

Institute for Financial Management and Research

Centre for Micro Finance

Working Paper

August 2012

**Assessing the Need for a Comprehensive Social Security
Scheme for India's Below Poverty Line Population**

Samik Adhikari, Anita Mukherjee
Shardul Oza, Shahid Vaziralli

Abstract

This study, conducted among 771 rural Below Poverty Line households in two districts of Uttar Pradesh, attempts to measure the willingness of households to contribute to a proposed comprehensive social security and insurance scheme that combines health insurance, life insurance, and pensions. The study uses a standard household survey instrument and a brief marketing exercise to understand how various characteristics may impact a household's ability and willingness to contribute to the scheme. Using multivariate regression analysis, we find that households that have formal savings access and those with less landholdings express a higher willingness to contribute to the pension product. In addition to measuring the willingness to contribute to the pension, we estimate the willingness-to-pay for the entire comprehensive scheme. Here, we find that low financial literacy and formal savings access impact the price households stated as their willingness-to-pay, with higher financial literacy and savings access implying higher willingness-to-pay. Furthermore, the results show strong evidence that price anchors could influence the amount that households state as their willingness-to-pay. Finally, we discuss the implications of these findings for policymakers and suggest a way forward for the comprehensive scheme.

Acknowledgements

This study was conducted based on a jointly developed Terms of Reference between GIZ and the Center for Micro Finance at IFMR Research.

The authors would like to thank Mr. Arvind Kumar, Joint Secretary, Insurance and Pensions, at the Ministry of Finance, Government of India for initiating this project and for providing invaluable support to the research team. We would also like to express our gratitude to The Life Insurance Corporation of India, and especially Ms. Sunita Sharma, for providing us with an excellent set of marketers that worked tirelessly in tough conditions in rural Uttar Pradesh. This study would also not have been possible without the generous support and guidance from GIZ's Indo-German Social Security Programme, led by Rolf Schmachtenberg. In particular, the authors would like to thank Sandra Kissling and Biju Mushahary at GIZ for their work and support throughout the research process. The Centre for Micro Finance field operations team, led by Projjal Saha, did an excellent job of making sure that data collection was completed with minimal errors. We would also like to acknowledge the work and support of CMF staff Laura Litvine and Avdhut Fadanwis who helped in the design and data processing phases of the intervention respectively.

List of Acronyms

BPL	Below Poverty Line
GOI	Government of India
JBYP	Janashree Bima Yojana
LIC	Life Insurance Corporation of India
NPS	National Pension Scheme
RSBY	Rashtriya Swasthya Bima Yojana
WTP	Willingness to Pay
PFRDA	Pension Fund Regulatory and Development Authority

I. Introduction

While India's economy has grown rapidly over the last two decades, the country still faces immense challenges in the area of poverty alleviation. According to the latest estimates by the Tendulkar Committee of the Planning Commission, nearly 33% of the country's population of 1.2 billion lives below the poverty line (Planning Commission of India 2012).¹ Most of these households work in the unorganized sector and lack identification and employment proof, documents required for accessing basic financial services such as savings and insurance.

Individuals working in this part of the economy, especially those who are lower-income, live lives that are characterized by high vulnerability to risks such as disease, injury, death, or drought. When the poor experience such events, they can lose the precarious income gains they have made over time, leading to a high degree of asset and income instability. This is because the wealthy typically have access to formal financial products and other resources that can help them cope with common risks, while the poor rely primarily on informal mechanisms to protect themselves.

The inability to counter risks often leads to underinvestment, lower productivity, and other non-optimal household-level outcomes. For instance, agricultural risk (rainfall risk, pests and disease) inhibits investment in fertilizer and other inputs that could lead to higher productivity. A health shock such as a severe leg injury could force households to sell a productive asset such a cow, to pay for hospitalization. Policymakers hope that by helping households better manage their risks, they can provide them with an opportunity to make more profitable investments and lead healthier, more productive lives.

Recognizing the vulnerability of informal sector households, the Government of India (GOI), state governments, and private companies have introduced numerous products aimed at helping these families effectively counter risks to their livelihoods. These products are meant to cover the many risks that poor households face, including life risk, old age income risk, and health emergencies. For example, life insurance, underwritten by public and private providers, is now sold to the poor by many large microfinance institutions (MFIs). Micropensions are sold by the government and large financial organizations such as Unit Trust of India. Health insurance is also available to households in the form of RSBY or private schemes.

However, while these products are available, they suffer from low take-up due to a variety of demand and supply-side factors (Cole et al, 2012). The poor generally have low numeracy and financial literacy skills and may not understand the concept of insurance. Furthermore, due to the existence of various short-term problems in their lives, low-income individuals are unable to correctly weigh the long-term risks associated with retirement and death. The supply side is characterized by various drawbacks as well – low profitability due to high transaction costs, lack of technological innovation, suboptimal product design, and a poor understanding of the financial behavior of low-income households.

Recognizing these failures, the Government of India is now investing in research and development of new products and delivery channels. Of particular significance is the centre's plan to establish a single, affordable social security scheme that would help all households in the unorganized sector protect themselves against health, life, and old age risk. The government sees an opportunity to bring all of the country's unorganized workers under a social security plan that will simultaneously help them save for old age, access hospitals, and protect themselves in case of death or serious

¹ Full press release available here: http://planningcommission.nic.in/news/press_pov1903.pdf

injury. The scheme would address these critical needs through a financial product bundle that includes life insurance, health insurance and old age pension. The government's hope is that utilizing existing infrastructure and combining three products into a bundle will lead to lower costs, better coordination, and higher efficiency on the supply-side.

Proposed Scheme

The combination of life insurance, health insurance and pensions builds on current schemes offered by the Government of India.

Launched in 2008, Rashtriya Swasthya Bima Yojana (RSBY) is a central government health insurance scheme that harnesses information technology to provide hospitalization insurance to the nation's BPL households. The scheme allows for households to cover up to Rs. 30,000 of their hospitalization expenses per year at a network of empanelled hospitals and medical service providers across the country. In order to enroll, households are required to pay a yearly registration fee of Rs. 30 and select five members whose biometric data is imprinted on a government issued smartcard. The program taps into a network of private and public insurers by allowing them to bid on becoming the RSBY provider in a given district. The program is designed to be user- friendly and paperless - when hospitalized, household members simply confirm their identity through a digital finger printing exercise. The payment for the visit is then made from the insurer to the hospital directly. To date, the RSBY program has enrolled over 30 million households and has been used in 4 million hospitalizations. According to government statistics, over 4 million households in Uttar Pradesh have been enrolled in the scheme.²

For life insurance coverage, the head of household will enroll in Janashree Bima Yojana (JBY), a group scheme sold by the Life Insurance Corporation of India that covers the main income earner in case of death or disability. For a premium of Rs. 100 in most states, the policy holder receives Rs. 37,500 in the case of partial disability or serious injury, Rs. 30,000 in the case of death (other than by accident), and Rs. 75,000 in the case of unexpected death. In some states, the government pays the premium on behalf of the head of household. The scheme also involves a scholarship for girl children enrolled between classes 9-12.

The National Pension Scheme was launched to ensure that citizens of India could save safely for retirement and old age. The Government of India has made efforts to customize the National Pension Scheme for the unorganized sector by initiating a matching contribution scheme called Swavalamban wherein the government matches contributions of at least Rs. 1000 per year with Rs. 1000 from central funds. The scheme is aimed at providing an incentive to low-income households to save diligently and regularly for old age. The government collects contributions for the unorganized sector through licensed institutions called aggregators that have broader reach at the community-level. The National Pension Scheme is regulated by a special oversight body called the PFRDA.

Objective

The primary objectives of the study detailed in this report are twofold: 1) gauge the willingness of rural Below Poverty Line (BPL) Households in the Siddharth Nagar and Fatehpur districts of Uttar Pradesh to pay for the new social security bundle outlined in the section above and; 2) offer some insights into various socio-economic characteristics that may have a strong correlation with the target group's willingness to pay.

