May-Aug 2011. 'Transactions' include both deposits and withdrawals. All regressions control for: Client's gender, Client has secondary and above education, Household had a loan outstanding with formal sources, Household had a non-FINO savings bank account, Per capita total expenditure, Numeracy index, Number of female members in household, Amount of balances held as of May 11 in FINO savings account, An indicator variable of the Varanasi district and Standardized index of financial literacy at the baseline. Robust s.e. in parenthesis, clustered at the agent level. Levels of significance: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	2.553	-1.448
	(2.060)	(1.161)
Treatment X Female	2.015	3.117***
	(1.928)	(1.138)
Treatment X Secondary or above	-1.402	3.232
	(2.502)	(1.982)
Treatment X Had Loan	2.697	2.695*
	(3.009)	(1.534)
Treatment X Had Non-FINO sav acc	3.750*	2.067*
	(2.052)	(1.072)
Control Mean	3.190	2.221

Table 14: Heterogeneity Effect: Amount of Withdrawals (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	-1.111	0.224
	(1.633)	(0.674)
Treatment X Female	3.562**	0.783
	(1.495)	(0.717)
Treatment X Secondary or above	2.549	0.743
	(2.456)	(1.104)
Treatment X Had Loan	1.766	2.620**
	(2.698)	(1.316)
Treatment X Had Non-FINO sav acc	3.848**	0.398
	(1.556)	(0.662)
Control Mean	2.369	1.170

Table 15: Heterogeneity Effect: Amount of Transactions (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	2.105	-0.409
	(3.257)	(1.308)
Treatment X Female	6.270**	2.862**
	(2.985)	(1.401)
Treatment X Secondary or above	2.080	2.764
	(4.612)	(2.310)
Treatment X Had Loan	3.988	4.954**
	(5.356)	(2.408)
Treatment X Had Non-FINO sav acc	6.140*	1.445
	(3.235)	(1.344)
Control Mean	5.159	2.855

Table 16: Heterogeneity Effect: Number of Deposits (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	0.063	0.049
	(0.059)	(0.030)
Treatment X Female	0.076	0.044
	(0.052)	(0.032)
Treatment X Secondary or above	-0.062	-0.053
	(0.051)	(0.034)
Treatment X Had Loan	0.089*	0.023
	(0.050)	(0.038)
Treatment X Had Non-FINO sav acc	0.076	0.020
	(0.047)	(0.037)
Control Mean	0.101	0.091

Table 17: Heterogeneity Effect: Number of Withdrawals (monthly average - Trimmed at the 99pct)

	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	0.074***	0.018
	(0.024)	(0.014)
Treatment X Female	0.021	0.025*
	(0.022)	(0.013)
Treatment X Secondary or above	-0.044*	0.001
	(0.023)	(0.013)
Treatment X Had Loan	0.056**	0.028
	(0.025)	(0.021)
Treatment X Had Non-FINO sav acc	0.019	0.008
	(0.021)	(0.013)
Control Mean	0.040	0.036

Table 18: Heterogeneity Effect: Number of Transactions (monthly average - Trimmed at the 99pct)

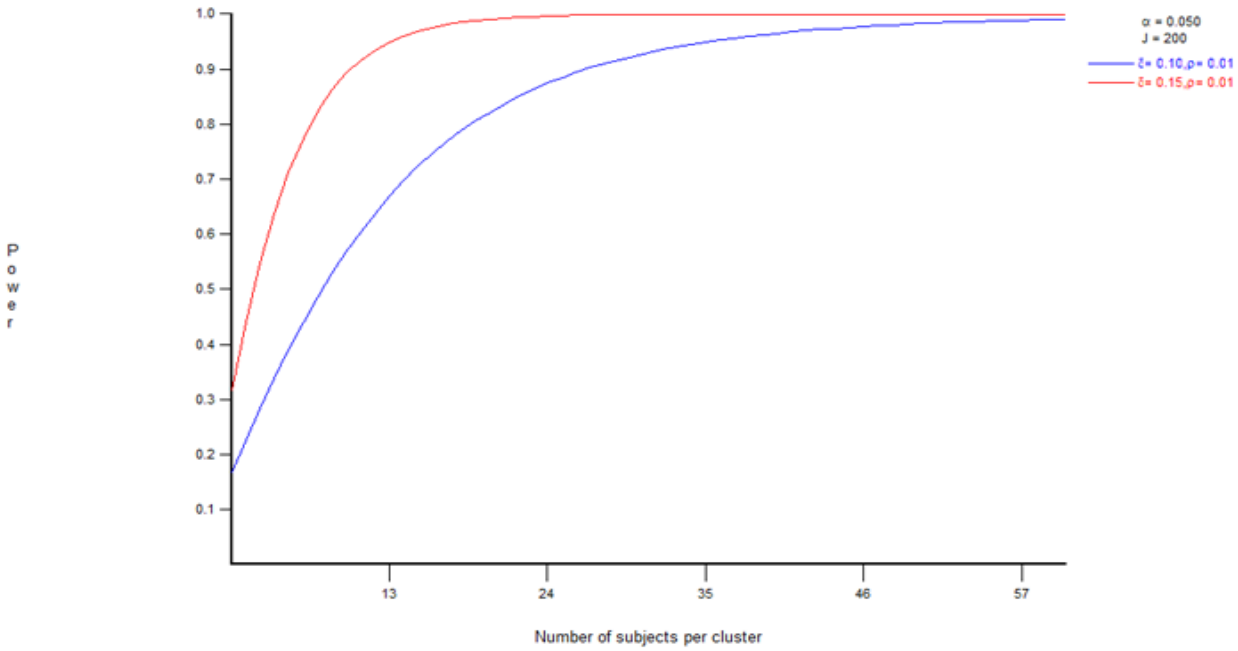
	(1) DURING May-Aug	(2) POST Aug-Apr
Treatment	0.204***	0.053
	(0.058)	(0.035)
Treatment X Female	0.026	0.056
	(0.055)	(0.039)
Treatment X Secondary or above	-0.120**	-0.017
	(0.059)	(0.037)
Treatment X Had Loan	0.106*	0.055
	(0.062)	(0.048)
Treatment X Had Non-FINO sav acc	0.069	0.037
	(0.053)	(0.042)
Control Mean	0.102	0.103

