The Bank Account is not Enough: Examining Strategies for Financial Inclusion in India

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Abstract— The Indian government has undertaken an ambitious strategy for financial inclusion (FI) as part of its development agenda. With the aid of technology-enabled branchless banking initiatives, this drive has been successful in regards to extending access—nearly 60% of the Indian population is banked. However, empirical evidence suggests that the majority of bank accounts are not being utilized, especially not by the poor who are the target of FI. This paper examines the reasons for such underutilization and also recommends ways to improve the FI drive. The paper contributes to the strand of ICTD literature that focuses on FI in two ways. First, it makes clear that the measures of FI success should not be focused on access alone. The real impact comes from appropriate usage of these accounts. Second, it argues that financial education (FE) should be integrated into the FI drive. This would help the poor to more effectively exploit their links to formal financial services and decrease their reliance on costly informal alternatives.

***Index Terms*—Financial inclusion, financial education, India.**

I. Introduction

As part of its development efforts, the Indian government has undertaken a social banking program that has two main objectives. The first is to extend formal credit and savings opportunities to the poor and marginalized segments of the population. The second is to displace informal service providers such as moneylenders [1]. More recently, the opening of no-frills savings accounts, with zero balances and low maintenance fees, has been a crucial policy initiative. Such accounts are being offered at scale, and are part of a financial inclusion (FI) strategy that has an ambitious goal—to ensure that all villages with a population of more than 2,000 have access to financial services by March 2011. Given that the population of India is over 1 billion, this will be no easy task.

To meet this goal, the Reserve Bank of India (RBI) is working with a variety of financial institutions to cultivate branchless banking strategies [2-4]. Such strategies extend the reach of financial services beyond the physical bank branches, which minimizes the operational costs for the provider. It also makes services more accessible to customers.

Branchless banking strategies rely on agents that operate outside of bank branches [5]. In many cases, the agents are located in places that are accessible to customers such as local government offices [3],[6]. Currently, only non-government organizations (NGOs), post offices, microfinance institutions (MFIs), and other civil society organizations can operate as agents. Mobile operators are also trying to enter this space, but regulatory restrictions discourage them from doing so [4].

Technology service providers such as FINO[1] and A Little World (ALW) are key facilitators in this FI effort. These companies provide the platform on which the remote transactions are processed and they work with banks to open accounts at scale. The companies also have a mandate to handle government to person (G2P) payments in certain areas. As part of the G2P effort, they are providing no-frills savings accounts to millions of unbanked individuals.

Such FI efforts have been successful in terms of enrollment. Nearly 60% of the adult population has a bank account. This is high when compared with other developing countries such as South Africa (32%), Tanzania (6%) or Colombia (39%) but low when compared with Denmark (99%), the UK (88%) or the US (91%) [7]. An additional 584 million accounts, however, must be added for India to reach its 100% inclusion target [7].

Technologies such as debit and credit cards, telephone and internet banking, automatic teller machines (ATMs), and biometric point of transaction (POT) terminals [8],[9] have been vital to such success. They enable remote accessibility to financial services and enhance security for associated transactions. This has extended and accelerated the FI drive.

However, despite this success, evidence suggests that access has not translated into usage. A study in Tamil Nadu found that 72% of poor individuals had zero or minimum balances after holding their no-frills accounts for one year [10]. A study of G2P recipients found this number to be even higher, with 85% of these accounts being dormant [7]. The study further noted that only 5% of G2P recipients made deposits into their no-frills accounts [7]. The remainder withdrew all funds and

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[1] Financial Information Network & Operations Ltd. (FINO) http://www.fino.co.in

thereafter funneled their wages into informal savings mechanisms.

Accessibility was noted as a major issue. Recipients paid nearly 50% of their daily wage to travel to the bank. The queues were also long: 70% said that visiting a bank caused them to lose an entire work day [7]. A lack of attention from formal financial institutions also posed a barrier. 85% of respondents said the benefits of the account were not explained by bank staff during enrollment. Another 87% claimed the features of the account were not made clear [10]. A variety of other reasons have been given for such low levels of usage, from lack of interest by the poor to inadequate design of financial services [2],[7].

This paper investigates the numerous reasons for the underutilization of formal financial services. It further makes clear what needs to be changed for usage rates to increase. The research draws from an empirical study conducted in three Indian states over the period of one month. During the study, 133 interviews were conducted. Most informants were poor, lived in rural areas, and held no-frills savings accounts. A significant number also received G2P payments via technology service provider FINO.

This work contributes to the strand of ICTD literature that focuses on FI in two ways. First, it makes clear that measures of success should not be focused on access alone. The real impact comes from appropriate usage of formal financial products. Second, it shows that strategies for financial education (FE) should be integrated into the FI drive. Such strategies can lead the poor to increase their usage of formal services, and lessen their dependency on costly informal alternatives.

Introducing FINO

This work focuses on FINO—one of the most dominant players in the branchless banking space in India. The company has been operating in the market since 2006 with the objective of leveraging technology to serve the unbanked. FINO works with a variety of financial institutions—including banks, MFIs and insurance companies—to meet this goal. FINO has also introduced a wide range of financial products into the market in collaboration with its partners. These include biometric-based devices for remittances, micro-insurance and credit-scoring solutions.