² Rashtriya Swasthya Bima Yojana Website, available here: <http://www.rsby.gov.in/overview.aspx>

In order to better understand the issues surrounding insurance and pension access, we administered a household survey and marketing experiment with households in the target demographic group.

II. Methodology

Sample Selection

We used data provided by the Uttar Pradesh Nodal Agency responsible for Rashtriya Swasthya Bima Yojana on RSBY enrollment to identify districts where RSBY prevalence was low. This approach was used because we wanted to assess the willingness to pay for households that had not purchased RSBY before. Once Fatehpur and Siddharth Nagar were identified, we randomly selected 15 villages within each district that met the criteria of having at least fifty BPL households. Villages within districts were randomly selected to ensure that the resulting sample would be broadly representative of the state's rural BPL population. We then selected a large subset of the 15 villages based on BPL enrollment data to ensure that there would be enough target households in each village.

After the study villages were selected, we conducted a household listing of each village to identify BPL households. Before the household listing, we had attempted to identify BPL households by collecting lists of BPL households at the block level. However, this data as well as the RSBY data on how the number and names of BPL households proved to be inaccurate and outdated. During the household listing, households were deemed eligible if they possessed a BPL card or self-identified as BPL and had a head of household under the age of 60. The latter restriction was introduced to the sample because only individuals under age 60 are eligible for NPS, the pension scheme.

The team then randomized the list of total BPL households to identify 38 households in each village that would be targeted for the intervention. In villages with less than 38 eligible households, we approached every listed household to collect data and conduct the marketing exercise.

Household Survey

The first section of the study involved collecting detailed household-level data on household makeup, demographics, financial behavior, wealth, access to finance, prevalence of income shocks, perceptions of risk, financial literacy, and participation in government programs for all families included in the sample. By collecting data on these parameters and quantifying their relationship to a respondent's willingness to pay, we hoped to better grasp the potential challenges facing the government in implementing a comprehensive scheme. The survey instrument was translated into Hindi and administered by trained surveyors to 771 BPL households in two districts of Uttar Pradesh: Siddharth Nagar and Fatehpur. The survey was conducted in late May and early June 2012.

Willingness-to-pay Exercise

The second section of the study aimed at estimating the amount that households would be willing to pay for the new scheme through a brief marketing exercise, conducted in association with marketers from the Life Insurance Corporation of India (LIC). In the simulation, conducted with all 771 households³, marketers from the Life Insurance Company of India explained the terms of the comprehensive scheme to households and offered it at one of three different price points: Rs. 230, Rs. 550 and Rs. 800. The LIC marketers then asked households if they would be willing and able to pay the amount offered as a one-time payment for the comprehensive scheme. If a household

³ Though LIC officials marketed the scheme to 771 households, only 691 price points met the standard for analysis. Some price points were disregarded because of data collection or recording errors.

affirmed that they would be willing and able to pay the offer price, marketers then raised the offer price by an increment of Rs. 10 and asked the same question again. The marketers asked this question until the respondent indicated the maximum price he would be willing to pay for the scheme. In cases where a respondent indicated that he would not be willing or able to pay the offer price, marketers reduced the price by an increment of Rs. 10 and asked about the willingness to pay at that amount. Marketers stopped at the point where a respondent indicated that they would be willing to pay the mentioned amount, revealing their preferred or maximum acceptable price for the comprehensive scheme. In this exercise, marketers simply asked about the household's ability to pay once a year - marketers did not capture the amount households would prefer to pay for the pension over the course of the year. In other words, the exercise assumed that a significant percentage of the pension would be paid upfront and did not measure the contribution households would make at a later point in the year. Once marketers found the maximum price households would be willing to pay for the scheme, a member of the survey team recorded this number, along with identifying information, on a price point sheet.

Outcome Variables

Our study focuses on two main outcome variables:

- 1) The willingness to contribute yearly to a pension, obtained through a question on the household survey. After describing pensions to the respondent, we asked the following question: "How much would you be willing to contribute to a scheme like this, over the course of a year?"
- 2) The willingness to pay for a bundled scheme, obtained through the marketing exercise outlined above.

III. Findings

Sample Population

Household Demographics

The table below shows a basic demographic breakdown of respondents who were surveyed. The results are line with what we already know about the BPL demographic group. The average survey respondent was 42 years old, illiterate and with minimum schooling, and dependent on agriculture for his or her livelihood. The two most common livelihood activities that households engaged in include cultivation (on one's own fields) as well as agricultural labor (on others' land). Few households had access to electricity, and most used tube wells or hand pumps for drinking water.

Table 1: Basic Household Characteristics of Sample Population by District

	District		
	Fatehpur	Siddharthnagar	Total
Gender			
Female	27.5%	40.6%	34.2%
Male	72.5%	59.4%	65.8%
Total	100.0%	100.0%	100.0%
Is The Respondent Head Of Household?			
Not head of household	14.5%	28.7%	21.7%
Head of Household	85.5%	71.3%	78.3%
Total	100.0%	100.0%	100.0%
Can the respondent read or write?			
Cannot read and write	53.9%	65.2%	59.6%
Can read or write	46.1%	34.8%	40.4%
Total	100.0%	100.0%	100.0%
Average household size			
4 or less members	24.8%	22.1%	23.4%
5 to 8 members	68.0%	58.3%	63.1%
9 to 12 members	7.1%	18.5%	12.9%
13 or more members	0.0%	1.0%	0.5%
Total	100.0%	100.0%	100.0%
Age of respondent			
30 or less	7.9%	12.5%	10.2%
31 to 40	37.4%	33.9%	35.7%
41 to 50	37.3%	31.6%	34.4%
51 to 60	17.2%	20.5%	18.9%
61 or more	0.1%	1.5%	0.8%
Total	100.0%	100.0%	100.0%
Education level			
Never been to school	56.4%	66.4%	61.5%
Completed Primary School	13.5%	12.9%	13.2%
Completed Secondary School	14.2%	11.4%	12.8%
Completed High School	13.2%	9.1%	11.1%
Diploma/College	2.7%	0.1%	1.4%
Total	100.0%	100.0%	100.0%
Occupation of respondents			
Own farm activities	5.8%	12.0%	9.0%
Agricultural Laborer	26.8%	17.8%	22.3%
Non Agricultural Laborer	29.9%	22.1%	25.9%
Domestic Duties	24.1%	35.8%	30.0%
Others	13.3%	12.3%	12.8%
Total	100.0%	100.0%	100.0%

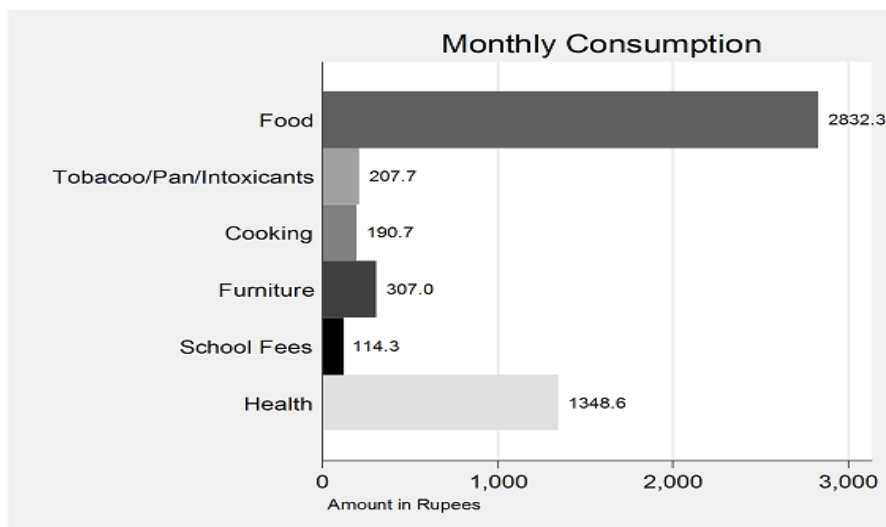
Note: Basic Household Demographics Section

With respect to educational attainment, more than 60% of respondents had never attended school. Approximately 13% of the sample population had completed just primary school, while only a small percentage of households had attended college. Over half of sample respondents stated that they cannot read or write.

