Does bank account ownership enhance the resiliency of low-income households against health shocks?

A Plan B Paper

In Partial Fulfillment of the
Master of Science in Applied Economics
Degree Requirements
The University of Minnesota

Harshada Karnik
April 15, 2019

_____

Prof. Hikaru Hanawa Peterson
Advisor and Paper Supervisor

_____

Date

Does bank account ownership enhance the resiliency of low-income households against health shocks?

Harshada Karnik
April 15, 2018

Abstract: *This paper examines whether bank account ownership mitigates the tendency of health shocks to drive low-income households into debt, or enables them sustain consumption. Between 2006 and 2010 in India, policies targeted to expand the reach of formal financial services to unbanked individuals caused bank account ownership to increase from 35.5% in 2001 to 58.7% in 2011. Analysis of nationally-representative longitudinal household data from India suggests that while bank accounts play a limited role in helping shock-ridden households sustain consumption, they are associated with a shift in food expenditure from staple foods to non-staple foods and an increase in household expenditure on non-food essential goods and services and other non-essential goods and services.*

1   Introduction

Unexpected events with negative economic outcomes can lower the standard of living of households. If the households in question are low-income, such shocks can push them into chronic poverty or destitution. Research related to the incidence and mitigation of shocks thus has direct implications for policy interventions designed to alleviate poverty. In India, the share of households with access to a formal bank account increased from 35.5% in 2001 to 58.7% in 2011 (Registrar General, India, 2011) mainly due to changes in requirements to open small accounts, which are deposit accounts with relaxed documentation requirements and restricted transaction limits. This paper exploits the policy interventions targeting small accounts to understand whether low-income households owning bank accounts were able to sustain consumption and reduce their reliance on debt to tide over temporary financial hardships resulting from health shocks.

Previous studies have examined usage rates and barriers to formal financial services among unbanked populations. For instance, studies have demonstrated that access to formal financial systems enhanced usage among previously excluded groups (Mbiti and Weil, 2014; Prina, 2015). Studies have also examined the impact of access to formal financial institutions on outcomes such as household welfare, savings and consumption. (Brune *et al.*, 2015; Munyegera and Matsumoto, 2016; Dupas *et al.*, 2018) Some researchers have demonstrated a positive relationship between account ownership and the outcomes studied. In rural Uganda, Munyegera and Matsumoto (2016) found a positive and significant effect of mobile money access on real per capita consumption due to cost and time-efficient remittance services. In Mexico, increased access among low-income households due to the expansion of a Mexican savings institute increased the average saving rate of treated households by almost 5 percentage points. The effect was even higher for the poorest households in the sample: their saving rate increased by more than 7 percentage points in some

cases (Aportela, 1999). In the United States, Chin *et al.* (2011) found that extending bank access raised savings in a low-income minority immigrant population.

Other studies have found little or no impact of bank account ownership (Ashraf *et al.,* 2006; Dupas and Robinson, 2013; Dupas *et al.,* 2018) suggesting that in the absence of access to formal financial systems, unbanked populations have developed informal financial networks they can rely on to manage cash flows. For instance, Brune *et al.* (2015) found that depositing payments to accounts led to lasting increases in savings, but neither the amount nor composition of consumption changed.

Most of the earlier studies examine whether bank account ownership facilitates an improvement in outcomes, *i.e.*, whether bank account ownership can help low-income families climb up the socio-economic ladder to escape poverty. This study, however, seeks to understand whether bank account ownership can also play a preventive role, *i.e.* whether bank account ownership can help low-income households withstand shocks – health shocks in particular – and thereby prevent them from slipping down the socio-economic ladder into chronic poverty. This paper tests empirically whether low-income households with access to bank accounts are able to withstand health shocks by sustaining consumption or taking on lesser debt to do so as compared to their counterparts who do not have bank accounts.

Findings suggest that while the impact of bank accounts on the consumption level of shock-ridden households is limited, bank accounts are associated with a shift in food expenditure from staple foods toward non-staple foods and an increase in the household expenditure on non-food essential as well as other non-essential goods and services. For instance, when the proportion of per capita household medical expenditure was used as a proxy for shock; expenditures on non-staple foods, non-food essential goods and services, and non-essential goods and services

increased by 0.05%, 0.10% and 0.15%, respectively. The treatment was effective only for the non-food essential goods and services category *i.e.* bank accounts helped shock-ridden households sustain their consumption of non-food essential goods and services. The effect, however, was not robust across different measurements of shock.

The following section elaborates on the background of the study. It is followed by the empirical model, identification strategy and data. I follow this up with the results and a discussion of the results and conclude the paper with a discussion of the limitations and policy implications of this study.

2   Background

Shocks and successive sequences of shocks in particular have negative consequences for household welfare (Alderman, 1996; Baulch and Hoddinott, 2000; Hesselberg, 2015). Shocks include both covariate shocks that affect households across a community such as epidemics and natural disasters, as well as idiosyncratic shocks that affect individual households such as death or illness of a family member, theft from the household and job loss. While most shocks have negative consequences, particularly if the agents are poor households, the burden of health shocks is especially crippling (Gertler and Gruber, 2002; Asfaw and Von Braun, 2004; Wagstaff, 2007; Wagstaff and Lindelow, 2014; Alam and Mahal, 2014; Heltberg *et al.*, 2015).

Shocks can induce death, migration, stress drinking and several other problems. In the short run, a health shock might imply disruption of income and unanticipated medical expenses. The household must manage cash flows to negotiate increased expenses despite a disruption to income. This can result in the household cutting down consumption expenditures by reducing non-food expenditure or acquiring groceries on credit to smooth consumption. An inability to manage cash

flows could also result in withdrawing children from school or reducing food purchases, both of which have negative implications for human capital formation. The short run effects of health shocks on low-income households can thus be quantified using food and non-food expenditure, debt to support food consumption, and sale of assets to smooth consumption (Carter and Maluccio, 2003; Dercon *et al.*, 2005; Asfaw and Von Braun, 2004; Carter *et al.*, 2007, Barrett *et al.*, 2008).

The long run effects of a shock, however, depend not on the magnitude of a shock but the asset level of the household in the aftermath of the shock. This depends on whether the household is above or below the "Micawber threshold" referring to a level of income above the poverty line but not high enough to always be able to cope with shocks (Carter and Barrett, 2006). While households that fall below the Micawber threshold would not be able to recover from a shock and would descend into chronic poverty, those above the Micawber threshold would be able to use resources to mitigate the effects of the shocks and maintain an upward growth trajectory in the long run.

Households around the Micawber threshold are the transient poor, moving in and out of poverty (Baulch and McCulloch, 2002; Hulme and Shepherd, 2003). Their incomes are low and volatile. For instance, a cab driver may earn a lot more money than usual on a rainy day. Furthermore, the payday and the day the expenditures need to be incurred do not always coincide. Such households use a variety of instruments to manage cash flows, mitigate transitory shocks, and maintain their long run growth trajectory (Alderman, 1996). When financial difficulties arise due to shocks such as unforeseen medical expenses, income disruption, and damage or loss of property and productive assets, low-income households rely on informal credit and savings mechanisms to tide them though the difficult times (Platteau and Abraham, 1987; Alderman and Paxson, 1994; Matin *et al.*, 2002). These informal mechanisms are invaluable to the unbanked to

manage cash flows and mitigate shocks in the absence of insurance. For instance, borrowing from friends and family is one of the most cited sources of credit among poor households (Collins *et al.*, 2009; Demirgüç-Kunt and Klapper, 2012). Other mechanisms to manage cash flows include buying groceries on credit, leaving earnings with employers for use at a future date and selling savings in lumpy assets such as land, jewelry and livestock.

Informal mechanisms are flexible enough to provide liquidity on short notice, but have other disadvantages: they are risky, unreliable and sometimes expensive. They come with both monetary and non-monetary costs. For instance, cash saved at home is vulnerable to temptation spending (Banerjee and Duflo, 2007; Rutherford and Arora, 2009; Banerjee and Mullainathan, 2010). It can also be lost easily to thefts, floods, fires, and anti-encroachment demolitions. Besides, households may not always be able to put together the money they need when they need it, especially if the shock is covariate and affects the households' social network, too.

Access to a basic bank account could help the transient poor stay above the Micawber threshold. If the household had access to a bank account and used it to stash away their present day excess cash earnings for future emergencies, these savings could go a long way toward funding small and temporary cash shortages to sustain consumption and/or replace lost productive or capital assets (Collins *et al.*, 2009). Bank accounts can thus serve as safe and reliable avenues for precautionary savings leading to my hypothesis that low-income households who own a bank account will mitigate health shocks better than their peers who do not own a bank account.

In India, policy changes and targeted campaigns to reach out to unbanked households between 2006 and 2011 increased the proportion of households owning bank accounts from about 30% in 2005 to 60% in 2011. The idea of financial inclusion became a part of the public discourse when low bank account ownership rates in urban areas where geographical barriers were not a

hindrance were questioned by policy makers. (Chakrabarty, 2013). An excerpt from a speech made by a former deputy governor of the Reserve Bank of India (RBI) best illustrates the lack of attention towards the financial needs of urban poor.[1] It was found that not everyone had an identity document and proof of address recognized by the banking system. To overcome this barrier, the 'know-your-customer' norms were relaxed in August 2005 to include a wider selection of documents that could be used as identity documents to open small accounts. This was followed by a notification advising urban co-operative banks to offer no-frills accounts with a zero or low minimum balance requirement and low or no user fees. In 2006, the RBI permitted banks to use the services of non-banking financial companies such as non-governmental organizations, self-help groups, and microfinance institutions as business correspondents.[2]

Another major policy known as the National Rural Employment Guarantee Act (NREGA) was rolled out in phases between 2006 and 2008, which entitled rural residents to a minimum number of legally stipulated days of employment. This was followed by the issuance of a unique identity (UID) number called *aadhaar*. NREGA job cards and *aadhaar* were accepted as identity proof to open small accounts, giving a big boost to the financial inclusion agenda of the Government of India. According to a December 2012 press release issued by the Unique Identification Authority of India (UIDAI), 230 million residents had enrolled for *aadhaar*, 21 million *aadhaar* numbers had been allocated, and over 150,000 *aadhaar*-enabled bank accounts (AEBAs) had been opened in the country (Unique Identification Authority of India, 2012).