FINO further offers agent services through its subsidiary, FINO Fintech Foundation. This company was formed because regulatory stipulations exclude for-profit companies from offering agent services. The foundation allows FINO to circumvent these restrictions and offer both the agent network and supporting technology. FINO employs a (POT) terminal equipped with a fingerprint reader, a receipt printer and a SIM card port for communication over mobile networks. As part of the enrollment process, agents take a head shot and gather some basic information from the customer. They also use the biometric machine to scan all ten fingerprints. After this process is complete, the information is used to create a smart card for the recipient. The smart card is embedded with the customer’s account and biometric information. To transact, the agent swipes the card of the customer. They then scan the customer’s fingerprints to confirm identity. The money, as well as a receipt confirming the transaction, is given to the beneficiary to complete the process.

The success of FINO's POT is attributable to its various features. The use of the mobile network, which is extensive in India, allows the agents to transact in very remote areas. The customers trust the fingerprint authentication mechanism as they view fingerprints as harder to forge than signatures. Additionally, the transaction receipts serve as important proofs when disputes arise. The combination of these features allows the customers to entrust their monies to the agents. This in turn extends the reach of the banks to these remote locations. The service is of a great benefit to the banks as it is comparatively cheaper than the cost of operating branches in these areas, particularly given the low transaction rate and amounts.

Since its inception, FINO has grown rapidly. The company has enrolled more than 12 million customers using a network of agents equipped with smartcard and biometric readers. The majority of these customers have been enrolled under two government mandates: FI and G2P.

The FI mandate

To meet the 100% inclusion target, the government has assigned banks to engage in FI activities in their districts of operation. Because such promotion is both time consuming and costly for banks, many are working with FINO to facilitate this effort.

As part of this FI drive, FINO agents enter a particular geographic area with a goal—to sign-up customers at scale and offer no-frills savings accounts on behalf of the banks. FINO uses several strategies to meet this goal. In some cases, they do an initial drum beat to announce that enrolment is taking place and go door to door to promote the service. Agents also provide basic financial education, such as explaining the features of the no-frills account. Other financial services that can be accessed through the account, such as insurance, are also promoted.

The agents also take measures to enhance accessibility to FINO. Most operate from village centres. They also provide door step services, and visit the homes of their customers at least twice per month. They do this because commissions are given on the number of customers enrolled. For example, an agent who signs up 1200 customers receives a monthly salary of USD 26. They also receive USD 0.01 commission per transaction completed and USD 0.08 per insurance product sold. Because of this incentive structure, the agents make efforts to sign-up customers, educate them on FINO services, and increase the number of transactions going through the system.

The G2P mandate

FINO also handles the disbursement of G2P payments. This includes the social security payments (SSP) under which elderly, disabled and widowed individuals receive a monthly payment. It also includes National Rural Employment Guarantee Act (NREGA) pay outs. This act guarantees 100 days of work per year at minimum wage to individuals who are willing to perform unskilled labor. NREGA has been deemed the largest and most ambitious anti-poverty scheme since independence [11]. In the 2008/2009 fiscal year, more than USD $8 billion was paid out to nearly 50 million recipients [12]. A large portion of these recipients were unbanked.

Originally, both SSP and NREGA payments were disbursed by local government officials in the villages. However, the government mandated that all NREGA wages be paid via bank accounts. Government reports provide two reasons for such a move—(1) to prevent the leakage of funds and (2) to increase financial inclusion amongst the poorest segments of the population [13]. Similar to the FI mandate, the government assigned banks to handle disbursements in particular areas. The banks then partnered with FINO to facilitate the process.

Enrollment works somewhat differently under this mandate. The government provides the bank with a list that includes all the customers that need to be signed up. The list is thereafter passed on to FINO, which does the enrolment. Only the customers on the list, rather than the whole community, are targeted. As in the FI drive, each individual enrolled is assigned a no-frills account through which the wages are channelled. However, the empirical findings show that usage of these accounts is low. In most cases, the full amount is withdrawn not long after disbursement.

The commission structure is also different under this scheme. Agents receive 0.25% of the cash disbursed. This amount is paid only *after* the amount is withdrawn from the account. Such incentive structures are important to understand because they impact how the accounts are marketed. In this case, the agents do not advertise that the accounts can also be used for savings because they have no incentive to do so. In fact, they would lose money if customers keep the disbursement in their accounts. The empirical findings confirm that this lack of exposure to available services is one of the major reasons for the underutilization of the accounts.

FI and G2P

There are some places in Karnataka where the two drives are linked. It should be noted that such a link was not the result of a government mandate. Rather, village officials integrated the drives to circumvent the middlemen who profited from the G2P disbursement process at the expense of the customer. In these sites, the agents handle G2P disbursements and also engage in FI activity. More specifically, they make clear that the account can be used for savings and advertise the other services that can be accessed through the account.

This turned out to be lucrative for the agents as it increased their customer base and the number of transactions going through the system. As the empirical findings will show, such a link is also beneficial to customers. It has resulted in an increase in financial transactions and balances. The recommendations make clear that such a link should be considered in other contexts.

Note that the analysis uses the term "FI site" to describe areas where the two drives are linked. This is in contrast to "non-FI site" where only G2P disbursements take place.