Household Consumption

The chart below shows the average household consumption of sample households, broken down by category. The numbers reveal that households' health related expenses (26%) and expenditure on paan (betel leaf), tobacco and other intoxicants are a considerable part (4%) of the family's expenditures. The high expenditure on health-related expenses highlights the dire health conditions facing households and the pressing need for financial intermediation in this area. While surveyors did not obtain an exhaustive list of household expenditure, the data gives researchers a broad idea of the major regular cash outlays of the sample population.

Graph I: Monthly Consumption (In Rs) by Category



Financial Access

Over half of sample respondents, 54%, reported having loans outstanding at the time of survey. Most households chose to borrow from informal parties such as friends and families and neighbors with moneylenders and shopkeepers cited as other major lenders. Approximately 16% of households had a loan outstanding from a public bank and less than 1% reported having borrowed from a private banking institution.

Table 2: Access to Formal Savings

Household Has A Formal Savings Account?	Fatehpur Siddarthnagar		Total
No	51.9%	39.6%	45.4%
Yes	48.1%	60.4%	54.6%
Total	100.0%	100.0%	100.0%
How Many Accounts Does The Household Have?			
1	74.3%	78.4%	76.7%
2	24.5%	18.2%	20.9%
3	1.2%	1.5%	1.3%
4	0.0%	2.0%	1.1%
Total	100.0%	100.0%	100.0%
Amount in Savings Account			
50 or less	6.0%	7.2%	6.7%
51 to 1000	46.2%	47.7%	47.1%
1001 to 5000	34.4%	30.9%	32.3%
5001 to 10000	5.0%	8.1%	6.8%
10000 and above	8.5%	6.1%	7.0%
Total	100.0%	100.0%	100.0%

Note: Loans, Savings and Insurance Section

Savings penetration is high, with 55% of the sample having access to a formal savings account. Households that do save typically have one account with total average savings of Rs. 3,267. (Given that households have an incentive to underestimate their assets (if they think they will benefit from some type of welfare program), the true average savings balance is likely to be slightly higher. However, it should be noted that over 50% of households state that they have savings under Rs.

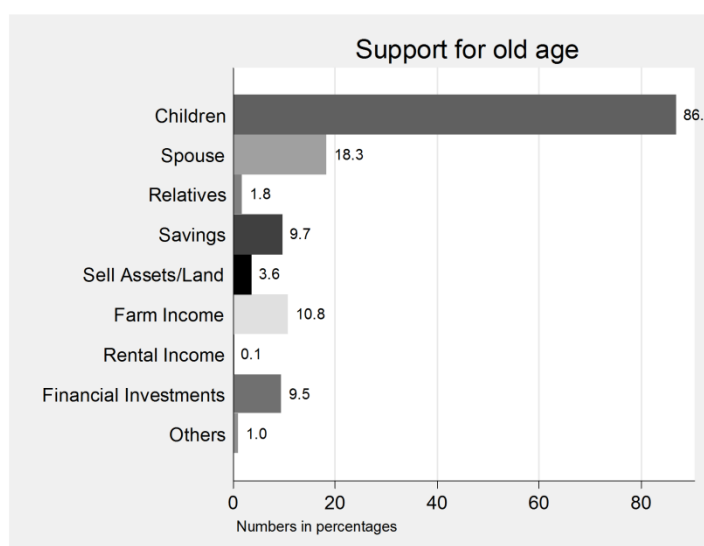
1,000. Similar to loan usage reported by households (refer to Appendix A graph IV), most respondents save in order to pay for health (62% of households) and wedding-related expenses (40% of households).

Insurance access among the sample population remains low at 20% of the total sample population, and most households who are insured have a life insurance policy. Life insurance is the most popular product among study households, accounting for over 66% of the total insurance policies held by households. Despite the fact that the sample population consisted of only BPL households, the target demographic for RSBY, only 5.7 percent of sample households reported having access to health insurance.

Old Age Support Expectations

When asked how they expected to support themselves in old age, almost 90 percent of respondents suggested that they would rely on their children to provide for them.

Graph II: Sources for Old Age Support as Cited by Households



According to the households in our survey, individuals should begin saving at 28 years of age (average) for old age and 58 years old (average) is the age after which saving for old age is not beneficial. It is worth noting that the average respondent is 42 years old, significantly older than the age at which that respondents thought would be appropriate to begin saving.

Shocks

Households in the study remained vulnerable and subject to risk – 48% of respondents reported having experienced an income shock over the last year. Researchers found that disease and illness were the largest events that respondents had faced, accounting for well over half the total shocks reported. When asked how they coped with income shocks, households replied that they either took out a loan (58%) or by drawing down on savings (36%), behavior that underscores the need for better insurance (refer to graph VII in Appendix A).

Health

Almost one-third of the respondents had seen a member of their household hospitalized within the last year. Approximately 90% of households who had a member hospitalized paid the full cost of hospitalization, an average of Rs. 13,758. This is a significant sum for the families in our

households who are low-income and cash constrained, and highlights the potential of RSBY to reduce a major, unpredictable household expense.

Trust and participation in government programs

The survey included a series of questions on trust in governmental and non-governmental institutions, which asked respondents to rank their trust on a scale from 1 to 5, with 1 representing a complete lack of trust and 5 representing complete trust. Banks remain the most trusted institution with an average rating of 4.49, followed by the Government at 4.22. The low rating given to Panchayats raises a question about the ability of that institution to serve as an intermediary in the insurance or social security scheme. Since the government is seen as a trusted entity, citing the government as the architect and guarantor of the comprehensive scheme may be an effective way of boosting trust and increasing take-up (refer to graph IX in Appendix A).

Graph VIII in Appendix A shows the percentage of respondents currently participating in government programs as well as the ratings assigned by participations to respective programs. As we assumed, a majority of households have participated in the government's largest programs, the National Rural Employment Guarantee Program (NREGA) and the Public Distribution System. Approximately 20 percent of households in the sample had enrolled in RSBY at some point and 11 percent had smartcards that had been issued over the last year.

Determinants of Willingness to Pay

Household Characteristics and Willingness to Contribute to Pensions⁴

We asked respondents to state the amount that they would be willing to contribute to an old age scheme designed to allow them to draw a monthly pension at or after age 60 (and before age 60 with select conditions). **Households reported an average willingness to contribute annually of Rs. 1,282 for the pension product (Rs. 1,413 for males and Rs. 1,017 for females).** We found evidence that respondents with certain characteristics were more likely than others to state a high willingness to contribute.

Understanding what factors significantly impact the willingness to contribute could help guide policymakers target the scheme and understand key barriers to adoption. Table 3 in Appendix B displays results from a multivariate regression on several variables that could have influenced the household willingness to pay for the pension scheme.

Households with formal savings report higher willingness to contribute

On average, households with access to a formal savings account stated that they would be willing to pay Rs. 228 more per year than households who lacked formal savings access, while holding wealth and other socio-economic characteristics constant. While the precise reason why these households have a higher yearly willingness to contribute cannot be inferred, this observation suggests that households with formal savings access may be more financially sophisticated or have a greater pool of savings to spend on a complex financial product like the pension scheme. Targeting unorganized sector households that already enjoy access to formal savings could be a potential strategy for the government going forward. However, this strategy could have distributional consequences that would negatively impact the poorest of the poor, since these households likely do not have access to banks. Another attractive option could be to sell the pension along with a savings account.

⁴ Outcome Variable 1, as outlined in the 'Methodology' section

Greater landholdings and insurance access lead to lower willingness to contribute

Households with larger landholdings expressed a lower willingness to contribute than households with relatively more modest landholdings. We find that an increase of one bigha in landholdings is associated with a Rs. 51 decrease in the amount that households stated they would be willing to contribute, while controlling for wealth and other household characteristics. While we do not know the exact relationship between landholdings and willingness-to-pay, one potential explanation is that individuals with more land desire insurance less because they are confident that they could sell their land in times of distress.

We find that households who already have a formal insurance policy are likely to express a significantly lower willingness to contribute for the pension scheme. The willingness to contribute for households with insurance was Rs. 273 less on average than households without insurance. One explanation for the lower willingness to contribute among households with formal insurance access is that individuals may view insurance as a substitute for pensions.