---

[1] The excerpt from the speech: "The rural inhabitants have largely remained the focus of our financial inclusion efforts since a large proportion of our villages are still unbanked. This has also been under the premise that the reach of banking network in urban areas is already quite high and, hence, access to banking services should be available to all. The ground reality, however, is quite shocking. The problem of exclusion is widespread even in urban areas, especially, for the disadvantaged and low-income groups, despite there being no dearth of bank branches."

[2] Business correspondents are intermediaries (individuals and small businesses) who do not have a banking license but can conduct limited transaction on behalf of banks for their clients.

3   Empirical Model

The empirical model used to estimate the impact of bank account ownership on the ability of households to weather shocks is specified as:

(1) $y_{it} = \alpha + \beta_s * Shock_{it} + \beta_b * BankAccount_{it} + \beta_{sb} * Shock_{it} * BankAccount_{it} + \mathbf{X}_{it}\boldsymbol{\beta}_x + \epsilon_{it}$

The equation will be estimated using ordinary least squares.

Here, the outcome variable y is the ability of household i to mitigate a shock in year t. Since there is no standard pre-defined metric that can be used to measure a households' ability to cope with health shocks, a set of proxy variables (which are described below) are used to capture the households' resilience to shocks. Like the outcome variable, it is difficult to account for every health shock the households' faced, so I estimate the empirical model using two different measurements of health shocks – medical expenditure as a proportion of total household income and cumulative per capita days of hospitalization of working age adults in the household. *BankAccount* is a dummy variable equal to one if any member of household i has an account with a formal financial institution (*i.e.*, a bank or a post office) in the year t, and zero otherwise. The variable of interest is the interaction between *BankAccount* and *Shock*. My hypothesis predicts that β_{sb} - the coefficient of the treatment effect - will be positive in the model. $\mathbf{X}$ is a vector of control variables that includes household fixed effects, the month in which the household was enumerated, and survey wave. Household fixed effects control for time-invariant characteristics of households such as caste geographical location, mean income and wealth and; age, gender, educational levels of the household head. ϵ is the mean-zero error term. The survey questions used to construct the variables used in the analysis are summarized in Table 1 and discussed below.

3.1 Outcome variables

In this analysis, household expenditure across different categories and credit to sustain food consumption are used as a proxy to measure the ability of a household to weather shocks. As discussed above, shocks affect different households differently. In case of idiosyncratic shocks, some households are able to smooth food consumption by obtaining credit or liquidating lumpy assets (Barrett *et al.*, 2008). If, however, a shock destroys productive assets, then households are observed to trade off daily consumption in order to safeguard or replace productive assets in order to maintain a steady income stream in the future. Reduced food consumption will be observed in such cases. Unlike transitory shocks that do not always affect consumption, repeated shocks or a sequence of shocks do have negative effects on the food consumption of low-income households (Alderman, 1996; Asfaw and Von Braun, 2004).

The outcome variables used to estimate the model are *FoodExp, Staples*, *NonStaples*, *NonFoodEss*, *NonEssentials*, *AnyCredit* and *CreditBalance*. *FoodExp* is the natural log of per capita household expenditure on food in rupees measured as sum of the household expenditure on staple and non-staple foods. *Staples* is the natural log of the annual per capita expenditure on staple foods including rice, wheat, pulses, cereal and cereal products consumed by households. This measurement is in accordance with the definition of staple foods proposed by the Food and Agriculture Organization, *i.e.,* staple foods constitute the dominant part of the diet and supply a major proportion of the energy and nutrient needs of the individuals in a given country. In India, cereals still make up the biggest share of the household food consumption basket (Planning Commission, 2014). *NonStaples* is the natural log of the households' annual per capita expenditure on food items other than staples such as sugar and other sweeteners, meat, chicken, fish, oils and fats, eggs, milk, milk products, vegetables, salt, spices, tea, coffee, processed foods and fruits and

nuts. *NonFoodEss* is the natural log of the annual per capita household expenditure on four categories defined as the non-food essential goods and services – rent, conveyance, education and clothing (Planning Commission, 2014). *NonEssentials* is the natural log of the annual per capita household expenditure on other goods and services such as entertainment, furniture, appliances, crockery, recreational goods, jewelry, therapeutic goods and services, repairs, vacations and other personal and household goods. It also includes expenditure on tobacco, *paan* (betel leaf stuffed with tobacco), and alcohol.

Health shocks can also cause households to direct resources toward mitigating the shock and thus securing groceries on credit to tide over temporary money shortages. In such situations, households would still be able to smooth consumption but will lead to outstanding credit with shopkeepers to secure basic consumption needs. The underlying assumption is that if bank accounts enabled households to build up savings, then such households would not need to secure groceries on credit or take on more debt to sustain their food consumption needs despite a shock and hence mitigate the shock with a smaller or no debt burden. *AnyCredit* is a dummy variable that takes the value one for households that had an outstanding balance longer than a month's purchases with any shopkeeper in the last one year. *CreditBalance* is the natural log of the amount of current outstanding debt with any shopkeeper measured in Rupees.[3]

When the outcome variable is food consumption, the treatment effect coefficient β_{sb} is expected to be positive implying that bank account ownership enables shock-ridden households to sustain consumption unlike households that do not hold a bank account who may or may not be able to sustain their basic food consumption. If the outcome variable is debt taken to smooth consumption, *i.e., AnyCredit* or *CreditBalance*, then the coefficient β_{sb} is expected to be negative

---

[3] $1 = ₹ 68.53 on March 19, 2019

when faced by a shock, bank account ownership enables households to mitigate the shock with lesser additional debt as compared to their counterparts who do not own a bank account.

3.2 Shock variables

The measures of shock proposed were limited by data availability. Since the main goal of the survey was not measurement of shocks, we use those questions in the survey that can help reflect the burden health shocks impose on households. The measures of shock used in the analysis are *Medex* and *DaysHospitalized*. *Medex* is the per capita sum of outpatient and inpatient medical expenses incurred by the household during the past one year as a proportion of the households' total income. *DaysHospitalized* is the sum of cumulative number of days of hospitalization of working age household members due to short-term morbidity such as diarrhea, cough and fever or due to major morbidity such as heart diseases, cancer, leprosy, and polio in the one year preceding the survey measured in per capita terms.

4   Identification strategy

The identification strategy relies on the fact that the increase in bank account ownership between 2004-05 and 2011-12 was due to a series of policy changes. Notifications from the RBI that document the policy changes are attached in Appendix A. Households earlier excluded from the banking system as they lacked documents to prove their identity and address, could now access the formal financial system. Table 2 is a linear regression of account ownership for those households who did not have a bank account in the first wave on ownership of *Aadhaar* and NREGA job cards in year 2011-12. Household having a NREGA job card were 9% more likely to have a bank account. The coefficients on *NREGA* are positive and significant demonstrating that the policy change was associated with an increased access to bank accounts. *Aadhaar,* however,

does not have a significant coefficient possibly because unlike NREGA that was rolled out a few years before, the *Aadhaar* project was rolled out only a year prior to the second wave of the survey. The NREGA on the other hand was formulated in 2005, rolled out in 200 districts on a pilot basis in 2006, extended to another 130 districts in 2007-08 and notified in all the remaining rural areas effective from April 1, 2008.

Despite the exogenous policy change, there are some concerns to the identification strategy. Firstly, although policy changes facilitated access to the formal financial system, it was up to individual households to open a bank account for themselves. Households thus self-selected into the treatment group, *i.e.*, households were not randomly assigned bank accounts but instead made a decision on their own to open a bank account or not. It is possible that there are certain unobservable characteristics that distinguish households who sign up for bank accounts from households who do not sign up for bank accounts. This can lead to inflated estimates, but household fixed effects should address this unobserved heterogeneity.

The second concern is measurement error. Measurement error in bank account ownership is expected to be non-systematic as there is no obvious advantage or disadvantage to misreporting bank account ownership. It is possible, however, that respondents who do not use the account actively do not remember signing up for the bank account and are hence not flagged for bank account ownership. Such cases would result in more accurate estimates of the impact of bank account ownership, as only those who use the accounts actively benefit from its usage and are flagged as owning a bank account in the dataset. I assume that usage of bank accounts increases peoples' ability to save cash to use during emergencies, thereby enabling them to sustain consumption or reducing their dependence on debt to sustain consumption. It is however possible that respondents misreport the amount of debt or household expenditures in different categories.

The dependent variable being measured with classical error does not confound the results. There are also no obvious advantages or disadvantages to reporting shocks the households' experience.

The final source of endogeneity is reverse causality. Reverse causality refers to a case where the dependent variable influences the independent variables. In this case, reverse causality implies the outcome variable (consumer debt or household expenditure) influences households decision to sign up for a bank account, which is not impossible and could possibly confound the results.

5   Data

This paper is based on an analysis of the India Human Development Survey (IHDS), a nationally representative longitudinal survey administered to over 40,000 households in 2004-05 (Desai and Vanneman, 2008) and 2011-12 (Desai and Vanneman, 2015). Households were randomly selected from 382 randomly sampled districts stratified by towns and cities within states (or groups of states) selected by probability proportional to population. While the data from both waves were mostly comparable, some questions and modules were updated in the second round. The variables measured in rupees in the second wave were deflated to their real value in 2005 rupee terms. Less than a quarter of the households in the sample had a bank account during the first wave of the survey. Account ownership increased to 68.74% in the second wave. I restricted the sample to households for whom data were available for both rounds. Out of the 41,554 households surveyed in the first wave, 34,643 were retained in the second wave and 6,911 were lost due to inability to establish contact. The current sample does not include the households lost to attrition or the households added to replenish the sample in the second round. The balance tests

for the sample lost to attrition are presented in Table 3. Incomplete or ineligible observations (n = 4,723) were also discarded.

Additionally, I conducted the analysis for a subsample of 13,058 households whose total household income was less than the median income of the country in the first round. In this analysis the subsample included 26,116 observations (two observations for each household). The key sample characteristics and summary statistics for the entire sample and the subsample of low-income households are discussed below. The summary statistics and balance tests for the treatment and control groups are presented in Tables 4 and 5.