II. Methodology

Determining why the poor underutilize formal services requires a closer examination of their financial habits and the services (formal and informal) available to them. In this regard, an initial field study was conducted to investigate the financial life of rural residents. The study covered 15 rural towns and villages located in the states of Andhra Pradesh (AP), Karnataka and Uttar Pradesh (UP). The sites were selected from a list of areas where FINO was conducting

TABLE I: Distribution of FINO services across research sites

State	Town	FINO Service	Number of individuals	Number of groups
Andhra Pradesh	Ippaipalle	NREGA	-	2
	Ganguru	NREGA	-	1
	K. Sreetharamapuram	NREGA	-	1
	Gollapalli	NREGA	-	1
	Diggavalli	NREGA	-	3
Uttar Pradesh	Chopan	NREGA	1	1
	Asma	NREGA	2	-
	Sinduhari	NREGA	1	1
	Belatand	NREGA	3	1
	Douhari	NREGA	3	1
Karnataka	SB Halli	FI	4	1
	Doddagangawadi	FI	-	1
	Nidugatta	FI	6	-
	Akuur	NREGA +FI	-	1
	Bylanarasapura	NREGA + FI	4	-
Total			24	15

TABLE II: Informant profiles

	High Earnings Worker	Middle Earnings Worker	Low Earnings Worker	NREGA Dependent Worker
Income flow	Regular (monthly or bi-annual)	Regular (daily)	Regular (daily and/or weekly)	Irregular (weekly or monthly)
Monthly Income	10,000+	6000-8000	1500-3500	500–2500
Occupation	Rich farmer, salaried worker, shop owner	Skilled labour, farm work	NREGA & other labour jobs	Only NREGA
Land owned	5+ acres of arable land	Less than 5 acres	0 – 1 acres	0 – 1 acres
Education	10^{th} – some university	8^{th} – pre university	None - 5^{th}	None - 5^{th}
Literacy	Literate & numerate	Literate & numerate	1/3 literate & most numerate	1/4 literate & numerate
Mobile	Most owned	Most owned	1/3 owned	1/4 owned
Location:				
Karnataka	13	10	14	0
AP	0	0	42	25
UP	0	1	12	16
# of Informants	13 (9.7%)	11 (8.3%)	68 (51%)	41 (31%)

TABLE III: Financial portfolio of typical individuals from each group with sample cash flow

		High Earning Workers In FI sites (13)	Middle Earning Workers In FI sites (11)	Low Earning Workers in FI sites (14)	Low Earning Workers in non-FI sites (54)	NREGA Dependent Workers in In non-FI sites (41)
	Mechanism	*USD 323 / month*	*USD 130 / month*	*USD 32 / month*	*USD 32 / month*	*USD 17 / month*
Savings	Home	6%	10%	15%	30%	25%
	Chit	6%	5%	5%	4%	2%
	FINO	13%	30%	18%	-	-
	Post office	-	-	5%	-	-
	Bank	27%	20%	-	-	-
Insurance	Life	5%	5%	-	-	-
	Farm	5%	n/a	n/a	n/a	n/a
Loans	Money Lender/Shop-keeper	-	-	19%	28%	28%
	MFI	-	5%	-	-	-
	Bank	5%	-	-	-	-
Expenses	Household	8%	25%	38%	38%	45%
	Employees	25%	n/a	n/a	n/a	n/a

frequent G2P payments. All the areas visited were rural. In most cases, farming and NREGA work provided the greatest sources of livelihoods.

Semi-structured interviews with 15 focus groups and in-depth interviews with 24 individuals were conducted over the period of one month. In total, 133 informants (57 female and 76 male) were included in the study. The interviews were primarily conducted at the Gram Panchayat (GP), or local government offices. These were the sites for the NREGA disbursements. At FI sites, the offices and homes of the agents were visited. The interviews took between 30 minutes to an hour and all were conducted in the local language of the informants with the aid of a translator. The questions explored the literacy level of the informants, their financial habits, their familiarity with financial concepts and terms, and their views on FINO's smartcard system. Other stakeholders such as FINO employees, government officials and bank officers were also interviewed. This helped the researchers to understand the roles of various institutions in the FI and NREGA drives.

Description of informants

Informants in the research sites were classified as follows: high earnings worker, middle earnings worker, low earnings worker, and NREGA dependent worker. For analysis, the low earning workers were further separated into two groups: the first group had access to FI services, whereas the second did not. Such separation occurred because the groups had different sets of financial portfolios. This will be described in more detail in the empirical findings.

As is shown in Table II, characteristics such as amount and frequency of income inflows, occupation, land ownership, education and mobile phone ownership were used to group the informants. It must be noted that some groups were dominant in particular locations. Most of the high and middle earnings workers came from Karnataka. These two groups tended to have more frequent and higher value cash, inflows. They found employment as farmers, salaried and highly-skilled workers. A significant portion also owned land. This is in contrast to the low earning and NREGA dependent workers, which were usually located in Andhra Pradesh (AP) and Uttar Pradesh (UP). In most cases, the low earnings and NREGA dependent workers had lower value cash flows. The former also had other livelihood sources, and usually worked as labourers. The latter did not have any other livelihood sources and represented the poorest segment in the sample.

Such segmentation based on inflows and livelihood sources is important. The empirical evidence suggests that each group had unique financial portfolios. They also had different levels of financial awareness. Because of these distinctions, recommendations for FE will be made specific to the group.