Households with fewer children express a higher willingness to contribute

Households with fewer children expressed a higher average willingness to contribute than households with more children, a finding that suggests that parents may see their children as informal insurance mechanisms (in the sense that a child could provide for his/her parents in old age, or in cases of injury). The results show that having one more child is associated with a Rs. 82 decrease in a households' willingness to pay.

Marketing after the survey

We found that households who were marketed to after the survey (half the sample) were likely to contribute on average Rs. 329 more towards the scheme. This is likely because the survey contained information and detailed questions on pensions, which created awareness about the product that may not have existed among the section of the sample that was marketed to before the survey.

Household Characteristics and Willingness to Pay for the Bundle⁵

Numeracy and Financial literacy

To measure the impact of financial literacy on willingness to pay for the comprehensive scheme, we created a numeracy and financial literacy index. Results show that, controlling for wealth, households that have higher numeracy and financial literacy skills are willing to pay more for the scheme. A one point increase in the numeracy and financial literacy index score of a household implied a Rs. 8 increase in their willingness-to-pay for the scheme. This finding underscores the potential role that financial sophistication can play in determining demand (Refer to table 6 in Appendix B).

Formal Savings

Corroborating findings from the pension section in the survey, households who possessed formal savings were likelier to quote a higher willingness to pay for the comprehensive scheme. For example, households with formal savings access who were offered the scheme at reported a willingness to pay Rs. 97 more on average compared to households with no formal savings account (Refer to table 6 in Appendix B).

⁵ Outcome Variable 2, as outlined in the 'Methodology' section

Price Anchoring

The marketing exercise, which involved offering households the comprehensive scheme at three different price points, reveals that households are, on average, willing to pay approximately Rs. 582 per year (Rs 606 for males and Rs. 535 for females) for the comprehensive scheme. This willingness-to-pay number, however, should be interpreted with caution as it is likely an overestimate of the actual amount that households would be able and willing to contribute at a single point in time, given that the marketing exercise was hypothetical. More specifically, it is likely that households will not factor in all the potential financial constraints they face when asked to name a price that would be amenable.

To test for the existence of an anchoring effect (where the suggested price affects the willingness to pay by providing an “anchor”), we examined the impact of the initial price point on the final price given by respondents. Here, we found that the price point that respondents were given by marketers significantly impacted the price households finally quoted as their maximum willingness to pay. In other words, respondents who were offered the scheme at Rs. 230 tended to agree to final prices that were below those agreed upon by households who were offered the scheme at Rs. 550 and Rs. 800, indicating that using anchors in marketing could influence a household’s perception of what is an affordable or fair price for the scheme. For example, respondents who were offered the scheme at Rs. 550 stated a willingness to pay that was on average Rs. 158 higher than respondents who were offered the scheme at Rs. 230. The willingness to pay for respondents who were offered the scheme at Rs. 800 was Rs. 309 higher on average than the WTP of respondents who were offered the scheme at Rs. 230.

The analysis also shows that households who were offered the scheme at higher price points were less likely to agree to the initial offer price and settled at prices lower than the initial price point. In other words, a greater percentage of households found Rs. 800 to be unaffordable than Rs. 500 or Rs. 230.

IV. Study Implications and Potential Challenges in Implementation

In order to effectively extend social security and insurance coverage to the nation’s BPL households, the government will have to think through a host of supply-side and demand-side challenges facing the CSSIS scheme. This section extrapolates the findings of the study to discuss key institutional capacity and behavioral constraints facing policymakers as they seek to protect the nation’s most vulnerable citizens.

Demand-Side Issues

We begin our discussion with an analysis of the demand-side issues, which could be understood as factors that could influence the demand for a product or service. Supply and demand are integrally related in the sense that a change in the way the product is offered or structured could significantly impact how much households desire it. Demand-side issues range from low awareness and understanding of financial products to more basic household constraints such as not having enough cash available to pay premiums and fees (Cole et al, 2012). Some demand-side constraints can be alleviated by better product design and high-quality service provision but deeper-rooted, endemic demand-side problems could pose a serious challenge to universal social security and insurance coverage.

Financial literacy and numeracy

In previous research, researchers have found that financial literacy could be a critical component of demand for financial products (Cole, Gaurav and Tobacman, 2011). While this study does not find

that households with a lower level of numeracy and financial literacy skills express a lower willingness-to pay for the pension product, it does find a relationship between the respondents' financial literacy level and the willingness to pay for the bundle. The problem of low financial literacy is likely to be acute in the BPL segment, where so few households are educated or aware of financial products. Boosting demand by raising literacy levels is difficult in the near term, especially given that literacy interventions can be expensive. The complexity of the pension product poses further concerns because households may have trouble understanding withdrawal conditions. As researchers learned from survey training, the terms of pension withdrawal are difficult for educated individuals to understand let alone those with very little formal schooling. From the survey experience, we learned that many respondents were able to understand the pension scheme as a financial vehicle that would help them save for old age. However, anecdotal evidence suggests that respondents had difficulty understanding the withdrawal conditions including the percentages that they would be able to withdraw before and after the age of 60. Some target respondents suffered from cognitive problems or mental illness issues which impeded their understanding of the product. These issues may not only impact the demand for the product when it is offered– they may also impact usage if households are unable to calculate the optimal deposit and withdrawal amounts for the pension product.

Cash constraints

Many of the households surveyed by the research team are among the poorest in their communities and rely heavily on agricultural income to finance their household consumption. Previous studies on the financial lives of the poor have shown that their income is irregular and highly seasonal – so it is likely to be with the BPL population in India. Asking these households to pay a significant sum in a one-time payment, for registration in a scheme, could reduce demand significantly. For this reason, choosing the right price and matching payment schedules to reflect household seasonal incomes and the need for flexibility would be critical to the scheme's success.

Trust

Trust plays a significant role in determining the demand for financial services. Through the marketing exercise and village visits, we observed that the LIC and the Central Government seem to be two institutions that BPL households trust. Emphasizing institutions that households trust may be an effective way of boosting takeup. However, in a number of the villages visited by the research team, household cited cases in which outside institutions had come to the village, sold a product or scheme to low-income households and disappeared with the payment without providing any services. In these villages, we found it very difficult to operate, a situation that the government would likely encounter in its marketing efforts.

Supply Side Issues

Physical and Institutional Infrastructure

The comprehensive scheme would likely face many of the same logistical challenges facing institutions looking to provide financial services to rural households. The poor physical infrastructure in states such as Uttar Pradesh makes it difficult and expensive for providers to collect premiums or to reach those areas for an initial marketing visit. We spent a considerable amount of time and resources on transportation to the villages with a median travel time of 3 hours to visit one village. Furthermore, high absenteeism among head of households makes it difficult to approach some households just once – a follow-up visit is sometimes required to reach the head of household. The high travel time and cost raises the question of how premiums can be collected multiple times throughout one year without passing on the cost to the beneficiary.

Findings from the trust section of the study raise questions about the type of institution that could serve as a credible intermediary for village-level transactions. We observed that there is a noticeable absence of non-profit organizations or alternative institutions such as microfinance institutions that could serve as premium collection or payout disbursement agents. Finding a credible local intermediary or creating a technological fix for physical disbursement and collection should be a priority for policymakers before initiating the scheme. Building on existing bank access is one potential strategy that the government could use to reduce the marketing and transaction costs associated with the scheme.

Finding the right marketers

The marketers participating in this study were trained and educated officers of the Life Insurance Corporation of India. They exhibited considerable prowess in explaining the complexities of the scheme to BPL households in clear, accessible language. However, in a case where the comprehensive scheme will be scaled up India-wide, it would be difficult to find and incentivize an educated and suitably knowledgeable cadre of specialists to market the scheme in rural and hard-to-reach areas. The agents or officers who would be best at marketing the scheme are also likely to be those who would prefer office-level work and demand a high wage because of their qualifications. On the other hand, using amateur marketers or agents to sell the scheme may lead to low understanding, usage and demand for the product, given the scheme's complexity.