5.1 Demographic characteristics of the treatment and control groups

The control group includes the never-treated and always-treated households. Never-treated households are those households who never owned a bank account. Always-treated households are households who had bank accounts in both the survey waves. The treatment group includes households that did not own a bank account when the first wave of the survey was administered in 2005 but had access to a bank account in 2011 when the follow up survey was done. Overall, the always-treated group enjoyed better socio-economic outcomes than the treatment group, who fared better than the never-treated group at both survey waves. For instance, the mean monthly consumption expenditure stood at ₹613.31 for the never-treated group compared to ₹708.27 for the treatment group and ₹1,223.50 for the always-treated group in 2005. Similarly, each group in the whole sample had better outcomes as compared to its counterpart in the low-income sub-sample. Although both the control groups are statistically significantly different from the treatment group, demographically, the treatment group is closer to the never-treated group than the always-treated group.

5.2 Outcome variables

Similar trends are also visible for the outcome variables. The average expenditures for various categories across the treatment and control groups increased from the base year (2005) to 2011. They also were lower for the never-treated group than for the treatment group, which were lower than the always-treated group, and those for the low-income sample were lower than those for the whole sample. For the treatment group, the increase in expenditure from 2005 to 2011 was most evident for the non-essential goods and services basket, where the mean expenditure more than doubled from ₹878 in 2005 to ₹1,810 in 2011.

5.3 Shock variables

Health expenditures and number of days of hospitalization among family members in the year preceding the survey are used as measures of shock. Rather than absolute amounts of medical expenditure, I use the proportion of medical expenditure to income normalized by household size as a proxy of shock to control for the quality of medical care sought, which, along with the expenditure incurred in absolute terms, are likely to be correlated with income. While most households had a positive medical expenditure to income ratio, a small number of observations recorded negative income and hence a negative health expenditure to income ratio. Results for these households are presented separately in the analysis below. The mean annual per capita medical expenses for the different groups ranged from ₹4,048 to ₹8,475. The cumulative mean per capita days of hospitalization of working adults ranged between 0.28 and 0.48 days.

5   Results

This section presents the findings of the study. I first examine the relationship between the outcome variables and the dependent variables (Tables 6-8) and then in Tables 9 and 10, I present the estimation results for the model introduced in Section 3. In each of these tables, Panel A represents the results for the whole sample, and Panel B represents the results for the low-income subsample. The outcome variables in the first five columns are the expenditure variables and the outcome variables in column six and seven are the debt variables.

Tables 6, 7 and 8 present the results of ancillary linear regressions that demonstrate the correlation between the outcomes and the dependent variables *i.e.,* bank account ownership and different types of shocks. The results in these tables suggest that debt variables better reflect the impact of bank account ownership and shocks. The outcome variable in column (1) is *FoodExp*, which is positively and significantly related to *BankAccount* (Table 6). *BankAccount* is associated with a fall in *Staples* in the range of 0.09% to 0.10% (Table 6, column 2) It is, however, positively and significantly related to an increase in the range of 0.27% to 0.74% to *NonStaples*, *NonFoodEss* and *NonEssentials* (Table 6, columns 3-5). The outcome variables in columns (6) and (7) are *AnyCredit* and *CreditBalance*. *BankAccount* is associated with a fall in both *AnyCredit* and *CreditBalance*. For instance, as demonstrated in Panel A, bank account ownership is related to a 0.03 decrease in the probability of a household accumulating debt and the amount of debt accumulated decreases by 0.18%.

The independent variable in Table 7 is *Medex*. It is not significantly correlated with any of the outcome variables in Panel A. In Panel B, it is positively and significantly correlated with *Staples and NonEssentials.* The independent variable in Table 8 is *DaysHospitalized*. It is positively and significantly correlated with *FoodExp*, *Staples*, *NonStaples* and *NonEssentials* in

17

Panel A and with *FoodExp*, *Staples* and *NonEssentials* in Panel B. In Panel B, *DaysHospitalized* is related to a significant increase in *CreditBalance* and *AnyCredit* (Columns 5 and 6).

Tables 9 and 10 present the estimation results for equation (1) using different shocks specified above in the model for the two samples. The proxy for shock in Table 9 is *Medex* while in Table 10 *DaysHospitalized* is used as a proxy for shock. The estimates for the samples of households reporting positive and negative income are presented in Table 9.1 and Table 9.2 respectively.

Results in Table 9 suggest that as *Medex* increases, the expenditure across all categories except *NonEssentials* falls; however, it is not significant. *BankAccount* causes a fall in *Staples* but the decrease is significant only for the whole sample (Panel A); *NonStaples*, *NonFoodEss* and *NonEssentials* increase between 0.04% and 0.13%. The results in column 4 indicate that bank account ownership is instrumental in helping shock-ridden households sustain the consumption of non-food essential goods and services. The treatment effect for the entire sample was 0.0058 unit increase while that for the low-income sample was 0.0063 unit increase.

In Table 9.1 the same model is estimated but with only those observations that have a positive proportion of medical expenditure. These households reported a positive income *i.e.* despite the health shock, the household still had some source of income. Table 9.2 represents the results for the model for only the sample of households who reported a negative income *i.e.* they did not have a source of income or had made net losses and were living off debt.

In Table 10, the measure of shock used is *DaysHospitalized*. This model echoes the impact of bank account ownership on household consumption expenditure. Here the households experience an increase in *NonStaples, NonFoodEss* and *NonEssentials*. In this model too however,

the treatment effects are not significant, *i.e.* bank account ownership does not help shock-ridden households to sustain their overall food expenditure.

The analysis highlights three tendencies. Firstly, debt variables are a more appropriate proxy to quantify the impact of shocks on affected households. As evident from Table 7 and Table 8, the correlation between different categories of expenditures and shocks is not always intuitive. In fact, the correlation is counter intuitive in several cases where shock is positively associated with an increase in expenditure. However, the correlation between the debt variables and shocks is what we would expect. Shock-ridden households, particularly households that are low-income, are more likely to take on debt to sustain day-to-day consumption (Table 8, column (6) and (7)).

Secondly, the overall food expenditure shifts from staple to non-staple foods because of bank account ownership (Table 6). The magnitude of coefficients in Panel B is greater than those in Panel A indicating that low-income households benefit more in particular from bank account ownership. It is possible that being able to save petty cash, allows households to expand their budget constraints and this is manifested by a shift in their expenditures across different consumption categories rather than an increase in their overall consumption. This is consistent with other studies that demonstrate that even the poorest households, allocate only a part of every additional dollar earned to increase food consumption (Banerjee and Duflo, 2010). For instance, a percent increase in expenditure among a sample of households living at $1 a day in Maharashtra, India; only .67 went toward food expenditure. Additionally, the expenditure on expensive grains such as rice and wheat saw an increase despite millets being cheaper and more calorie dense. (Subramanian and Deaton, 1996)

Finally, bank account ownership also decreases the reliance of households on credit to sustain day-to-day consumption, but the effects are not more pronounced for shock-ridden

households. There is, however, very little evidence to support that bank account ownership helps shock-ridden households sustain overall food consumption without debt. The analysis demonstrates that the treatment effects on the outcome variables are very limited and restricted mainly to the non-food essential goods and services category. The effect is also sensitive to the measure of shock used – it is significant only when *Medex* is used as a proxy for shock. These findings echo the results of experiments by other researchers who have also found limited treatment effects. For instance, Dupas and Robinson (2013) found that a large proportion of micro-entrepreneurs in Kenya faced savings constraints. The women entrepreneurs in their treatment group benefitted from access to bank accounts and saved to scale up their business and increased their private expenditure but the treatment effects on the male participants were minimal. Most of them did not use the accounts at all. Similarly, Dupas *et al.* (2018) found that expanded access to banking services in Malawi and Uganda increased total savings balance by about 10% but the increase was not statistically significant.

It is possible that the variables used as proxies for shocks in this model are endogenous causing the treatment effects to be washed away. Another possible explanation for the limited treatment effect is the low usage rate of bank accounts in South Asia. According to survey data from the Global Financial Index (Findex), another nationally representative individual survey that measures financial access and other financial markers, while 18% and 16.7% adults over the age of 15 in their sample reported saving for emergencies and future expenses, only 11.6% of adults above the age of 15 used a bank account to accumulate savings. Between 2011 and 2014, the percentage of adults over 15 who owned a bank account and reported zero deposits or withdrawals in a typical month increased from 7% to 43.3%, illustrating the low usage of bank accounts despite owning one (Demirgüç-Kunt and Klapper, 2012; Demirgüç-Kunt *et al.*, 2015).

It is also possible that unbanked households are able to maintain savings and manage cash flows efficiently though their informal mechanisms and thus do not feel the need to use their bank accounts. That is unlikely because according to the Findex 2014, 27% of the adults over 15 years of age in India reported coming up with emergency funds was not possible at all. Of the 40% poorest respondents in the sample 37% reported that it was not possible to come up with emergency funds at all, 28% said it was not very possible, 23% stated that it was somewhat possible to come up with emergency funds and only 6% agreed that it was very possible to come up with emergency funds.

6   Conclusion

This paper evaluated the usefulness of bank accounts in helping households' to sustain consumption and / or take on lesser debt to mitigate health shocks and keep them from falling into chronic poverty. I use a sequence of policy changes in India related to documents necessary to open basic no-frills accounts and small accounts resulting in variation in bank account ownership and the random incidence of health shocks to answer the question. My findings show that while bank accounts may or may not be able to help households mitigate health shocks and sustain consumption, account ownership is instrumental in reallocating expenditure toward non-staple foods and increasing expenditure on non-food essential goods and services and non-essential goods and services. My findings also suggest that while access to bank accounts has expanded in India, it is possible that the expanded access is still not being optimally utilized. Usage probably remains low and households are still not able to use bank accounts to their fullest advantage. Financial inclusion and financial literacy initiatives would have to complement each other in order to enable shock-ridden households to use bank accounts effectively to mitigate shocks.

This paper is a preliminary attempt to measure the causal effects of bank account ownership in India. It has several limitations. The study is constrained by limited data availability. Administrative data on the frequency of bank transactions and amount of savings maintained could help produce more robust results; however, this data were not available for the analysis. Similarly, more detailed data on shock incidence would also help produce more precise results.

The current sample also does not include data from the oldest wave called as the Human Development Profile of India collected in 1993-94 which is a restricted dataset. Because the sample for IHDS was drawn from this dataset, it is possible to create a three time period panel for 13,081 households for whom survey data from 1993-94 is available and can be linked. In addition to this future research could also match households that participate in just one of the two rounds of the survey. In urban blocks and rural areas of northeastern states, all of which are primary sampling units of small sizes, if five or more households were lost to attrition during the second round, the loss was verified via physical checks and a replacement household was randomly selected in the same neighborhood to refresh the sample. This led to 2,134 new households being included in the IHDS-II sample to make up for the 6,911 households from the first round that were lost to attrition.