III. Findings

A. The high and middle earnings workers in the FI sites had the highest levels of financial literacy. They also had more diverse sets of financial portfolios

Most informants in these groups understood basic financial terms, such as savings, loans and interest. About half were familiar with the financial products that could be accessed within their community. There were several reasons for such awareness. For one, these informants had more experience with formal mechanisms because they had higher income inflows. They had gathered much of their financial information from such experience. FINO agents were another source of information. As was mentioned previously, these agents made an effort to promote FINO in sites where there was an FI mandate. It must be made clear that such promotion activities were limited to FINO. The agents did not make clear the other services available locally as they had no incentive to provide such information.

Such interaction with formal financial services and agents led this segment to have a more diverse set of financial portfolios than the other groups. Table III illustrates the mechanisms that were used most frequently by the high and middle income workers. A sample budget is also included. This illustrates how cash was typically distributed across the mechanisms after a payout was made.

Several features distinguished the portfolios of high and middle income workers from those of the other groups. First, they relied more heavily on formal mechanisms for the organization of their cash. Insurance, bank and MFI loans were integrated into financial portfolios. Each of these mechanisms had a specific purpose. For example, loans were often used for the expansion of businesses. The bank and FINO accounts were used for the accumulation of funds for emergencies and future investments. Festivals, land expansion and investment in business were noted as the most popular future investments.

Informal mechanisms were also integrated. However, a smaller portion of cash was funnelled through these mechanisms. These informal mechanisms also had their specific functions. Cash stored at home was used for daily expenditures. Individuals also participated in chit funds, or rotating savings and credit associations (ROSCAs). For this form of savings, members in a community would form a group and meet at regular intervals to contribute a pre-determined amount of money. The accumulated amount was given to each member in turn. The group was disbanded after every member received the pot. Most often, the payouts were used for lumpy expenditures such as investment in business, or livestock and household furniture purchases.

Such diversity in portfolios is important. Research has shown that it makes individuals less vulnerable to the shocks that emerge within their environments [14-16]. Money can be accessed from other sources if one of the mechanisms fails. In this context, cash being stolen from the home would be considered a failure. The discontinuance of a chit fund would be another. Research also suggests that the poor are more likely to increase their savings balances if cash flows are separated and compartmentalized [15]. This was certainly the case with the portfolios of the high and middle earnings workers. By using several mechanisms, and attaching a purpose to each, individuals were more easily able to organize their cash and attach targets to their savings. Table IV lists the purpose of each mechanism in the portfolio.

TABLE IV: Purpose of mechanisms in financial portfolio

	Mechanism	***Purpose***
Savings	Home	Daily expenditures
	Chit	Lumpy investments
	FINO	Future investment, emergencies
	Post office	Future investment, emergencies
	Bank	Future investment, emergencies
Insurance	Life	Security against illness, death
	Farm	Hedge against crop failures and other unexpected shocks
Loans	Money Lender/Shop-keeper	Emergency, credit
	MFI	Investment in business
	Bank	Investment in business

The research also shows that the integration of mechanisms leads to increased financial transactions with formal services [8],[14]. This was shown to be the case with these workers when they adopted FINO. Many informants explained that they increased the frequency of deposits because the service was available. This phenomenon was also observed in the other groups as well.

B. The low earning and NREGA dependent workers in non-FI sites had the lowest levels of financial literacy. They also had less diverse portfolios of mechanisms

There were several features that distinguished the financial portfolios of low earnings and NREGA dependent workers in non-FI sites. Most importantly, none of the informants used FINO for savings. In fact, cash was withdrawn from the account almost immediately after a disbursement was made. Most did not know the account could be used for this purpose as this option was not advertised in non-FI sites. As was mentioned previously, the agents did not receive incentives to promote this type of usage.

Furthermore, a large portion of the informants had bank accounts aside from the one provided by FINO. However, such accounts were opened only to collect NREGA wages prior to the introduction of FINO and were rarely used after FINO began to handle the disbursement. As the financial portfolios show, money was not funneled into bank or MFI accounts after a pay-out was made. Many informants stated that these accounts were only for the “rich” and that they did not have enough to save formally. When asked how much more was needed, most explained USD 11. The mention of this figure makes sense—this was the minimum balance requirement for regular savings accounts.

Because the usage of formal accounts was low, this segment relied heavily on informal mechanisms. As the portfolio shows, a significant portion was funneled through the home after pay-out and balances remained quite low. The low earnings workers in non-FI sites usually kept USD 4–11 at home. For the NREGA dependents, the balances were even lower, keeping USD 0–4 at home. Erratic income inflows were one reason for such low balances. In many of the work sites, informants could not meet the 100 day minimum as there was not enough work. Many blamed this lack of work on the corruption in the system. They explained that local government officials were pocketing the money allocated for the NREGA projects instead of using it to create jobs.

The heavy dependence on money lenders and shopkeepers was another reason for the low balances. The former would provide loans at an interest rate of 10-14%. The latter would sell household goods on credit. In many cases, informants would accumulate debt throughout the month with these sources. The NREGA wages would be used to settle some, or all of the debt. The high dependency on moneylenders had several disadvantages. A significant portion of income went to repaying the interest rates on the loan. The dependency on shopkeepers also meant that these segments had very little cash on hand. This made them more vulnerable to the shocks that emerged within their environment and further increased their dependency on moneylenders.