Targeting

As with all government programs aimed at the neediest, targeting the right households for interventions remains a great challenge. As our experience with locally collected BPL data indicates, finding households who currently have BPL cards can be difficult because of information problems. Our solution for the purposes of this study was to simply list the households in the village to find those with credible BPL identity cards. However, the government will face this problem particularly if the new components of the scheme will be offered to those with existing RSBY smartcards, as this population may be different than the current BPL population within a village. More thought needs to be given to the method used to identify the poor. Perhaps seeking help from the Panchayat or conducting 'Participatory Rural Appraisals' could overcome this problem.

The complexity and long-term nature of the pension product

The scheme is intended to offer comprehensive insurance and old age coverage to BPL households and eventually the entire unorganized sector. Each component of the product bundle offers different benefits to the beneficiary, some shorter-term and others longer-term. Similarly, each product within the scheme presents unique challenges in terms of implementation. However, the pension is the most problematic of the three products because of its long-term benefits, complex cash flow, and inflexibility. The other two products, RSBY and JBY, are simpler and less complicated in practice.

The BPL households surveyed for this report suffer from income instability, health risk, and other constraints that make depositing money in a long-term pension product difficult. We found that many households are living in dire circumstances, conditions that may hamper their ability to invest in a relatively inflexible product that only pays out in the long-term. Though the estimated willingness to contribute given by households is high, it is very likely that the method used in extracting this information overstates the actual ability and desire of households to pay for the product.

A major reason why low-income households rely on informal sources for financing is that these institutions tend to be very quick and flexible in disbursing money. The pension scheme must

adequately address the issue of early withdrawal – i.e. how a household member will be able to withdraw money from the pension scheme before the age of Rs. 60. Otherwise, it remains difficult for a household member to commit more than a minimal amount to the scheme.

Information and Logistical Problems for JBY

The life insurance component of the bundle could add value to households who see death or injury as a serious risk. However, the challenge of claims verification and efficient disbursement remain salient, with less than 2 percent of insured households in the sample having ever filed an insurance claim. Currently, JBY is sold to institutional intermediaries who buy coverage for an entire membership or population under their purview. Under the new scheme, households would be able to buy the insurance policy on an individual basis as part of the scheme. This adaptation requires further design to make it viable for households that are situated in remote and hard-to-reach areas. Two central questions surrounding the scheme are finding a mechanism of disbursing claims payments to households and creating a robust verification process to guard against fraud in the information-scarce environment of rural India.

V. Policy recommendations

- The government should foster innovation in order to develop pension products that reflect the cash constraints and investment preferences of BPL households. The current pension product, NPS Lite, is relatively inflexible in terms of its withdrawal conditions and may not be appropriate for the BPL segment. Allowing households some degree of flexibility to withdraw accumulated savings quickly and conveniently will be essential to the scheme's success among this population. Further research is required to help design a financial vehicle that would help poorer households save for the long-term but also give them the flexibility they need to deal with intermittent financial obligations.
- The low level of numeracy and financial literacy skills demonstrated by households highlights the necessity of designing an effective information campaign. Interventions that attempt to boost financial literacy skills are generally expensive and minimally impactful – policymakers should consider other approaches that can compensate for the financial education gap. For example, the high trust ratings given to government by households suggest that emphasizing that the products are backed by the government could also be an effective marketing approach. Sending clear price signals in the form of anchors could serve as another way of boosting take-up. Since most respondents stated that they will rely on their children for old age support, targeting information to younger household members may help providers reach individuals who bear responsibility for their ageing parents (and thus have an incentive to invest in such a product).
- The study demonstrates that those with formal savings accounts may be likelier to contribute to a pension product and the comprehensive scheme, a finding that suggests possible synergies between traditional banking and delivery of the comprehensive scheme. Policymakers should think critically about how to expand formal banking access with the comprehensive scheme without leaving out the poorest of the poor, who tend to be unbanked. The government should explore the possibility of selling the scheme through microfinance institutions (MFIs) and banking correspondents (BCs) to increase penetration in rural areas and among the unbanked. MFIs in particular have been successful at building a financial services infrastructure in rural areas and could serve as effective intermediaries.

VI. Further Research

The findings of this study and other recent academic work on micro-insurance and pensions raise some important questions regarding the preferences of poor households. There are numerous critical areas where a knowledge gap still exists: determinants of demand, impact of different distribution channels, optimal repayment frequency and pricing, the value of bundling, and the nature of risk that BPL households face.

We still do not know enough about the financial behavior and circumstances of low-income households in order to design an effective old-age security vehicle. Understanding the cash flow needs, seasonality of incomes, competing spending priorities and alternative investment options for old age security are all critical points of analysis that could inform pension product design. A Center for Micro Finance study currently being conducted in Maharashtra with Mann Deshi Bank is testing which repayment schedules households prefer when they are contributing to a micro-pension. Studies such as the Mann Deshi experiment could help us understand how changes in product design could significantly impact take-up.

We believe that the idea of bundling could be effective, from both a supplier and consumer point of view. However, we know little about how much individuals value each individual component of the bundle, a critical piece of knowledge that could help policymakers price the product. The scheme could be marketed as a comprehensive scheme but households would most likely be able to select schemes in which they would like to participate in addition to RSBY. Offering the products in different combinations randomly to households could help us determine which components of the scheme are the most attractive to households.

This study uses a hypothetical exercise to estimate a household's willingness to pay for the scheme. However, allowing for study pilots where households are able to purchase the product will help calculate a more accurate willingness-to-pay. Additionally, conducting this experiment among Above Poverty Line (APL) households is critical to understanding how willingness-to-pay may depend on household characteristics such as wealth and access to investment alternatives. Further research with APL households will also help answer a question central to the success of the comprehensive scheme: what is the appropriate target demographic for the pension product.

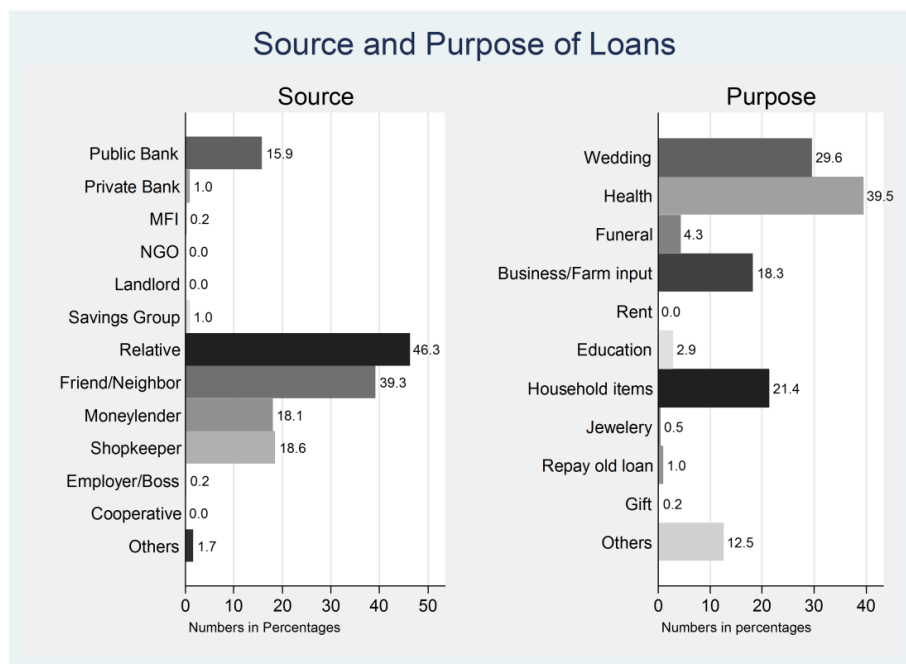
VII. Conclusion

Much is left to be determined about how the comprehensive product will finally be offered to BPL households. This study demonstrates that a host of factors, including landholdings, access to formal savings and insurance, and low financial literacy may impact the willingness of households to contribute to a pension product or the comprehensive scheme.