Finally, a major limitation of this paper is weak identification strategy. Some of the shocks are endogenous to the system. For instance, indicators of health shocks such as days hospitalized and medical expenditure could be correlated with the economic status of households. Besides, the treatment group is self-selected. This could have been corrected using Heckman's model to correct for selection bias. Future research will also attempt to develop a more robust identification strategy to determine the causal effects and mechanisms through which bank account ownership affects household responses to shocks, and re-estimate the model using different measures of shock.

Finally, future research could consider using different estimation methods such as using NREGA job card as an instrumental variable for bank account ownership and nearest neighbor technique to pair households with similar observable characteristics in different treatment groups to test the validity of the findings.

Table 1: List of variables

Variable	Definition	Constructed from responses to
Staples	Natural log of annual percapita household expenditure on staple foods in rupees. Constructed as a sum of responses to all the items listed in question (a) multiplied by 12.	(a) Please tell me how of these items (rice, wheat, other cereal, cereal products) have been consumed in your household in the past 30 days.
NonStaples	Natural log of annual percapita household expenditure on non-staple foods in rupees. Constructed as a sum of responses to all the items listed in question (b) multiplied by 12.	(b) Please tell me how of these items (meat, chicken, fish, eggs, milk, milk products, , edible oil, vegetables, salt and spices, sugar, other food items like tea coffee biscuits, fruits and nuts) have been consumed in your household in the past 30 days.
FoodExp	Natural log of annual percapita household food expenditure in rupees. Constructed as a sum of responses to all the items listed in question (c) and (d) multiplied by 12.	(c) Please tell me how of these items (rice, wheat, other cereal, cereal products) have been consumed in your household in the past 30 days. (d) Please tell me how of these items (meat, chicken, fish, eggs, milk, milk products, , edible oil, vegetables, salt and spices, sugar, other food items like tea coffee biscuits, fruits and nuts) have been consumed in your household in the past 30 days.
NonFoodEss	Natural log of annual percapita household expenditure on non-food essential goods and services in rupees. Constructed as a sum of responses to all the items listed in question (e) and 12 times the responses to question (f).	(e) For the following expenses/purchases, about how much did you spend in the past 365 days? (School/college fees, private tuitions, school books and other educational articles, clothing and bedding, footwear) (f) Over the past 30 days what was the total value of the following items that the household consumed? (Household fuel, entertainment, telephone/mobile/cable/internet, transportation, diesel/petrol/CNG/maintenance, house rent/society charges)
NonEssentials	Natural log of annual percapita household expenditure on non-food essential goods and services in rupees. Constructed as a sum of responses to all the items listed in question (g) and 12 times the responses to question (h).	(g) Over the past 30 days what was the total value of the following items that the household consumed? (Household items, entertainment, cosmetics/toiletries, services, paan, tobacco, alcohol) (h) For the following expenses/purchases, about how much did you spend in the past 365 days? (Furniture and fixtures, crockery and utensils, cooking and household appliance, goods for recreation, jewelry and ornaments, personal transportation equipment, therapeutic appliances, personal care and household items, repair and maintenance and other personal goods)
AnyCredit	Dummy variable that takes the value one if the household has an outstanding balance for longer than a month's purchases with any shopkeeper.	(i) Do you have an outstanding balance for longer than a month's purchases with any shopkeeper?
CreditBalance	Natural log of the outstanding balance with shopkeeper in rupees.	(j) If yes, how much?
Medex	Natural log of annual percapita household expenditure on inpatient and outpatient medical services. Constructed as a sum of response to question (k) and 12 times the responses to question (l).	(k) In the last 30 days what was the total value of the following items (out-patient medical services) that your household consumed? (l) For the following (in-patient medical) expenses , about how much did you spend in the past 365 days?
DaysHospitalized	Percpaita cumulative number of days of hospitalization of all household members in due to minor and major illnesses in the last one year. Constructed as a sum of response to question (m) and 12 times the responses to question (n).	(m) If yes (minor illness), for how many days was the respondent hospitalized? (n) If yes (major illness), for how many days was the respondent hospitalized?
BankAccount	Dummy variable that takes the value one if the household has a bank account with a formal financial institution.	(o) Does anybody in your family have a bank account?
NREGA	Dummy variable that takes the value one if at least one household member holds a NREGA job card.	(p) How many MGNREGA (NREGA) job cards does your household have?
Aadhaar	Dummy variable that takes the value one if the household is aware of *aadhaar* and at least one household member holds an *aadhaar* card.	(q) Are you aware of Aadhar / Unique ID Number/program? (r) Does anybody in the household have a UID number / *Aadhaar* Card?

Table 2: Correlation between document and account ownership

	(1)	(2)	(3)
Outcome variable		Household bank account ownership	
NREGA	0.113***		0.0873***
	(0.00928)		(0.0190)
Aadhaar		-0.00647	-0.0150
		(0.0224)	(0.0224)
Observations		1,890	1,886
R-squared		0.003	0.014

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Table 3: Balance statistics for attrited and retained sample

	Attrited sample		Retained sample		
Variable	Mean	SD	Mean	SD	p value
Household bank account ownership	0.48	0.50	0.37	0.48	0.00
Per capita monthly consumption in rupees	1,216.45	1,184.92	854.93	818.90	0.00
Number of consumer durable assets owned	14.92	6.35	11.97	6.03	0.00
Total household income in rupees	69,462.94	81,309.13	52,120.71	79,889.23	0.00
Level of schooling of household head	8.96	4.92	7.47	4.94	0.00
Household size	4.65	1.83	5.70	2.51	0.00

Table 4A: Descriptive statistics for the whole sample (Baseline: Year 2005)

Variable	Treatment Mean	SD	Control (never treated) Mean	SD	p value*	Control (always treated) Mean	SD	p value*
Demographic								
Household bank account ownership	0.11	0.31	0.00	0.00	0.00	1.00	0.00	0.00
Per capita monthly consumption in rupees	708.27	628.36	613.31	459.55	0.00	1,223.50	1,092.36	0.00
Number of consumer durable assets owned	10.58	5.32	8.57	4.47	0.00	16.06	5.62	0.00
Annual household income in rupees	39,988.66	49,234.93	29,153.61	35,035.74	0.00	83,971.63	118,000.00	0.00
Level of schooling of household head	6.68	4.72	4.77	4.33	0.00	10.24	4.28	0.00
Household size	5.81	2.57	5.35	2.16	0.00	5.79	2.65	0.70
Outcome variables								
Staples	1,481.93	686.58	1,432.88	653.14	0.00	1,704.38	755.27	0.00
NonStaples	2,493.63	1,882.54	2,266.46	1,466.89	0.00	3,749.52	2,412.38	0.00
NonFoodEss	2,316.11	2,805.00	1,747.60	1,956.85	0.00	4,780.75	7,698.46	0.00
NonEssentials	878.64	3,080.30	662.35	1,899.71	0.00	1,991.66	6,007.14	0.00
AnyCredit	0.30	0.46	0.31	0.46	0.16	0.23	0.42	0.00
CreditBalance	516.67	4,358.60	328.91	2,189.54	0.00	631.05	5,366.51	0.10
Shock								
Medical expenses in rupees	4,686.36	11,585.38	4,284.32	9,992.55	0.02	6,515.70	19,950.31	0.00
Medex	0.21	3.97	0.31	5.04	0.18	0.20	2.01	0.77
DaysHospitalized	0.34	3.08	0.44	4.22	0.18	0.29	2.73	0.23

Table 4B: Descriptive statistics for the whole sample (Endline: Year 2011)

Variable	Treatment Mean	SD	Control (never treated) Mean	SD	p value*	Control (always treated) Mean	SD	p value *
Demographic								
Household bank account ownership	0.89	0.31	0.00	0.00	0.00	1.00	0.00	0.00
Per capita monthly consumption in rupees	1,079.22	1,137.18	868.57	743.75	0.00	1,745.31	2,003.87	0.00
Number of consumer durable assets owned	14.81	5.93	12.16	5.26	0.00	19.98	5.55	0.00
Annual household income in rupees	60,708.90	106,000.00	42,096.73	46,941.13	0.00	119,000.00	175,000.00	0.00
Level of schooling of household head	8.12	4.75	5.97	4.53	0.00	11.44	4.07	0.00
Household size	5.46	2.33	5.19	2.12	0.00	5.33	2.44	0.00
Outcome variables								
Staples	1,400.96	707.66	1,353.18	715.45	0.00	1,691.70	827.10	0.00
NonStaples	3,438.11	2,210.28	3,068.26	1,863.81	0.00	4,907.20	2,973.74	0.00
NonFoodEss	2,817.15	3,906.61	2,032.43	2,460.12	0.00	5,207.29	7,174.09	0.00
NonEssentials	1,810.41	5,110.16	1,308.81	3,901.67	0.00	3,345.12	10,362.30	0.00
AnyCredit	0.27	0.44	0.25	0.44	0.02	0.19	0.39	0.00
CreditBalance	528.45	6,438.20	292.50	1,466.28	0.00	463.08	3,196.61	0.32
Shock								
Medical expenses in rupees	7,052.69	23,642.97	6,283.10	15,769.34	0.01	8,475.65	23,560.71	0.00
Medex	0.22	2.93	0.15	10.70	0.68	0.27	7.05	0.51
DaysHospitalized	0.38	6.33	0.37	2.75	0.87	0.28	2.58	0.15

*Compared to the treatment group

Table 5A: Descriptive statistics for the low-income sample (Baseline: Year 2005)