Low levels of financial literacy can also explain the dependency on creditors. Many of the informants in the non-FI sites did not know the types of loans that were available at their local banks and MFIs. A significant portion of those who managed to access credit used intermediaries to facilitate the process. However, such intermediaries were expensive.


Fig 1. NREGA Dependent Workers in Uttar Pradesh

One informant paid an intermediary USD 43 to access a loan of USD 108. Some also bribed bank officials to increase the chance that they would get the required amount.

The levels of financial literacy were low even amongst customers who were banked. Many did not want to approach the banks to access to information. They explained that banks were not interested in catering to poor customers. To some degree, they were right. Informants at FINO expressed that many of the banks were overwhelmed by the G2P and FI mandates and paid little attention to this segment. This point has been confirmed in the literature [12]. In many cases, the banks viewed the FI drive as a responsibility cast on to them by the government. They also had significant reservations regarding the profitability of the accounts and thus did not put much effort into educating new customers. This lack of interest presents an interesting paradox. For banks to break even in these no-frills accounts, the transaction and balances of customers need to go up significantly. But this can only be done if poor customers are made aware of the usage and benefits of the formal accounts [12].

C. Low earning workers in FI sites had more diverse sets of financial portfolios than those in non-FI sites

There were some clear differences between the portfolios of low earnings workers in FI and non-FI sites. The former funneled a portion of their income into their FINO accounts. They did this by making "two-way payments." First, they did not withdraw the entire amount after an NREGA disbursement was made. In many cases, only half of the money was taken out of the account. Second, they deposited any extra cash they had back into their FINO account. In some cases, they put back part of the NREGA wages that were not spent. Many explained that they did not want to keep the balance at home because they were more likely to spend the cash. The recipients would also deposit the cash from non-NREGA work. The frequency of deposits was tied to the frequency of such work. For example, one informant who also worked as a farm laborer explained that he would often get paid at the end of his work day. On his way home, he would deposit a portion of the wages into the FINO account.

The "two-way payments" resulted in rising balances in formal mechanisms. In many cases, this occurred because cash was being funneled out of other mechanisms, the home in particular. In some cases, those who had other bank accounts also began to use their FINO account more heavily. They made clear that they preferred FINO because it was more accessible. They could make deposits without making the trip to the bank.

Many of the low earning workers in FI sites started using the FINO accounts for savings because the agents made clear that it could be used for this purpose. As was previously stated, customer education is a vital part of the FI drive. Customers were not only made aware that this service exists, they were further encouraged to transact by the agents who were paid commission on both deposit and withdrawal transactions.

There was another vital difference in the portfolios of low income workers in FI sites—they were less dependent on shop keepers and moneylenders. This was mainly because they were able to accumulate cash more easily through the "two-way payment" strategy. They used this cash for daily expenses when the balance in other mechanisms, such as the home, was depleted. They further used this cash to address "emergencies". This finding is important because it makes clear that an accessible, and affordable, savings mechanism can help the poor to more effectively manage their limited income and become less reliant on costly informal alternatives such as moneylenders. It also shows that income is *not* the only determinant of portfolio diversification. Providing access to appropriate services and financial information can also help in this effort.

D. There was a demand for financial education in both FI and non FI sites

When asked whether they wanted financial education, informants usually responded positively. Most wanted information on the services that were available in their community. Loans and associated procedures were of particular interest. Many informants made clear that they wanted to access loans without the support of intermediaries. Some also wanted to know about banking procedures more generally.

When asked who should provide such education, the majority answered that it should be a trusted source like the government. When asked how they wanted to learn, the majority answered in groups. They explained that they wanted to cross check information with their peers.

A portion of NREGA dependent workers said that they were too poor for financial education. Most blamed corruption in the NREGA system for their limited income inflows. They further stated that FE initiatives would be useless until such corruption was rooted out. A couple also said they had no intention of changing their financial habits. One beneficiary explained that he was too old to save and preferred to spend his cash on alcohol. Another preferred to gamble away his extra money. Neither saw the use of keeping money idle in an account. This finding simultaneously confirms both the opportunity and need for FE, and underscores the sorts of challenges that an FE initiative would face.

IV. Recommendations

The recommendations are focused around one main goal—to encourage the integration and usage of formal mechanisms by the poor so they can have a more diverse financial portfolio. The recommendations are driven by the empirical findings which show: (1) income is not the only determinant of diverse portfolios; (2) poor individuals save formally if they are provided an accessible mechanism and appropriate education; and, (3) the diversification of financial portfolios in general, and the integration of formal mechanisms in particular, provides benefits to poor savers. Based on this goal, the paper suggests that the FI drive can be enhanced if changes are made to policy, and if intermediaries help in this effort.

A. Changes to policy

As noted in the introduction, the current FI drive has focused on access. The fact that many of these accounts are being underutilized has been largely unaddressed. This is problematic as usage is a crucial component for the success of FI. This section recommends that policymakers pay more attention to usage when cultivating their strategies. It also makes clear that financial education should also have a vital role in this drive.

Focus on Usage

First, the banked/unbanked distinction should be revisited as it excludes a rising group of people who have bank accounts but do not actively use them. Recognizing this segment within the policy framework will pave the way for concerted efforts that address the non-usage problem. Second, measures of success should be extended to include targets for usage. Such targets must also be clearly defined. Increasing activity (deposits and withdrawals) on individual accounts could be one possible policy initiative.