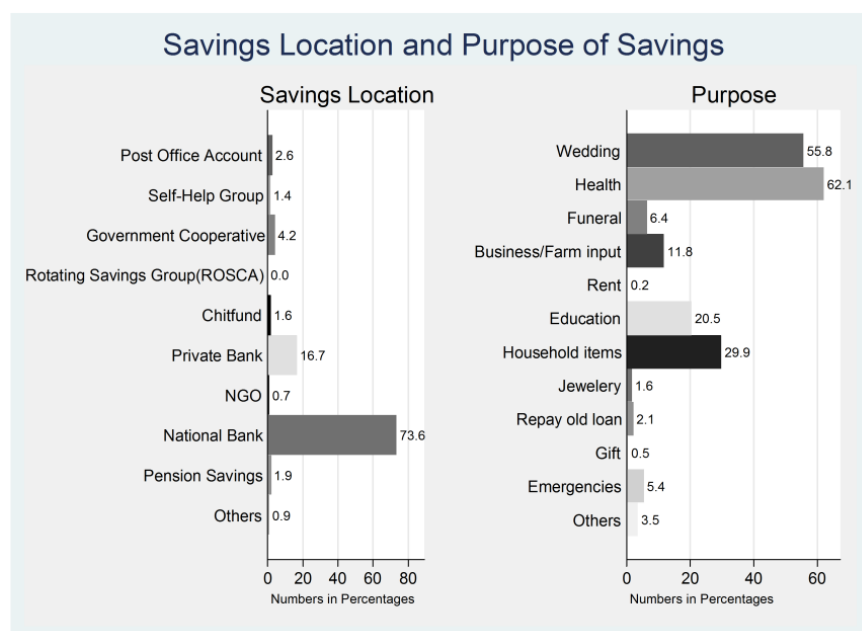
The survey also shows that BPL households in Uttar Pradesh expressed considerable interest in the comprehensive scheme and were willing to contribute Rs. 582 per year to access its benefits. The interest demonstrated by respondents in this study is a sign that households are looking for ways to mitigate the serious risks they face on a daily basis. However, the methodological approach used almost certainly implies that the actual willingness to contribute is lower than this estimate due to the fact that the product was presented hypothetically. The absence of an institutional infrastructure to sell the product and the research method makes this analysis tentative and should temper any quick judgment about demand for the product. More quantitative and qualitative research is necessary before we can draw any clear inferences regarding whether households require the exact protections offered by the comprehensive scheme and whether the scheme, as it is currently designed, is an economically efficient way of boosting welfare.

Appendix A

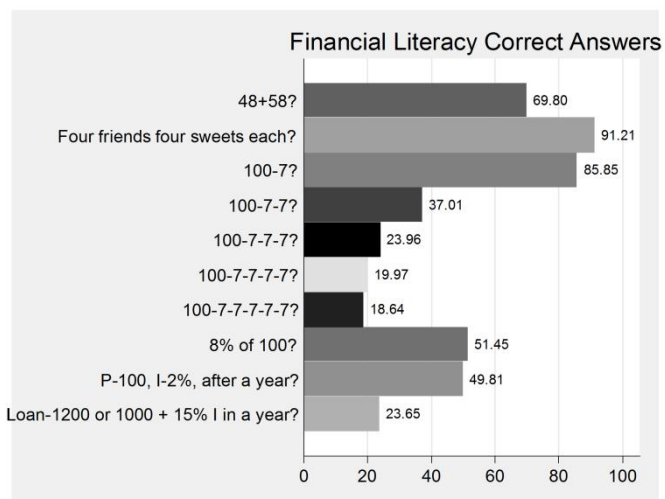
Graph IV: Sources and Purposes of Loans Taken by Respondents



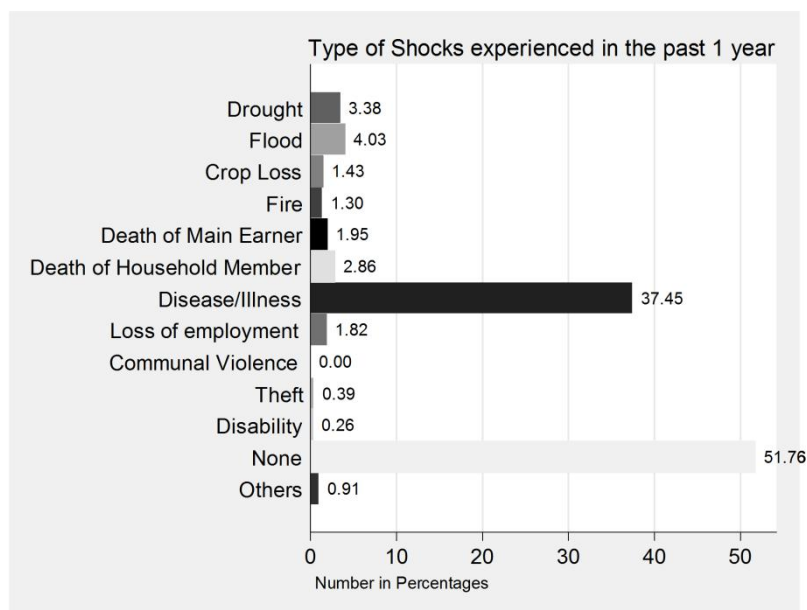
Graph V: Savings Sources and Purpose for Savings



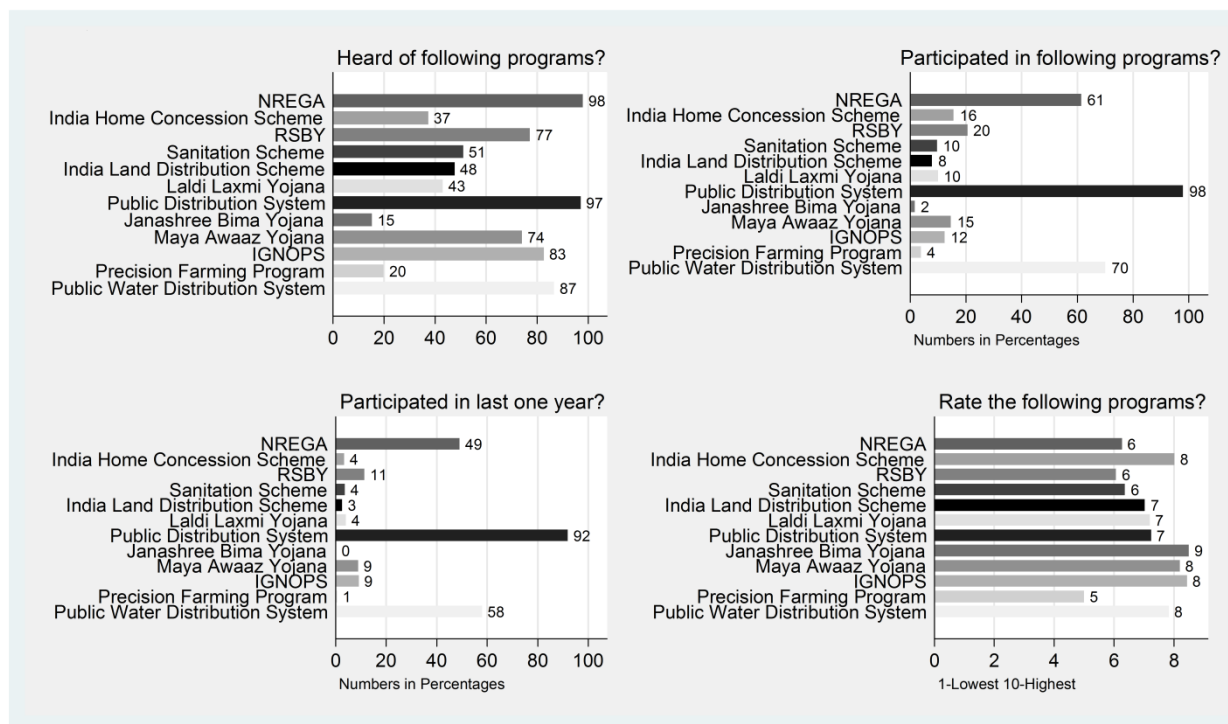
Graph VI: Percentage of Respondents Answering Numerical Literacy Question Correctly