Variable	Treatment Mean	SD	Control (never treated) Mean	SD	p value*	Control (always treated) Mean	SD	p value *
Demographic								
Household bank account ownership	0.09	0.28	0.00	0.00	0.00	1.00	0.00	0.00
Per capita monthly consumption in rupees	582.40	483.19	559.55	427.40	0.01	824.40	717.25	0.00
Number of consumer durable assets owned	8.37	4.30	7.44	3.89	0.00	11.73	5.09	0.00
Annual household income in rupees	16,459.02	8,670.57	16,339.50	8,003.57	0.48	16,513.30	10,257.97	0.82
Level of schooling of household head	5.35	4.49	4.12	4.13	0.00	7.67	4.51	0.00
Household size	5.33	2.06	5.05	1.93	0.00	5.35	2.15	0.65
Outcome variables								
Staples	1,434.86	672.54	1,430.22	665.68	0.74	1,578.23	697.93	0.00
NonStaples	2,045.13	1,422.21	2,038.80	1,274.14	0.82	2,688.71	1,657.65	0.00
NonFoodEss	1,746.75	2,083.98	1,525.05	1,716.97	0.00	2,792.82	4,485.47	0.00
NonEssentials	611.00	1,561.63	566.43	1,774.10	0.21	1,012.17	3,321.91	0.00
AnyCredit	0.33	0.47	0.33	0.47	0.80	0.29	0.45	0.00
CreditBalance	400.68	1,731.14	289.41	2,152.08	0.01	712.69	7,559.57	0.05
Shock								
Medical expenses in rupees	4,378.04	11,752.07	4,048.17	9,536.69	0.12	5,802.61	14,712.08	0.00
Medex	0.30	5.30	0.41	6.10	0.35	0.51	3.90	0.04
DaysHospitalized	0.38	3.41	0.44	4.50	0.54	0.38	3.44	0.93

Table 5B: Descriptive statistics for the low-income sample (Endline: Year 2011)

Variable	Treatment Mean	SD	Control (never treated) Mean	SD	p value*	Control (always treated) Mean	SD	p value *
Demographic								
Household bank account ownership	0.91	0.28	0.00	0.00	0.00	1.00	0.00	0.00
Per capita monthly consumption in rupees	897.41	881.75	800.88	685.03	0.00	1,197.51	1,063.81	0.00
Number of consumer durable assets owned	12.66	5.42	11.07	4.94	0.00	15.96	5.59	0.00
Annual household income in rupees	41,380.25	48,581.97	36,008.78	36,205.20	0.00	61,856.43	92,489.27	0.00
Level of schooling of household head	6.89	4.68	5.35	4.47	0.00	9.21	4.46	0.00
Household size	5.17	2.05	5.02	2.00	0.00	5.14	2.27	0.64
Outcome variables								
Staples	1,343.74	693.02	1,350.52	728.55	0.65	1,539.21	775.30	0.00
NonStaples	2,985.66	1,864.37	2,883.59	1,747.49	0.01	3,831.49	2,335.60	0.00
NonFoodEss	2,205.71	2,871.27	1,814.33	2,418.20	0.00	3,388.64	5,660.72	0.00
NonEssentials	1,477.97	3,921.97	1,204.10	3,778.31	0.00	1,900.36	3,736.42	0.00
AnyCredit	0.29	0.45	0.26	0.44	0.00	0.22	0.42	0.00
CreditBalance	410.31	1,921.72	272.83	1,484.76	0.00	377.29	2,673.96	0.59
Shock								
Medical expenses in rupees	5,871.66	13,244.55	5,583.23	13,585.39	0.30	7,161.24	15,756.11	0.00
Medex	0.23	3.63	0.31	1.91	0.15	0.58	12.60	0.20
DaysHospitalized	0.48	8.13	0.37	2.67	0.35	0.37	3.78	0.42

*Compared to the treatment group

Table 6: Correlation between outcome variables and account ownership
Panel A: Whole sample

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
BankAccount	0.150***	-0.0875***	0.297***	0.278***	0.667***	-0.0282***	-0.184***
	(0.00674)	(0.00842)	(0.00897)	(0.00999)	(0.0171)	(0.00809)	(0.0558)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	53,498	53,478	53,478	53,495	53,478	53,348	53,347
R-squared	0.030	0.009	0.079	0.059	0.090	0.001	0.001
Households (n)	26,749	26,749	26,749	26,749	26,749	26,749	26,749

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 6: Correlation between outcome variables and account ownership
Panel B: Low income subsample

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
BankAccount	0.167***	-0.102***	0.342***	0.323***	0.738***	-0.0366***	-0.240***
	(0.00896)	(0.0120)	(0.0123)	(0.0135)	(0.0214)	(0.0113)	(0.0768)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26,116	26,102	26,102	26,114	26,102	26,069	26,067
R-squared	0.041	0.012	0.110	0.080	0.129	0.002	0.002
Households (n)	13,058	13,058	13,058	13,058	13,058	13,058	13,058

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 7: Correlation between outcome variables and household medical expenditure

Panel A: Whole sample

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	0.000109	0.000542	-9.58e-05	0.000266	0.00162	0.000487	0.00398
	(0.000635)	(0.000544)	(0.000856)	(0.000790)	(0.00185)	(0.000362)	(0.00266)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	53,358	53,341	53,341	53,357	53,341	53,210	53,209
R-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Households (n)	26,747	26,747	26,747	26,747	26,747	26,747	26,747

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 7: Correlation between outcome variables and household medical expenditure

Panel B: Low income subsample

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	0.000743	0.00160***	0.000373	0.000209	0.00382*	0.000691	0.00580
	(0.000777)	(0.000526)	(0.00121)	(0.00125)	(0.00232)	(0.000538)	(0.00386)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	26,014	26,003	26,003	26,014	26,003	25,967	25,965
R-squared	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Households (n)	13,057	13,057	13,057	13,057	13,057	13,057	13,057

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 8: Correlation between outcome variables and days hospitalized

Panel A: Whole sample

Outcome variable	(1) *FoodExp*	(2) *Staples*	(3) *NonStaples*	(4) *NonFoodEss*	(5) *NonEssentials*	(6) *AnyCredit*	(7) *CreditBalance*
Shock	0.0134**	0.0181***	0.0130*	-0.000244	0.0481***	0.00944	0.0809*
	(0.00551)	(0.00629)	(0.00691)	(0.00673)	(0.0152)	(0.00609)	(0.0446)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	45,447	45,428	45,428	45,444	45,428	45,327	45,326
R-squared	0.001	0.001	0.000	0.000	0.001	0.000	0.000
Households (n)	25,375	25,370	25,370	25,373	25,370	25,363	25,363

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 8: Correlation between outcome variables and days hospitalized

Panel B: Low income subsample

Outcome variable	(1) *FoodExp*	(2) *Staples*	(3) *NonStaples*	(4) *NonFoodEss*	(5) *NonEssentials*	(6) *AnyCredit*	(7) *CreditBalance*
Shock	0.0150*	0.0193**	0.0137	0.00123	0.0512**	0.0173**	0.143**
	(0.00789)	(0.00917)	(0.00969)	(0.00923)	(0.0217)	(0.00876)	(0.0648)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	23,142	23,128	23,128	23,140	23,128	23,101	23,099
R-squared	0.001	0.001	0.000	0.000	0.002	0.001	0.001
Households (n)	12,609	12,606	12,606	12,608	12,606	12,606	12,606

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 9: Impact of bank account ownership on mitigating shock (*medex*)
Panel A: Whole sample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Outcome variable	*FoodExp*	*Staples*	*NonStaples*	*NonFoodEss*	*NonEssentials*	*AnyCredit*	*CreditBalance*
Shock	-0.00173	-0.000131	-0.00230	-0.00294	0.00443	0.00180	0.0143
	(0.00151)	(0.00178)	(0.00182)	(0.00208)	(0.00623)	(0.00253)	(0.0166)
BankAccount	0.00268	-0.0412***	0.0439***	0.124***	0.109***	0.00318	0.0411
	(0.00868)	(0.0109)	(0.0107)	(0.0139)	(0.0241)	(0.0101)	(0.0718)
*Shock*BankAccount*	0.00206	0.00136	0.00240	0.00598**	-0.00626	0.000676	0.00588
	(0.00202)	(0.00214)	(0.00255)	(0.00261)	(0.00796)	(0.00281)	(0.0189)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	45,414	45,402	45,402	45,413	45,402	45,277	45,275
R-squared	0.094	0.019	0.206	0.102	0.229	0.004	0.004
Households (n)	26,693	26,693	26,693	26,693	26,693	26,646	26,643

Robust standard errors in parentheses, adjusted for household clusters

*** p<0.01, ** p<0.05, * p<0.1

Table 9: Impact of bank account ownership on mitigating shock (*medex*)
Panel B: Low income subsample

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Outcome variable	*FoodExp*	*Staples*	*NonStaples*	*NonFoodEss*	*NonEssentials*	*AnyCredit*	*CreditBalance*
Shock	-0.00182	-0.000610	-0.00195	-0.00285	0.00655	0.00196	0.0158
	(0.00162)	(0.00186)	(0.00184)	(0.00230)	(0.00689)	(0.00277)	(0.0180)
BankAccount	0.0161	-0.0190	0.0484***	0.102***	0.109***	0.00755	0.0572
	(0.0127)	(0.0162)	(0.0155)	(0.0183)	(0.0312)	(0.0149)	(0.105)
*Shock*BankAccount*	0.00345	0.00297	0.00345	0.00636**	-0.000146	0.000570	0.00625
	(0.00231)	(0.00209)	(0.00302)	(0.00301)	(0.00920)	(0.00322)	(0.0221)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	22,159	22,151	22,151	22,159	22,151	22,119	22,116
R-squared	0.103	0.032	0.249	0.144	0.287	0.006	0.006
Households (n)	13,029	13,029	13,029	13,029	13,029	13,016	13,012

Robust standard errors in parentheses, adjusted for household clusters

*** p<0.01, ** p<0.05, * p<0.1

Table 9.1: Impact of bank account ownership on mitigating shock (*medex*)

Panel A: All households with a positive income

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	-0.00125	0.00184	-0.00311	-0.00194	0.00599	-0.000179	0.00280
	(0.00150)	(0.00243)	(0.00265)	(0.00232)	(0.00791)	(0.00273)	(0.0174)
BankAccount	0.0243***	-0.0362**	0.0404***	0.123***	0.120***	0.0176	0.120
	(0.00852)	(0.0148)	(0.0137)	(0.0188)	(0.0329)	(0.0140)	(0.0984)
Shock*BankAccount	0.00266	-0.00180	0.00439	0.00465	-0.00829	0.00279	0.0193
	(0.00225)	(0.00338)	(0.00444)	(0.00364)	(0.0123)	(0.00327)	(0.0229)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	34,530	34,530	34,530	34,530	34,530	34,407	34,406
R-squared	0.120	0.027	0.216	0.109	0.214	0.008	0.007
Households (n)	23,824	23,824	23,824	23,824	23,824	23,747	23,745