This emphasis on usage is important. Diverse portfolios make the poor less vulnerable to the unexpected events that emerge within their environment. The socio-economic goals, which are the motivation for the FI drive, will not be realized if the banked poor are not encouraged to avail themselves of the opportunities that access presents. Increased usage can also lead to other vitally important outcomes—increased savings balances over time, and increased access to other vital financial services including insurance and loans.

Link FI and G2P

The findings demonstrate that the FI and G2P link was beneficial to customers. The low earning workers who integrated FINO into their portfolios were less dependent on informal mechanisms. They were also able to accumulate cash more easily compared to their counterparts in non-FI sites. The link was also beneficial to agents; it allowed them to gain commissions from FI deposits and withdrawals as well as the NREGA disbursements. For other communities to also benefit from this link, the government needs to find ways to integrate the two drives across India.

Re-considering the commission structure would be a good place to start. As explained in the *G2P Mandate* section of the paper, the commission structures for the FI and NREGA are different. Even though the government promotes G2P as part of FI, operationally the two drives are treated distinctly. Therefore the banks, whose commission structure is set by the government, handle the mandates differently. They give FINO a percentage of the NREGA cash disbursed and a set amount for deposit and withdrawal transactions in FI sites. As a result, the FI agents receive commission for cash in and cash out transactions, whereas those handling NREGA disbursements get commission on only the amount paid out. Not only are the two drives treated distinctly, the NREGA commission structure actually discourages FI activity. The agents did not advertise the no-frills savings account because they receive commission only *after* the customer takes money out of their account. This is extremely problematic as it blocks NREGA recipients from exploiting their link to formal financial services.

Other government stipulations have also discouraged G2P recipients from saving cash in formal accounts. For example, there is a stipulation that wages will go back to the government if not withdrawn by workers within six months. In the context of SSP such a stipulation exists to make it easier for the government to identify and stop payment to individuals who have died or migrated. Some informants also made clear that this stipulation exists for “political reasons”. If money is kept in the accounts then other parties could say that wages are not being disbursed on time. Further research is needed to investigate the validity of these statements and to determine why the government has not combined the FI and NREGA drives. At this point, it can be argued that G2P is being used more to avoid the leakage of funds than to enhance financial inclusion.

It must be emphasized that avoiding such leakage is also vitally important in the context of FI. The empirical findings showed that many of the NREGA dependent workers did not have a lot of cash to funnel through their financial mechanisms because they were not getting enough work days. Finding strategies to root out corruption and increase revenue inflows is also vitally important to the success of FI.

Note that technologies have already played a vital role in reducing corruption. For example, biometric identification is making it more difficult for unintended recipients to collect disbursements. Such identification is also being used on job sites to check the authenticity and presence of workers. There are plans to incorporate technologies more heavily in anti-corruption strategies. For example, the AP government is working with technology service providers to computerize the entire NREGA payment process, from the disbursement of job cards to the preparation of payment orders.

Increase door-step transactions through technology

An important characteristic for the poor in choosing a financial instrument is its accessibility – how easily, quickly and cheaply they can access their money. The banked customers in the study all reported reduced interactions with their other bank account after FINO introduced their door-step services. The government should find ways to encourage more banks to partner with technology service providers. This would increase access and provide rural individuals with new opportunities for portfolio diversification.

These door-step services were supported with a point of transaction (POT) device that handled all the customers' financial transactions securely through biometric authentication. The availability of an agent and the reliability of the POT played a significant role in increasing the transactions of the customers. Such an approach should be considered by other financial institutions.

However, the cost of the biometric devices is still high, with each priced around $500 USD. The cost to produce and get the smartcard into the hands of the customer is about $2.70 USD per card. To circumvent such costs, technology services providers such as A Little World (ALW) have come up with mobile based solutions. More specifically, they use Near Field Communication (NFC) mobile phones equipped with biometric fingerprint authenticator, a contactless smart card (RFID), and a printer to process transactions. This could be a feasible alternative to the POT.

Technologies can not only be used to extend service reach, they can also be used to increase usage. As was discussed above, empirical findings suggest that the checking of balances motivates individuals to save more frequently [17]. Providing a simple and cost-effective way to check balances is one area in which technology would be further useful. ALW is currently developing such a solution. Based on the wireless phone network, the service allows individuals to check their balances using a low-cost mobile phone equipped with an external SIM card reader. This enables the use of multiple cards with one phone and allows the phone to be placed in a public area for shared use.

Each user is given a SIM embedded card that holds the user's account number. To check the balance, the user inserts her card in the SIM card reader and presses a number on the phone. Using the account number stored on the SIM, the phone retrieves and displays the balance information to the user. This is a cost effective solution since any GSM mobile phone can be used.

Fig 2. Biometric device used to authenticate beneficiary

Integrate FE into FI drive

To date, the FI drive has not been accompanied by a comprehensive strategy for financial education. However, the RBI has undertaken some initiatives to increase awareness. For example, a multilingual financial education website was set up in 2007. Aimed at children, the site provides very basic information on banking in comic book format. An initiative called "Project Financial Literacy" has also been launched. The objective is to disseminate information on the central bank and general banking concepts. The target group for the project is extensive and includes everyone from school aged children to defense personnel. The RBI policy documents further state that measures have also been taken to encourage banks to offer financial education and credit counseling services. However, few banks are taking the initiative to offer this type of training to the customer. Although some effort has been made in the area of FE, it can be argued that the current efforts are not appropriate for low-income and rural customers.