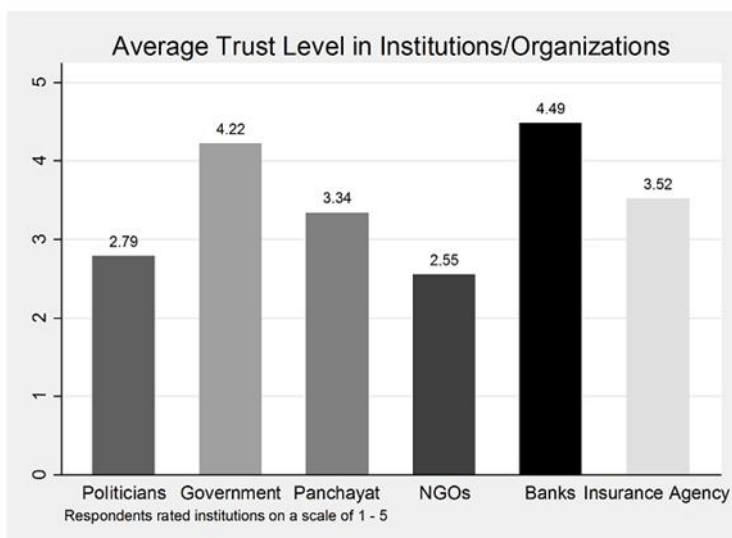
Graph VII: Shocks Experienced by Households in the Past 1 Year



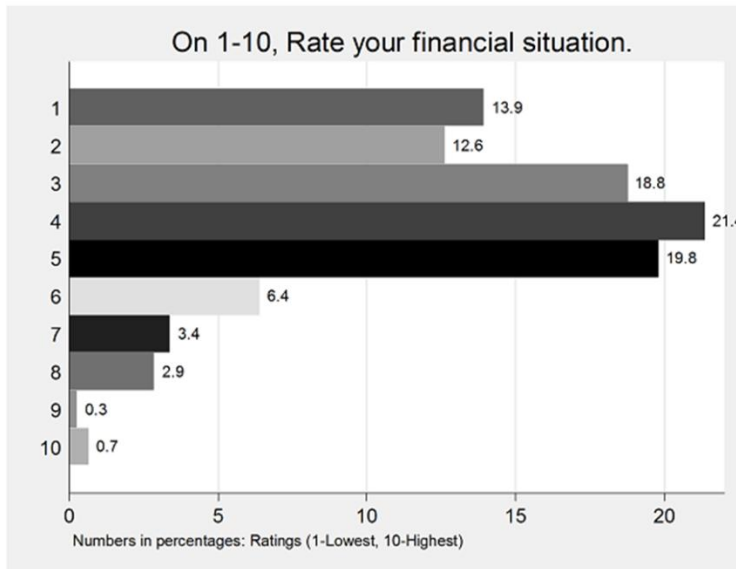
Graph VIII: Participation and Rating of Government Programs



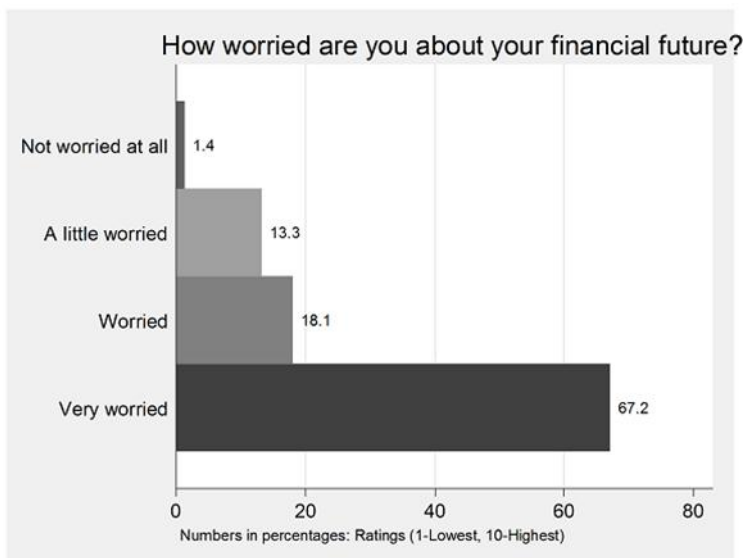
Graph IX: Trust Level in Institutions



Graph X: How do households rate their financial situation?



Graph XI: Household Anxiety on Future Finances



Appendix B - Multivariate Regressions

Table 3: Multivariate Regression on Willingness to Contribute Yearly

	(1) WTC-Yearly
Gender	148.095 175.746
Is The Respondent Head Of Household?	112.143 124.856
Age of respondent	-5.503 6.336
Total number of children in the house	-82.421 36.258**
Asset Index (Without Land)	-44.598 44.246
Financial Literacy Index	25.947 26.865
Land in Bighas	-50.492 16.359***
Household Has A Formal Savings Account?	227.088 117.849*
Have Currently Active Insurance?	-237.506 109.439**
Marketed Before(1)/After(0) the survey	-329.166 119.019***
Constant	1540.149 311.398***
Observations	555
R-Squared	0.06
Mean of dependent variable	1175.23
Sd of dependent variable	1315.11

This regression shows the effect of explanatory variables on the yearly willingness to contribute in the general pension scheme

* p< 0:1, ** p< 0:05, *** p< 0:01

Robust Standard errors are shown below the coefficient

Standard error are clustered at individual level

Table 4: Multivariate Regression on Willingness to Contribute Monthly

	(1) WTC-Monthly
Gender	-10.063
	21.899
Is The Respondent Head Of Household?	35.578
	17.792**
Age of respondent	-0.826
	0.842
Total number of children in the house	-4.230
	6.364
Asset Index (Without Land)	-0.462
	5.778
Financial Literacy Index	0.518
	2.707
Land in Bighas	-2.156
	1.957
Household Has A Formal Savings Account?	14.752
	12.664
Have Currently Active Insurance?	-15.642
	16.098
Marketed Before(1)/After(0) the survey	-24.319
	13.992*
Constant	149.983
	53.303***
Observations	545
R-Squared	0.02
Mean of dependent variable	115.31
Sd of dependent variable	149.81

This regression shows the effect of explanatory variables on the monthly willingness to contribute in the general pension scheme

* p< 0:1, ** p< 0:05, *** p< 0:01

Robust Standard errors are shown below the coefficient

Standard error are clustered at individual level

Table 5: Multivariate Regression on whether the initial price was accepted

	(1) Accpt(Y/N)
Gender	-0.026 0.047
Is The Respondent Head Of Household?	0.034 0.051
Age of respondent	-0.004 0.002*
Total number of children in the house	0.005 0.010
Asset Index (Without Land)	0.002 0.012
Pricepoint – 550	-0.207 0.040***
Pricepoint – 800	-0.241 0.040***
Financial Literacy Index	0.007 0.007
Land in Bighas	0.019 0.006***
Household Has A Formal Savings Account?	0.072 0.036**
Have Currently Active Insurance?	0.048 0.042
Marketed Before(1)/After(0) the survey	0.011 0.035
Constant	0.864 0.102***
Observations	680
R-Squared	0.08
Mean of dependent variable	0.69
Sd of dependent variable	0.46

This regression shows the effect of explanatory variables on the likelihood of a given price anchor being accepted for the combined scheme

* p< 0:1, ** p< 0:05, *** p< 0:01

Robust Standard errors are shown below the coefficient

Standard error are clustered at individual level

Table 6: Multivariate Regression on Accepted Price

	(1) Accepted Price
Gender	17.178
	31.944
Is The Respondent Head Of Household?	49.315
	31.599
Age of respondent	-4.971
	1.439***
Total number of children in the house	2.910
	6.970
Asset Index (Without Land)	-5.046
	10.216
Pricepoint - 550	157.451
	27.331***
Pricepoint - 800	309.458
	31.226***
Financial Literacy Index	8.498
	4.915*
Land in Bighas	4.695
	3.761
Household Has A Formal Savings Account?	97.696
	26.310***
Have Currently Active Insurance?	21.721
	30.140
Marketed Before(1)/After(0) the survey	-28.419
	23.969
Constant	480.777
	75.619***
Observations	680
R-Squared	0.19
Mean of dependent variable	563.94
Sd of dependent variable	343.42