Robust standard errors in parentheses, adjusted for household clusters

*** p<0.01, ** p<0.05, * p<0.1

Table 9.1: Impact of bank account ownership on mitigating shock (*medex*)

Panel B: Low income households with a positive income

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	-0.000603	0.00141	-0.00186	-0.00115	0.00868	-0.000485	0.000743
	(0.00128)	(0.00236)	(0.00217)	(0.00217)	(0.00843)	(0.00279)	(0.0177)
BankAccount	0.0327***	-0.0133	0.0500**	0.103***	0.114***	0.0163	0.0972
	(0.0121)	(0.0224)	(0.0202)	(0.0235)	(0.0400)	(0.0207)	(0.145)
Shock*BankAccount	0.00273	0.000253	0.00658	0.00558	0.00535	0.00283	0.0223
	(0.00335)	(0.00288)	(0.00498)	(0.00444)	(0.0110)	(0.00378)	(0.0289)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	16,829	16,829	16,829	16,829	16,829	16,791	16,789
R-squared	0.145	0.044	0.247	0.139	0.285	0.011	0.011
Households (n)	11,614	11,614	11,614	11,614	11,614	11,593	11,590

Robust standard errors in parentheses, adjusted for household clusters

*** p<0.01, ** p<0.05, * p<0.1

Table 9.2: Impact of bank account ownership on mitigating shock (*medex*)

Panel A: All households with a negative income

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	-0.148***	-0.0104	-0.265***	-0.141**	0.0306	-0.249***	-2.253***
	(0.0259)	(0.100)	(0.0411)	(0.0622)	(0.123)	(0.0833)	(0.689)
BankAccount	-0.828***	-0.190	-1.273***	0.0585	1.216	-1.189***	-9.943***
	(0.173)	(0.389)	(0.191)	(0.236)	(1.092)	(0.395)	(3.238)
*Shock*BankAccount*	-0.205***	0.0631	-0.359***	0.0586	-0.142	-0.572***	-4.621***
	(0.0618)	(0.139)	(0.0611)	(0.0882)	(0.242)	(0.131)	(1.055)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	376	376	376	376	376	376	375
R-squared	0.865	0.244	0.931	0.807	0.542	0.758	0.752
Households (n)	366	366	366	366	366	366	365

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 9.2: Impact of bank account ownership on mitigating shock (*medex*)

Panel B: Low income households with a negative income

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	-0.148***	-0.0104	-0.265***	-0.141**	0.0306	-0.249***	-2.253***
	(0.0260)	(0.100)	(0.0412)	(0.0623)	(0.123)	(0.0836)	(0.691)
BankAccount	-0.828***	-0.190	-1.273***	0.0585	1.216	-1.189***	-9.943***
	(0.173)	(0.390)	(0.192)	(0.237)	(1.095)	(0.397)	(3.247)
*Shock*BankAccount*	-0.205***	0.0631	-0.359***	0.0586	-0.142	-0.572***	-4.621***
	(0.0620)	(0.140)	(0.0613)	(0.0884)	(0.242)	(0.131)	(1.058)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	293	293	293	293	293	293	292
R-squared	0.865	0.244	0.931	0.807	0.542	0.758	0.752
Households (n)	283	283	283	283	283	283	282

Robust standard errors in parentheses, adjusted for household clusters

*** $p<0.01$, ** $p<0.05$, * $p<0.1$

Table 10: Impact of bank account ownership on mitigating shock (*dayshospitalized*)

Panel A: Whole sample

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	-0.00761	0.00822	-0.0103	-0.0151	0.0250	0.0284***	0.225***
	(0.00903)	(0.0120)	(0.00981)	(0.0121)	(0.0260)	(0.00947)	(0.0691)
BankAccount	0.0125	-0.0310*	0.0528***	0.126***	0.112***	4.56e-05	0.00134
	(0.0125)	(0.0163)	(0.0153)	(0.0212)	(0.0353)	(0.0148)	(0.105)
*Shock*BankAccount*	0.0186	0.00809	0.0184	0.00390	0.00214	-0.0144	-0.101
	(0.0150)	(0.0162)	(0.0173)	(0.0177)	(0.0358)	(0.0168)	(0.126)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	25,165	25,156	25,156	25,164	25,156	25,102	25,099
R-squared	0.089	0.030	0.217	0.129	0.254	0.008	0.008
Households (n)	15,683	15,681	15,681	15,683	15,681	15,657	15,653

Robust standard errors in parentheses, adjusted for household clusters

*** p<0.01, ** p<0.05, * p<0.1

Table 10: Impact of bank account ownership on mitigating shock (*dayshospitalized*)

Panel B: Low income subsample

Outcome variable	(1) FoodExp	(2) Staples	(3) NonStaples	(4) NonFoodEss	(5) NonEssentials	(6) AnyCredit	(7) CreditBalance
Shock	-0.00445	0.00813	-0.00503	-0.00993	0.0321	0.0341***	0.258***
	(0.0104)	(0.0141)	(0.0112)	(0.0128)	(0.0306)	(0.0105)	(0.0771)
BankAccount	0.0150	-0.0244	0.0541***	0.0985***	0.0963***	-0.00127	-0.00665
	(0.0148)	(0.0193)	(0.0182)	(0.0207)	(0.0349)	(0.0175)	(0.123)
*Shock*BankAccount*	0.0238	0.0121	0.0215	0.000998	0.00170	-0.0161	-0.103
	(0.0174)	(0.0183)	(0.0200)	(0.0189)	(0.0416)	(0.0195)	(0.148)
Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	19,329	19,320	19,320	19,328	19,320	19,295	19,292
R-squared	0.101	0.033	0.246	0.138	0.301	0.010	0.010
Households (n)	11,959	11,957	11,957	11,959	11,957	11,948	11,944

Robust standard errors in parentheses, adjusted for household clusters

*** p<0.01, ** p<0.05, * p<0.1

References

Alam, Khurshid, and Ajay Mahal. 2014. "Economic Impacts of Health Shocks on Households in Low and Middle Income Countries: A Review of the Literature." *Globalization and Health*. doi:10.1186/1744-8603-10-21.

Alderman, Harold. 1996. "Development Saving and Economic Shocks in Rural Pakistan L." *Journal of Development Economics* 51 (2). Elsevier: 343–65.

Alderman, Harold, and Christina H Paxson. 1994. "Do the Poor Insure? A Synthesis of the Literature on Risk and Consumption in Developing Countries." In *Economics in a Changing World*, 48–78. London: Palgrave Macmillan UK. doi:10.1007/978-1-349-23458-5_3.

Aportela, Fernando. 1999. "Effects of Financial Access on Savings by Low-Income People." Citeseer.

Asfaw, Abay, and Joachim von Braun. 2004. "Is Consumption Insured against Illness? Evidence on Vulnerability of Households to Health Shocks in Rural Ethiopia." *Economic Development and Cultural Change* 53 (1). The University of Chicago Press: 115–29. doi:10.1086/423255.

Ashraf, Nava., Dean. Karlan, and Wesley. Yin. 2006. "Tying Odysseus to the Mast: Evidence From a Commitment Savings Product in the Philippines." *The Quarterly Journal of Economics* 121 (2): 635–72. doi:10.1162/qjec.2006.121.2.635.

Banerjee, Abhijit V., and Sendhil Mullainathan. 2010. "The Shape of Temptation: Implications for the Economic Lives of the Poor." *SSRN Electronic Journal*. doi:10.2139/ssrn.1598547.

Banerjee, Abhijit V, and Esther Duflo. 2007. "The Economic Lives of the Poor." *Journal of Economic Perspectives*. doi:10.1257/jep.21.1.141.

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

Barrett, Christopher B, Michael R Carter, and Munenobu Ikegami. 2008. "Poverty Traps and Social Protection." *SSRN*. doi:10.2139/ssrn.1141881.

Baulch, Bob, and John Hoddinott. 2000. "Economic Mobility and Poverty Dynamics in Developing Countries." *Journal of Development Studies* 36 (6). Routledge: 1–24. doi:10.1080/00220380008422652.

Baulch, Bob, and Neil McCulloch. 2002. "Being Poor and Becoming Poor: Poverty Status and Poverty Transitions in Rural Pakistan." *Journal of Asian and African Studies* 37 (2). Sage Publications Sage CA: Thousand Oaks, CA: 168–85.

Brune, Lasse, Xavier Giné, Jessica Goldberg, and Dean Yang. 2015. "Facilitating Savings for Agriculture: Field Experimental Evidence from Malawi." *Economic Development and Cultural Change* 64 (2): 187. doi:10.1086/684014.

Carter, Michael R., Peter D. Little, Tewodaj Mogues, and Workneh Negatu. 2007. "Poverty Traps and Natural Disasters in Ethiopia and Honduras." *World Development*. doi:10.1016/j.worlddev.2006.09.010.

Carter, Michael R, and Christopher B Barrett. 2006. "The Economics of Poverty Traps and Persistent Poverty: An Asset-Based Approach." *Journal of Development Studies* 42 (2). Routledge: 178–99. doi:10.1080/00220380500405261.

Carter, Michael R, and John A Maluccio. 2003. "Social Capital and Coping with Economic Shocks: An Analysis of Stunting of South African Children." *World Development* 31 (7). Elsevier: 1147–63.

Chakrabarty, K. C. 2013. "Financial Inclusion of Urban Poor in India." In *'Financial Inclusion of Urban Poor' Conducted by the American India Foundation*. New Delhi.

Chin, Aimee, Leonie Karkoviata, and Nathaniel Wilcox. 2011. "Impact of Bank Accounts on Migrant Savings and Remittances: Evidence from a Field Experiment." *June).Http://Www.Uh.Edu/~ Achin/Research/Ckw_banking_june2011.Pdf*.

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

Demirgüç-Kunt, Asli, and Leora Klapper. 2012. "Measuring Financial Inclusion: The Global Findex Database." *World Bank Policy Research Working Paper*, no. 6025.

Demirgüç-Kunt, Asli, Leora Klapper, Dorothe Singer, and Peter Van Oudheusden. 2015. "The Global Findex Database 2014: Measuring Financial Inclusion around the World." *World Bank Policy Research Working Paper 7255*. doi:10.1596/1813-9450-7255.