The lack of a targeted and appropriate strategy for FE is problematic. If ways are not found to increase awareness at scale, then the RBI will miss a vital opportunity for financial inclusion in India. There is evidence within the literature to suggest that financial education strategies do result in positive outcomes. For example, a study conducted in Peru found that MFI clients put a greater portion of their earnings into savings after a literacy intervention (from 31% to 47% of their earnings) [18]. The study participants also increased their savings discipline. This was important as the country faced a food and oil crises during which the cost of living increased. The accumulated cash was crucial for individuals coping with such inflation. The interventions also improved debt management. Clients of the MFI were better able to calculate their capacity for debt, which decreased the likelihood of them being caught in a loan cycle—taking out one loan to repay another.

For individuals in India to gain similar benefits, it is suggested that urgent policy changes be made that; (1) make explicit the vital role of FE for the FI drive; (2) mandate that financial institutions become more involved in education efforts; and, (3) include set usage targets that evaluate the success of FE strategies.

B. Provide support through intermediaries

Numerous studies have shown that intermediaries can play a vital role in the adoption of ICTs. These actors create opportunities and spaces for users to appropriate emerging technological products [19],[20]. They further engage in the process of technological and symbolic configuration to define what a technology is and also what it does in a community [20]. Intermediaries can also play a similar role in the adoption of financial services. In this context, they would make clear the numerous financial services that exist locally. They would also suggest how such services could be appropriated to fit the needs and interests of poor individuals. These intermediaries would be especially appropriate where ICT penetration rates are low.

This section will propose two types of intermediaries—agents and the NREGA financial education officers (FEOs). It will also describe how the two segments could work together to enhance the FI drive.

The Agent

The empirical findings made clear that agents in FI sites play a vital role in educating customers. They pointed out that FINO could be used for savings and encouraged customers to use their accounts more frequently. Such education should also be provided by agents in non-FI sites. As was mentioned in the empirical findings, many agents did not advertise the no-frills account as commissions were paid on disbursements. For agents to facilitate such education, the commission structure would have to be changed. If this happens, the "two-way payment" strategy could be promoted and explained by the agents and NREGA recipients would be encouraged to leave cash in their accounts. Measures would also be taken to facilitate frequent deposits. For example, agents could visit the villages at least twice per week to collect cash. This would be especially beneficial for low earning workers who had inflows from other sources. These individuals could deposit a small portion into FINO instead of funneling the money through informal mechanisms.

It must be clarified that there is a limit to the education that the agents can provide. Most give information about the services that can be accessed through FINO; they do not cover the other services that are locally available. As noted in the findings, this limited the financial awareness of a segment of the high and middle income earning workers. Furthermore, the majority of agents worked on a part time basis. They did not earn enough from FINO alone and had to supplement their wages with other sources. This also limited their ability to support and educate customers. The next section will make clear that a dedicated team of individuals should be assigned to provide FE support.

Financial educations officers (FEOs)

To increase financial awareness, and help individuals to diversify their financial portfolios, the papers suggests that a new position be created under NREGA—the FEO. One or two individuals from the community could be assigned to each GP office and would be responsible for providing information to both NREGA workers and the community at large.

FEOs would use several strategies to improve literacy. For example, they could visit job sites during lunch time to provide lessons to a group. During these sessions, officers could teach the workers the basics of finance. They would explain terms like loan, interest and account and also make clear some of the services available in the area. Most importantly, they would facilitate contact with financial institutions and help individuals to access other services such as insurance and loans. In this role, the FEO would provide an alternative to intermediaries such as moneylenders who benefit greatly from low levels of financial literacy.

Aside from making known the services available in the area, FEOs would disseminate other targeted messages to increase the usage of formal mechanisms. First, they would teach the "two-way payment" strategy to low earning and NREGA dependent workers. They would also explain the benefits of formal mechanisms, such as interest on savings and the possibility of accessing loans in the future. The drawbacks of informal mechanisms could also be emphasized. The officer could explain that the dependency on moneylenders, and high costs associated with loans, could be avoided if formal mechanisms were integrated into financial portfolios.

Finally, the FEO could emphasize that savings is not just for the rich and encourage workers to attach particular purposes and targets to their savings. For example, those who wanted to save for an upcoming festival would accumulate cash by leaving a small and predetermined amount after a disbursement was made. They could start such accumulation months before with the aim to have the required amount when the festival came. The officer would also work closely with the beneficiary to ensure that savings targets were met. They would use the ALW technology to monitor the balances with poor savers. They would further discuss progress relative to the pre-determined target.

Fig 3: Agent in GP office to disburse G2P payments

The FEOs would undergo an initial training session, which would be given by representatives of the RBI. During this session, they would become familiar with the formal services within the community. They would also be given a curriculum for FE. Recurrent training sessions would follow thereafter during which the curriculum would be updated.