This regression shows the effect of explanatory variables on the accepted price for the combined scheme

* p< 0:1, ** p< 0:05, *** p< 0:01

Robust Standard errors are shown below the coefficient

Standard error are clustered at individual level

Appendix C: Descriptive Statistics

Table 7: Child schooling and fees (By district)

	District		
	Fatehpur	Siddharthnagar	Total
Does your child attend school?			
Yes	65.0%	60.1%	62.4%
No	35.0%	39.9%	37.6%
Total	100.0%	100.0%	100.0%
Does the school charge fees?			
Yes	64.3%	65.0%	64.7%
No	35.7%	35.0%	35.3%
Total	100.0%	100.0%	100.0%
School Fees Per Year			
1000 or less	45.5%	41.3%	43.3%
1001 to 2000	10.7%	15.4%	13.2%
2001 to 5000	14.7%	9.1%	11.8%
10001 to 20000	23.9%	27.6%	25.9%
20001 or more	5.2%	6.6%	5.9%
Total	100.0%	100.0%	100.0%

Note: Child Education Section

Table 8: Right time to start saving for the old age (By district)

Right time to start saving for old age	District		
	Fatehpur	Siddharthnagar	Total
10 to 19	3.8%	1.9%	2.8%
20 to 29	46.0%	41.9%	43.9%
30 to 39	38.5%	48.4%	43.8%
40 to 49	10.3%	7.7%	8.9%
50 and above	1.3%	0.1%	0.7%
Total	100.0%	100.0%	100.0%

Note: Data On Future Expectations

Table 9: Insurance penetration level, type, premiums and schedules (By district)

	District		
	Fatehpur	Siddharthnagar	Total
Have Currently Active Insurance?			
No	83.7%	78.1%	80.7%
Yes	16.3%	21.9%	19.3%
Total	100.0%	100.0%	100.0%
What type of Insurance do you have?			
Life Insurance	73.1%	69.8%	71.3%
Accident Insurance	0.8%	1.9%	1.4%
Health Insurance	25.3%	28.4%	27.0%
Others	0.8%	0.0%	0.3%
Total	100.0%	100.0%	100.0%
Total amount paid for one year of coverage?			
50 or less	24.8%	30.1%	27.8%
51 to 1000	11.1%	6.7%	8.6%
2001 to 5000	56.7%	55.8%	56.2%
5001 to 10000	7.3%	1.9%	4.3%
10000 and above	0.0%	5.4%	3.1%
Total	100.0%	100.0%	100.0%
How often do you pay for insurance in a year?			
Half-Yearly	36.9%	29.7%	32.8%
Every 4 Months	4.1%	6.0%	5.2%
Quarterly	8.5%	11.0%	9.9%
5 Times A Year	47.8%	47.8%	47.8%
Bi-Monthly	2.8%	3.5%	3.2%
Others	0.0%	2.0%	1.1%
Total	100.0%	100.0%	100.0%
Have you submitted any claims for the insurance?			
Yes	2.8%	0.7%	1.6%
No	97.2%	99.3%	98.4%
Total	100.0%	100.0%	100.0%

Note: Out of 168 policies

Table 10: Descriptive statistics on Health (By district)

	District		
	Fatehpur	Siddharthnagar	Total
Family member has experience serious illness?			
No	47.5%	60.9%	54.6%
Yes	52.5%	39.1%	45.4%
Total	100.0%	100.0%	100.0%
Did you consult anyone for treatment?			
No	4.9%	8.1%	6.4%
Yes	95.1%	91.9%	93.6%
Total	100.0%	100.0%	100.0%
Consulted Family Member?			
No	84.5%	91.2%	87.5%
Yes	15.5%	8.8%	12.5%
Total	100.0%	100.0%	100.0%
Consulted Folk Healer?			
No	99.5%	97.7%	98.7%
Yes	0.5%	2.3%	1.3%
Total	100.0%	100.0%	100.0%
Consulted Licensed Practitioner?			
No	57.6%	64.0%	60.5%
Yes	42.4%	36.0%	39.5%
Total	100.0%	100.0%	100.0%
Consulted Doctor (With M.B.B.S.)?			
No	54.5%	46.0%	50.6%
Yes	45.5%	54.0%	49.4%
Total	100.0%	100.0%	100.0%
Consulted Others?			
No	99.9%	98.7%	99.3%
Yes	0.1%	1.3%	0.7%
Total	100.0%	100.0%	100.0%
Was the person hospitalized?			
No	40.7%	35.6%	38.4%
Yes	59.3%	64.4%	61.6%
Total	100.0%	100.0%	100.0%
Total Cost of Hospitalization			
1000 or less	26.8%	12.0%	19.6%
1001 to 2000	6.8%	9.2%	8.0%
2001 to 5000	18.5%	20.3%	19.4%
10001 to 20000	34.6%	29.1%	31.9%
20001 or more	13.3%	29.3%	21.1%
Total	100.0%	100.0%	100.0%
Amount you paid yourself for Hospitalization?			
1000 or less	10.6%	7.5%	9.1%
1001 to 2000	7.3%	7.6%	7.4%
2001 to 5000	24.5%	18.6%	21.7%
10001 to 20000	39.1%	36.6%	37.9%
20001 or more	18.6%	29.6%	23.8%
Total	100.0%	100.0%	100.0%
Number of days spent in the hospital?			
10 or less	68.9%	71.1%	69.9%
11 to 20	17.7%	14.3%	16.1%
21 to 30	9.8%	9.7%	9.7%
31 or more	3.7%	5.0%	4.3%
Total	100.0%	100.0%	100.0%
What Type Of Hospital? - Hospitalized In			
Public	27.9%	21.4%	24.7%
Private	72.1%	78.6%	75.3%
Total	100.0%	100.0%	100.0%

Note: Data from Health Section

Table 11: Descriptive statistics on Land, Electricity and Livestock (By district)

	District		
	Fatehpur	Siddharthnagar	Total
Land in Bighas			
1 or less	71.5%	34.9%	51.9%
1 to 3	22.2%	37.5%	30.4%
3 to 5	4.1%	15.0%	9.9%
5 or more	2.3%	12.5%	7.8%
Total	100.0%	100.0%	100.0%
Does Your House Have Electricity?			
No	65.4%	75.8%	71.0%
Yes	34.6%	24.2%	29.0%
Total	100.0%	100.0%	100.0%
Do you own any Livestock, Cow or Cattle?			
No	29.2%	44.1%	37.1%
Yes	70.8%	55.9%	62.9%
Total	100.0%	100.0%	100.0%
Average Value of Livestock			
1000 or less	36.0%	49.3%	43.1%
1001 to 2000	12.4%	7.1%	9.6%
2001 to 5000	15.0%	11.8%	13.3%
10001 to 20000	20.5%	18.9%	19.7%
20001 or more	16.0%	12.8%	14.3%
Total	100.0%	100.0%	100.0%

Note: Data from Wealth Section

References

Benartzi, S. and Thaler, R.. (2007). Heuristics and Biases in Retirement Savings Behavior. *Journal of Economic Perspectives*, 21(3): 81-104.

Cole, S., Gine X., Tobacman J., Topalova P., Townsend R., and Vickery J. (2012). Barriers to Household Risk Management: Evidence from India. *American Economic Journal: Applied Economics* (forthcoming)

Dercon, S., Kirchberger, M., in collaboration with Gunning J., Platteau J.P. (2008). Literature Review on Microinsurance, ILO Microinsurance Paper n.1, International Labor Office.

Gaurav S., Cole S., and Tobacman J. (2011). Marketing Complex Financial Products in Emerging Markets: Evidence from Rainfall Insurance in India. *Journal of Marketing Research*: Vol. 48, Special Issue, pp. S150-S162.

MacKellar, Landis (2009.) Pension systems for the informal sector in Asia. Social Protection Discussion Papers 27679, The World Bank.