Dercon, Stefan, John Hoddinott, and Tassew Woldehanna. 2005. "Shocks and Consumption in 15 Ethiopian Villages, 1999-2004." *Journal of African Economies* 14 (4). Oxford University Press: 559.

Desai, Sonalde, and Reeve Vanneman. 2008. *India Human Development Survey (IHDS), 2005*. Inter-university Consortium for Political and Social Research.

Desai, Sonalde, and Reeve Vanneman. 2015. "India Human Development Survey-II (IHDS-II), 2011-12. ICPSR36151-V2." *Ann Arbor, MI: Inter-University Consortium for Political and Social Research [Distributor]* 31.

Dupas, Pascaline, Dean Karlan, Jonathan Robinson, and Diego Ubfal. 2018. "Banking the Unbanked? Evidence from Three Countries." *American Economic Journal: Applied Economics* 10 (2). doi:10.1257/app.20160597.

Dupas, Pascaline, and Jonathan Robinson. 2013. "Savings Constraints and Microenterprise Development: Evidence from a Field Experiment in Kenya." *American Economic Journal: Applied Economics* 5 (1). American Economic Association: 163–92.

FAO. 1995. *Dimensions of Need: An Atlas of Food and Agriculture. Food and Agriculture Organization, Rome*. Edited by Tony Loftas. Rome: Food and Agriculture Organization. http://www.fao.org/docrep/u8480e/U8480E0l.htm#Elements for sustainable agriculture and rural development.

Gertler, Paul, and Jonathan Gruber. 2002. "Insuring Consumption against Illness." *American Economic Review* 92 (1): 51–76. doi:10.1257/000282802760015603.

Heltberg, Rasmus, Ana María Oviedo, and Faiyaz Talukdar. 2015. "What Do Household Surveys Really Tell Us about Risk, Shocks, and Risk Management in the Developing World?" *Journal of Development Studies* 51 (3). Taylor & Francis: 209–25. doi:10.1080/00220388.2014.959934.

Hesselberg, Jan. 2015. "Becoming Poor in Ghana." *Ghana Journal of Geography* 7 (1). Department of Geography and Resource Development: 97–108.

Hulme, David, and Andrew Shepherd. 2003. "Conceptualizing Chronic Poverty." *World Development* 31 (3). Elsevier: 403–23.

Matin, Imran, David Hulme, and Stuart Rutherford. 2002. "Finance for the Poor: From Microcredit to Microfinancial Services." *Journal of International Development* 14 (2). Wiley Online Library: 273–94. doi:10.1002/jid.874.

Mbiti, Isaac, and David Weil. 2014. "Mobile Banking: The Impact of M-Pesa in Kenya." *Igarss 2014*. doi:10.1007/s13398-014-0173-7.2.

Munyegera, Ggombe Kasim, and Tomoya Matsumoto. 2016. "Mobile Money, Remittances, and Household Welfare: Panel Evidence from Rural Uganda." *World Development* 79. Elsevier: 127–37.

Planning Commission. 2014. "Report of the Expert Group to Review the Methodology for Measurement of Poverty." *Government of India, New Delhi*.

Platteau, Jean-Philippe, and Anita Abraham. 1987. "An Inquiry into Quasi-credit Contracts: The Role of Reciprocal Credit and Interlinked Deals in Small-scale Fishing Communities." *The Journal of Development Studies* 23 (4). Taylor & Francis: 461–90.

Prina, Silvia. 2015. "Banking the Poor via Savings Accounts: Evidence from a Field Experiment." *Journal of Development Economics* 115. Elsevier: 16–31.

Registrar General, India. 2011. "Census of India 2011: Provisional Population Totals-India Data Sheet." *Office of the Registrar General Census Commissioner, India. Indian Census Bureau.*

Rutherford, Stuart, and Sukhwinder Arora. 2009. "The Need to Save." *The Poor and Their Money: Microfinance from a Twenty-First Century Consumer's Perspective* 1 (14). Practical Action Publishing in association with GSE Research: 14.

Subramanian, Shankar, and Angus Deaton. 2002. "The Demand for Food and Calories." *Journal of Political Economy* 104 (1). The University of Chicago Press: 133–62. doi:10.1086/262020.

Unique Identity Development Authority of India. 2012. "Press Release." New Delhi. https://www.uidai.gov.in/images/pressrelease_1910201.pdf.

Wagstaff, Adam. 2007. "The Economic Consequences of Health Shocks: Evidence from Vietnam." *Journal of Health Economics* 26 (1). Elsevier: 82–100.

Wagstaff, Adam, and Magnus Lindelow. 2010. *Are Health Shocks Different? Evidence from a Multi-Shock Survey in Laos*. The World Bank.

List of Appendices

Appendix A: Policy changes notifications from RBI

1. RBI notification dated August 23, 2005 allowing commercial banks to relax KYC requirements for small accounts.

2. RBI notification dated November 24, 2005 advising urban co-operative banks (UCBs) to introduce basic banking no-frills accounts with zero or low minimum balance requirements and account fees.

3. RBI notification January 25, 2006 permitting banks to use services of NBFCs as business correspondents.

4. Ministry of Finance, GoI notification dated December 16, 2010 expanding the definition of officially valid documents to include NREGA job cards and a letter issued by the UIDAI containing the name, address and *aadhaar* number of the individual.

RBI/2005-06/135
DBOD.NO.AML.BC.28 /14.01.001/2005-06

August 23, 2005

The Chief Executives of
All Scheduled Commercial Banks
(excluding RRBs)

Dear Sir,

Know Your Customer Guidelines- Anti-Money Laundering Standards

Please refer to our circular DBOD.NO.AML.BC.58/14.01.001/2004-05 dated November 29, 2004 on the above subject. In terms of the above circular, banks were advised to formulate a customer acceptance policy and customer identification procedure to be followed while opening an account. Banks were also advised to categorize the customers into low, medium and high risk, according to risk perceived. The 'Know Your Customer' guidelines also require banks to verify the identity and address of the customer through documents listed in Annexure II to the circular.

2.   Although flexibility in the requirements of documents of identity and proof of address has been provided in the circular mentioned above yet it has been brought to our notice that a large number of persons, especially, those belonging to low income group both in urban and rural areas are not able to produce such documents to satisfy the bank about their identity and address. This would lead to their inability to access the banking services and result in their financial exclusion. Accordingly, it has been decided to further simplify the KYC procedure for opening accounts for those persons who intend to keep balances not exceeding rupees fifty thousand (Rs. 50,000/-) in all their accounts taken together and the total credit in all the accounts taken together is not expected to exceed rupees one lakh (Rs. 1,00,000/-) in a year.

3.   In case a person who wants to open an account is not able to produce documents mentioned in Annexure II of RBI circular dated November 29, 2004, banks may open accounts as described in paragraph 2 above, subject to

a)   introduction from another account holder who has been subjected to full KYC procedure. The introducer's account with the bank should be at least six month old and should show satisfactory transactions. Photograph of the customer who proposes to open the account and also his address need to be certified by the introducer.

or

b)   any other evidence as to the identity and address of the customer to the satisfaction of the bank.

4.   While opening accounts as described above, the customer should be made aware that if at any point of time, the balances in all his/her accounts with the bank (taken together) exceeds rupees fifty thousand (Rs. 50,000/-) or total credit in the account exceeds rupees one lakh (Rs. 1,00,000/-), no further transactions will be permitted until the full KYC procedure is completed. In order not to inconvenience the customer, the bank must notify the customer when the balance reaches rupees forty thousand (Rs. 40,000/-) or the total credit in a year reaches rupees eighty thousand (Rs. 80,000/-) that appropriate documents for conducting the KYC must be submitted otherwise the operations in the account will be stopped when the total balance in all the accounts taken together exceeds rupees fifty thousand (Rs. 50,000/-) or the total credit in the accounts exceeds rupees one lakh (Rs. 1,00,000/-) in a year.

5.   In terms of our circular DBOD No. AML.BC. 23/14.01.064 / 2005-06 dated August 2, 2005 , banks were advised to open accounts with reduced KYC standards in respect of persons affected by floods to enable them to credit the grant received from the Government. These accounts shall also be treated at par with the accounts opened in terms of this circular. However, the maximum balance in such accounts may be permitted as the amount of grant received from the Government

or rupees fifty thousand (Rs. 50,000/-) whichever is more and the initial credit of the grant amount shall not be counted towards the total credit.

6.   Banks are advised to issue suitable instructions to their branches for immediate implementation in this regard.

Yours faithfully,

(Prashant Saran)
Chief General Manager

RBI/2005-06/220
UBD. BPD. Cir No.19 /13.01.000//2005-06

November 24, 2005

To

Chief Executive Officer
All Primary (Urban) Co-operative Banks

Dear Sir/Madam,

Financial Inclusion – UCBs

Please refer to Paragraph 96 of the Mid-term Review of Annual Policy Statement for the year 2005-06.

2.   The Annual Policy Statement of April 2005, while recognizing the concerns in regard to the banking practices that tend to exclude rather than attract vast sections of population, urged banks to review their existing practices to align them with the objective of financial inclusion. While recognizing the role of primary (urban) co-operative banks in providing basic and affordable banking services in their respective area of operation, it is observed that in some UCBs, the requirement of minimum balance continues to deter a sizeable section of population from opening / maintaining bank accounts.

3. In this context, with a view to achieving the objective of greater financial inclusion, all UCBs are advised to make available a **basic banking 'no-frills' account** either with 'nil' or very low minimum balances as well as charges that would make such accounts accessible to vast sections of population. The nature and number of transactions in such accounts could be restricted, but made known to the customer in advance in a transparent manner. **All UCBs are advised to give wide publicity to the facility of such a 'no-frills' account including on their web sites indicating the facilities and charges in a transparent manner.**

4. Immediate action may be initiated and compliance reported to the concerned Regional Office of RBI within one month.

Yours faithfully,

(N.S.Vishwanathan)
Chief General Manager in-Charge

January 25, 2006
Magha 5, 1927 (S)

The Chairmen & CEOs
(All Scheduled Commercial Banks including RRBs)

Dear Sir,

Financial Inclusion by Extension of Banking Services - Use of Business Facilitators and Correspondents

With the objective of ensuring greater financial inclusion and increasing the outreach of the banking sector, it has been decided in public interest to enable banks to use the services of Non-Governmental Organisations/ Self Help Groups (NGOs/ SHGs), Micro Finance Institutions (MFIs) and other Civil Society Organisations (CSOs) as intermediaries in providing financial and banking services through the use of Business Facilitator and Correspondent models as indicated below.