FEO and agent collaboration

The agent could also work with the FEO directly. Locating both in the GP office would make collaboration simpler. The agent could help the officer understand the specific needs of the users, and the officer could help the agent to expand their customer base, increase the number of transactions per customer, and eventually raise their revenue streams. The ultimate goal would be to increase such streams to such a degree that the agent could make enough money from offering their services full time. This could be done in a number of ways. For example, FINO could provide the intermediaries with a commission for selling new products—such as insurance or loans. As the number of the products offered by FINO increases, so will the potential for revenue. FINO could also consider charging for other financial service providers make use of their agent network. This would increase the number of transactions going through the system. It would also provide the agents with other products to sell and thus other sources of revenue.

Targets would also be provided to both the agent and FEO. These targets would consider the number of formal mechanisms integrated into portfolios. They would further measure the number of transactions going through the accounts.

V. Conclusion

This paper contributes to the existing FI literature in two ways. First, it challenges the simplistic bank/unbanked distinction and calls attention to another important segment—those who are banked but underutilize their accounts. The paper argues that this segment must be given ample attention if an FI drive is to be successful. The paper also challenges current measures of success for FI. It shows that benefits can only be derived from active engagement with formal financial services and not just access.

Second, the paper makes clear the importance of financial education. As mentioned above, there have been some successful interventions introduced by MFIs. However, there has been little discussion of *how* such education should be provided and *who* should lead this effort. In regards to the former, we emphasized peer to peer learning. Limited access and usage of ICTs was one of the main reasons for such a recommendation. But technologies such as mobile phones could be featured more prominently in areas where penetration rates are higher. It was also proposed that such education should be targeted—poor individuals have distinct financial needs and varied levels of understanding.

The work further suggested that the government should take the lead and integrate FE strategies into other schemes such as NREGA and FI. As part of this effort, incentive schemes should be changed so that banks more effectively utilize their links to poor individuals.

Technology has been instrumental in solving the problem of access. However, until the right policies and education components are aligned with the improved accessibility, the poor will not be able to effectively exploit their links to the banks and diversity their financial portfolios.

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References

[1] C. Bell, "Interactions between Institutional and Informal Credit Agencies in Rural India," *World Bank Econ Rev*, vol. 4, Sep. 1990, pp. 297-327.

[2] M. Pickens, D. Porteous, and S. Rotman, *Banking the Poor via G2P Payments*, Washington, D.C.: CGAP, 2010.

[3] I. Mas, "The Economics of Branchless Banking," *Innovations: Technology, Governance, Globalization*, vol. 4, Apr. 2009, pp. 57-75.

[4] *Update on Regulation of Branchless Banking in India*, Washington, D.C.: CGAP, 2010.

[5] T. Lyman, G. Ivatury, and S. Staschen, *Use of Agents in Branchless Banking for the Poor: Rewards, Risks and Regulation*, Washington, D.C.: CGAP, 2006.

[6] I. Mas and O. Morawczynski, "Designing Mobile Money Services Lessons from M-PESA," *Innovations: Technology, Governance, Globalization*, vol. 4, Apr. 2009, pp. 77-91.

[7] M. Ramji, *Financial Inclusion in Gulbarga: Finding Usage in Access*, Chennai: IFMR, 2009.

[8] G. Ivatury and I. Mas, *The Early Experience with Branchless Banking*, Washington, D.C.: CGAP, 2008.

[9] G. Ivatury and T. Lyman, *Regulatory Issues Regulatory Issues in Branchless Banking: The New Frontier*, Washington, D.C.: CGAP, 2008.

[10] S. Thyagarajan and J. Venkatesan, *Cost –Benefit and Usage Behaviour Analysis of No Frills Accounts: A Study Report on Cuddalore District*, Chennai: IFMR, 2008.

[11] D. Johnson, *Financial Inclusion and Delivery of Social Transfer Payments*, Chennai: IFMR, 2009.

[12] K. Samu, *Labour: NREGA/Employment – 2009*, New Delhi: Indian Social Institute, 2009.

[13] *Minutes of the National Conference on Financial Inclusion*, New Delhi: PUSA, .

[14] O. Morawczynski, "Exploring the usage and impact of "transformational" mobile financial services: the case of M-PESA - in Kenya," *Journal of Eastern African Studies*, vol. 3, 2009, p. 509.

[15] D. Collins, J. Morduch, S. Rutherford, and O. Ruthven, *Portfolios of the Poor: How the World's Poor Live on $2 a Day*, Princeton University Press, 2009.

[16] O. Ruthven, "Money mosaics: financial choice and strategy in a West Delhi squatter settlement," *Journal of International Development*, vol. 14, 2002, pp. 249-271.

[17] O. Morawczynski, "Saving through the Mobile: A Study of M-PESA in Kenya," *Advanced Technologies for Microfinance: Solutions and Challenges*, A. Ashta, Ed., Hershey, PA: IGI Global, .

[18] B. Gray, J. Sebstad, M. Cohen, and K. Stack, *Can Financial Education Change Behaviour? Lessons from Bolivia and Sri Lanka*, Washington, D.C.: Microfinance Opportunities, 2009.

[19] S. Woolgar, "Technologies as Cultural Texts," *Information and Communication Technologies: Visions and Realities*, D. William and M. Peltu, Eds., Oxford: Oxford University Press, 2001.

[20] J. Stewart and S. Hyysalo, "Intermediaries, Users And Social Learning In Technological Innovation," *International Journal of Innovation Management (ijim)*, vol. 12, 2008, pp. 295-325.