Appendix A: Power Calculations

In statistics, power is the ability to identify if a program has impact. A concern with any evaluation is if we falsely reject an impact because of low statistical significance. This can happen if the effect of the program is small, and the number of people interviewed is also small. With any evaluation, it is important in the design phase to attempt to avoid being "under powered", i.e. having too few observations to detect an effect.

Based on previous unpublished evaluations of financial literacy training, the impact on individual's knowledge of financial tools is expected to be very high, while the impact on behaviors and wellbeing is expected to be very low, though potentially still of an important size.

Power calculations were done in the program Optimal Design and assume that the program will change behaviors by between 10% and 15% with a power of 0.8 and significance level of 0.05. Based on these calculations, a conservative number of individuals to follow in both treatment and control villages was determined to be 15 per village, thus requiring 15*200=3000 individuals to follow.



Appendix B: Balance Test

Table B1: Results of Balance Test

Variables	Control Mean	Treatment Mean	P value	Balanced at 10%
Number of members in the household	6.74	6.96	0.17	Yes
Number of female household members	3.18	3.35	0.06	No
Number of male household members	3.56	3.61	0.63	Yes
Number of minors in the household	2.71	2.86	0.08	No
Number of adults >=18 in the household	4.03	4.1	0.49	Yes
Dummy: Head of household has at least secondary education	0.23	0.2	0.19	Yes
Dummy: Head of household is illiterate	0.43	0.43	0.90	Yes
Age of Head of household	44.68	45.52	0.20	Yes
Dummy: client has at least secondary education	0.27	0.21	0.01	No
Dummy: client is female	0.39	0.42	0.11	Yes
Dummy: client is the head of household	0.44	0.42	0.32	Yes
Client age	37.61	38.18	0.34	Yes
Whether belong to general caste Dummy	0.11	0.13	0.63	Yes
Whether belong to schedule caste Dummy	0.3	0.35	0.16	Yes
Whether belong to schedule tribe Dummy	0.04	0.04	0.53	Yes
Whether belong to other backward community Dummy	0.54	0.49	0.17	Yes
Whether religion is Hindu Dummy	0.95	0.94	0.77	Yes
Whether religion is Muslim Dummy	0.05	0.06	0.80	Yes
Whether has land Dummy	0.75	0.75	0.89	Yes
Total landholding	24.45	25.54	0.42	Yes
Asset Index 1st Principal component	0.02	-0.02	0.45	Yes
Dummy for having a non-FINO savings/post office bank account at baseline	0.56	0.55	0.94	Yes
Total amount of formal savings	2182.82	2117.05	0.90	Yes
Total amount of savings	5522.19	4297.28	0.34	Yes
Dummy for having a loan outstanding with formal sources Bank/MFI/SHG	0.09	0.12	0.02	No
Total outstanding formal loan amount	1661.89	1859.35	0.63	Yes
Per capita Household income with cap at 99th percentile	154.35	147.3	0.66	Yes
Per-capita Household expenditures in last 14 days with cap at 99th percentile	271.43	249.26	0.05	No
Whether plan to save for upcoming expenses Dummy	0.84	0.85	0.69	Yes
Normalized index of competency in numeracy	0.08	-0.08	0.03	No
Normalized index of financial literacy	0.08	-0.08	0.03	No
Whether client is risk averse	0.47	0.44	0.11	Yes
Whether client is patient	0.26	0.24	0.46	Yes
Amount of Balance held in FINO account as of May 2011 Rs.	8.23	14.78	0.15	Yes