2. Business Facilitator Model: Eligible Entities and Scope of Activities

2.1   Under the "Business Facilitator" model, banks may use intermediaries, such as, NGOs/ Farmers' Clubs, cooperatives, community based organisations, IT enabled rural outlets of corporate entities, Post Offices, insurance agents, well functioning Panchayats, Village Knowledge Centres, Agri Clinics/ Agri Business Centers, Krishi Vigyan Kendras and KVIC/ KVIB units, depending on the comfort level of the bank, for providing facilitation services. Such services may include (i) identification of borrowers and fitment of activities; (ii) collection and preliminary processing of loan applications including verification of primary information/data; (iii) creating awareness about savings and other products and education and advice on managing money and debt counselling; (iv) processing and submission of applications to banks; (v) promotion and nurturing Self Help Groups/ Joint Liability Groups; (vi) post-sanction monitoring; (vii) monitoring and handholding of Self Help Groups/ Joint Liability Groups/ Credit Groups/ others; and (viii) follow-up for recovery.

2.2   As these services are not intended to involve the conduct of banking business by Business Facilitators, no approval is required from RBI for using the above intermediaries for facilitation of the services indicated above.

3. Business Correspondent Model: Eligible Entities and Scope of Activities

3.1   Under the "Business Correspondent" Model, NGOs/ MFIs set up under Societies/ Trust Acts, Societies registered under Mutually Aided Cooperative Societies Acts or the Cooperative Societies Acts of States, section 25 companies, registered NBFCs not accepting public deposits and Post Offices may act as Business Correspondents. Banks may conduct thorough due diligence on such entities keeping in view the indicative parameters given in Annex 3.2 of the Report of the Internal Group appointed by Reserve Bank of India (available on RBI website: *www.rbi.org.in*) to examine issues relating to Rural Credit and Micro-Finance (July 2005). In engaging such intermediaries as Business Correspondents, banks should ensure that they are well established, enjoying good reputation and having the confidence of the local people. Banks may give wide publicity in the locality about the intermediary engaged by them as Business Correspondent and take measures to avoid being misrepresented.

3.2   In addition to activities listed under the Business Facilitator Model, the scope of activities to be undertaken by the Business Correspondents will include (i) disbursal of small value credit, (ii) recovery of principal / collection of interest (iii) collection of small value deposits (iv) sale of micro insurance/ mutual fund products/ pension products/ other third party products and (v) receipt and delivery of small value remittances/ other payment instruments.

3.3   The activities to be undertaken by the Business Correspondents would be within the normal course of the bank's banking business, but conducted through the entities indicated above at places other than the bank premises. Accordingly, in furtherance of the objective of increasing the outreach of the banks for micro-finance, in public interest, the Reserve Bank hereby permits banks to formulate a scheme for using the entities indicated in paragraph 3.1 above as Business

Correspondents. Banks should ensure that the scheme formulated and implemented is in strict compliance with the objectives and parameters laid down in this circular.

4. **Payment of commission/ fees for engagement of Business Facilitators/ Correspondents**

Banks may pay reasonable commission/ fee to the Business Facilitators/ Correspondents, the rate and quantum of which may be reviewed periodically. RBI Master Circular DBOD.Dir.5/13.07.00/2005-06 dated July 1, 2005 may be treated as modified to that extent. The

agreement with the Business Facilitators/ Correspondents should specifically prohibit them from charging any fee to the customers directly for services rendered by them on behalf of the bank.

5. Other Terms and Conditions for Engagement of Business Facilitators and Correspondents

5.1 As the engagement of intermediaries as Business Facilitators/ Correspondents involves significant reputational, legal and operational risks, due consideration should be given by banks to those risks. They should also endeavour to adopt technology-based solutions for managing the risk, besides increasing the outreach in a cost effective manner. In formulating their schemes, banks may be guided by the recommendations made in the Khan Group Report as also the draft outsourcing guidelines released by Reserve Bank of India on December 6, 2005 (available on RBI website: *www.rbi.org.in*).

5.2   The arrangements with the Business Correspondents shall specify:

(a) suitable limits on cash holding by intermediaries as also limits on individual customer payments and receipts,

(b) the requirement that the transactions are accounted for and reflected in the bank's books by end of day or next working day, and

(c) all agreements/ contracts with the customer shall clearly specify that the bank is responsible to the customer for acts of omission and commission of the Business Facilitator/ Correspondent.

6.   Redressal of Grievances in regard to services rendered by Business Facilitators/ Correspondents

(a) Banks should constitute Grievance Redressal Machinery within the bank for redressing complaints about services rendered by Business Correspondents and Facilitators and give wide publicity about it through electronic and print media. The name and contact number of designated Grievance Redressal Officer of the bank should be made known and widely publicised. The designated officer should ensure that genuine grievances of customers are redressed promptly.

(b) The grievance redressal procedure of the bank and the time frame fixed for responding to the complaints should be placed on the bank's website.

(c) If a complainant does not get satisfactory response from the bank within 60 days from the date of his lodging the compliant, he will have the option to approach the Office of the Banking Ombudsman concerned for redressal of his grievance/s.

7. Compliance with Know Your Customer (KYC) Norms

Compliance with KYC norms will continue to be the responsibility of banks. Since the objective is to extend savings and loan facilities to the underprivileged and unbanked population, banks may adopt a flexible approach within the parameters of guidelines issued on KYC from time to time. The KYC guidelines issued vide our circulars dated November 29, 2004 and August 23, 2005 provide sufficient flexibility to banks. In addition to introduction from any person on whom KYC has been done, banks can also rely on certificates of identification issued by the intermediary being used as Banking Correspondent, Block Development Officer (BDO), head of Village Panchayat, Post Master of the post office concerned or any other public functionary, known to the bank.

Yours faithfully,

(P. Vijaya Bhaskar)
Chief General Manager

Appendix A: Government of India Notification declaring the policy change

Government of India
Ministry of Finance
(Department of Revenue)

Notification

New Delhi, the 16th December, 2010

GSR   (E) –   In exercise of the powers conferred by sub-section (1) read with clauses (h) (i), (j) and (k) of sub-section (2) of Section 73 of the Prevention of Money-laundering Act, 2002 (15 of 2003), the Central Government hereby makes the following amendments to the Prevention of Money-laundering (Maintenance of Records of the Nature and Value of Transactions, the Procedure and Manner of Maintaining and Time for Furnishing Information and Verification and Maintenance of Records of the Identity of the Clients of the Banking Companies, Financial Institutions and Intermediaries) Rules, 2005, namely::-

1.   (1)   These rules may be called the Prevention of Money-laundering (Maintenance of Records of the Nature and Value of Transactions, the Procedure and Manner of Maintaining and Time for Furnishing Information and Verification and Maintenance of Records of the Identity of the Clients of the Banking Companies, Financial Institutions and Intermediaries) Third Amendment Rules, 2010.

        (2) They shall come into force on the date of their publication in the Official   Gazette.

2.   In the Prevention of Money-laundering (Maintenance of Records of the Nature and Value of Transactions, the Procedure and Manner of Maintaining and Time for Furnishing Information and Verification and Maintenance of Records of the Identity of the Clients of the Banking Companies, Financial Institutions and Intermediaries) Rules, 2005, -

(a)   in rule 2,-

        (i) after clause (b), the following clause shall be inserted, namely:-

        "(bb) "Designated Officer" means any officer or a class of officers   authorized by a banking company, either by name or by designation, for the purpose of opening small accounts".

        (ii) in clause (d), for the words   "the Election Commission of India or any other document as may be required by the banking company or financial institution or intermediary", the words "Election Commission of India, job card issued by NREGA duly signed by an officer of the State Government, the letter issued by the Unique Identification Authority of India containing details of name, address and Aadhaar number or any other document as notified by the Central Government in consultation with the Reserve Bank of India or any other document as may be required by the banking companies, or financial institution or intermediary" shall be substituted;

        (iii) after clause (fa), the following clause shall be inserted, namely:-

        "(fb) "small account" means a savings account in a banking company where-

(i)   the aggregate of all credits in a financial year does not exceed rupees one lakh,

(ii)   the aggregate of all withdrawals and transfers in a month does not exceed rupees ten thousand, and;

(iii)   the balance at any point of time does not exceed rupees fifty thousand".

(b)   In rule 9, after sub-rule (2), the following sub-rule shall be inserted, namely:-

"(2A) Notwithstanding anything contained in sub-rule (2), an individual who desires to open a small account in a banking company may be allowed to open such an account on production of a self-attested photograph and affixation of signature or thumb print, as the case may be, on the form for opening the account.

Provided that –

(i)   the designated officer of the banking company, while opening the small account, certifies under his signature that the person opening the account has affixed his signature or thumb print, as the case may be, in his presence;

(ii)   a small account shall be opened only at Core Banking Solution linked banking company branches or in a branch where it is possible to manually monitor and ensure that foreign remittances are not credited to a small account and that the stipulated limits on monthly and annual aggregate of transactions and balance in such accounts are not breached, before a transaction is allowed to take place;

(iii)   a small account shall remain operational initially for a period of twelve months, and thereafter for a further period of twelve months if the holder of such an account provides evidence before the banking company of having applied for any of the officially valid documents within twelve months of the opening of the said account, with the entire relaxation provisions to be reviewed in respect of the said account after twenty four months.

(iv)   a small account shall be monitored and when there is suspicion of money laundering or financing of terrorism or other high risk scenarios, the identity of client shall be established through the production of officially valid documents, as referred to in sub rule (2) of rule 9"; and

(v)   foreign remittance shall not be allowed to be credited into a small account unless the identity of the client is fully established through the production of officially valid documents, as referred to in sub-rule (2) of rule 9."

(Notification No.14/2010/F.No.6/2/2007-ES)

(S.R. Meena)
Under Secretary

Note: The principal rules were published in Gazette of India, Extraordinary, Part-II, Section 3, Sib-Section (i) vide number G.S.R.444 (E), dated the 1st July, 2005 and subsequently amended by number G.S.R.717 (E), dated the 13th December, 2005, number G.S.R. 389(E), dated the 24th May, 2007, number G.S.R. 816(E), dated the 12th November, 2009, number G.S.R.76 (E), dated the 12th February, 2010 and number G.S.R. 508(E), dated the 16th June, 2010.