

Micropensions: Helping the Poor Save for Old Age*

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Abstract

Micropensions provide a new mechanism to smooth lifecycle income for poor workers in developing countries. Using a field experiment involving a population of below-poverty-line households in Uttar Pradesh, India, I test hypotheses about key features of the micropension: the minimum withdrawal age, government match rate, lump sum withdrawal options. Most households reported interest in the micropension, and their annual willingness to contribute (WTC) was about 30 percent of expected annual old age consumption. I find that households value the commitment features of the product: either the inability to access the assets until a particular age, or a feature that discourages early withdrawal. I also find that households responded to a government match (50 or 100 percent) by increasing their WTC by 15 percent. Most covariates, including financial literacy, predict micropension demand in the expected direction.

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1 Introduction

Millions of unorganized and informal sector workers in the developing world are excluded from formal pension and social security systems (Rutherford 2009; Bloom et al. 2010). Old-age economic security is a considerable problem for such populations, and providing adequate and secure income flows in the future is a formidable challenge. The issue is aggravated by demographic transitions associated with significant increases in life expectancy and the breakdown of the traditional extended family system, making today's workers vulnerable to unmitigated longevity risks, uncertain health costs, and poverty in their post-retirement period. Further, with underdeveloped annuity markets and poor financial literacy, workers face considerable challenges in retirement planning and decision-making. To address these challenges, a market for micropensions targeted at this population has emerged in recent years.

Micropensions are defined contribution pensions, most involving fixed voluntary contributions over a long period of time; the assets are then professionally invested and, at some predetermined age (e.g., 58 or 60), the funds are disbursed either as a lump sum or as phased withdrawals. India provides an ideal setting to study the market for micropensions because the country's new pension system is designed to reach informal sector workers. Asher (2009) notes that the need for micropensions for informal sector workers, which comprise more than 90 percent of the Indian economy, is particularly important in view of rising life expectancy and massive changes in migration and family characteristics. Determining how such long-term saving products might help solve the problem of old-age income security for informal sector workers is difficult without an improved understanding of the behavioral, economic, and institutional barriers to participation. Recent work has studied the marketplace for India's new defined contribution retirement schemes currently on offer for informal sector workers (Asher 2009; Nelson 2012; Shankar and Asher 2011). This study undertakes

experimental analysis to weigh in on the debate for optimal micropension design.

India's economy has grown rapidly over the last two decades, but the country still faces immense challenges in the area of poverty alleviation. According to the Indian Planning Commission (2009), nearly 33 percent of the country's population of 1.2 billion lives below the poverty line. At the same time, the share of India's below-poverty-line (BPL) population aged 60 or older is expected to increase from 8 percent in 2010 to 19 percent in 2050; worldwide, 2050 will be the first time in the world's history that the elderly will outnumber the younger population. Figure 1 shows that the elderly population is already increasing significantly in India. Many of these households work in the unorganized sector and lack documents such as identification and proof of employment that are required for accessing basic financial services. Nevertheless, the World Bank estimates that about 80 million of these households are capable of saving for retirement and the untapped savings are in the order of US \$2 billion (Pal and Palacios 2011).

In this paper, I study a micropension product offered by the National Pension System in India and provide new evidence regarding the features of micropensions that poor households value. The product's explicit goal is to provide a means for informal sector workers to save safely and routinely for old age. The government has incentivized participation in the micropension product by offering a matching contribution scheme called Swavalamban, where the first Rs. 1,000 (about US \$20) of annual contribution is matched at a 100 percent rate from government funds. Contributions are collected from participating households through licensed institutions that operate at the community level, and the overall operation is regulated by the Pension Fund Regulatory and Development Authority.¹ The product allows households to save their money with the government, which promises to return at least the principal payments; the money is invested in a relatively risk-free way (60 percent bonds, 40 percent stocks) in an effort to protect households from inflation risk. Households

¹See Biener, Eling and Schmit (2013) for a review of regulatory issues in microinsurance.

can contribute to the product until age 60 and may withdraw up to 20 percent in emergency need before that age. Upon the policyholder's death, any remaining funds are offered to the next member in the family.

I find that the surveyed households express significant interest in the micropension product: about 80 percent express a desire to contribute an average of Rs. 1,500 (US \$30) annually. My calculations suggest that this savings path would provide about 30 percent of monthly consumption for the policyholder in old age. I also find some evidence of a demand for commitment: both adoption and annual willingness to contribute (WTC) both decrease with early eligibility and early withdrawal. By contrast, adoption and WTC are lower for late eligibility and no early withdrawal, suggesting that these features are key in product design. Households respond positively to government matching on the intensive margin: increasing the match rate from 100 to 150 percent does not affect adoption, but annual contributions would increase by over 10 percent. I find no heterogeneity by gender, suggesting that the demand for commitment is likely not driven by frictions in intra-household bargaining.

Although this paper's focus is only on the micropension product, the Indian government seeks to popularize a bundled micropension, health insurance, and life insurance product for its below poverty line population. These two other products are also currently offered separately by the government; the health insurance product is offered by the Ministry of Labor and Employment, and the life insurance product is offered by the Life Insurance Corporation of India.² My findings are especially relevant for current policy, as the Indian government is reviewing features of the current insurance products with the goal of increasing their appeal to poor households.

²The life insurance product by the Life Insurance Corporation of India and covers the household's primary income earner in case of death or disability. The product, on offer since 2002, is named Janashree Bima Yojana. For a typical premium of Rs. 100, the policyholder or beneficiary 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. The health insurance scheme, named Rashtriya Swasthya Bima Yojana (RSBY), has been on offer since 2008 and provides hospitalization insurance. As of June 2013, the RSBY program has enrolled over 30 million households and has been used in 4 million hospitalizations.

This paper is also related to a large literature on saving by poor households in developing countries. A recent review of work is provided in [Karlan, Ratan and Zinman \(2013\)](#), and an older review that emphasizes the theoretical background is provided in [Deaton \(1990\)](#). Examples of related papers include [Ashraf, Karlan and Yin \(2006\)](#), which studies the impact of commitment devices; ([Karlan et al. \(2010\)](#)), which studies mental accounting; and [Dupas and Robinson \(2013\)](#), which studies the impact of access to saving technologies. The finding in the last study is particularly striking: access to a simple saving device that helped Kenyan households store money safely boosted their savings amounts by 66 percent.

This paper proceeds as follows. Section 2 presents the experimental design and empirical strategy; Section 3 describes the data; Section 4 discusses the results; and Section 5 concludes.

2 Experimental Design: Micropension Variants

My experiment tests household interest in the basic micropension product and six variants of the product. The design is akin to that employed in [Brown, Kapteyn and Mitchell \(2013\)](#), which tested the effect of different social security frames on hypothetical choices about claiming age. The 770 households in this study were divided roughly equally into two groups, such that the different villages and districts were relatively equally represented in each group (Section 3 summarizes the sampling methodology and discusses the randomization test.) The sample was divided into two groups to test responses to a larger number of product variants, without unduly taxing or confusing respondents. All households were first asked about the basic micropension product as it is currently offered. Immediately afterward, households were asked about adoption and willingness to contribute decisions for three additional product variants. The order in which these additional variants was presented to the household was randomized, to avoid confounding order and product variant effects.

A summary of the variants of the product covered in the experiment, including the related survey questions, is provided in Table 1. The first variant (A) is the basic micropension product that is currently on offer by the Indian government, and both Groups 1 and 2 were first asked about this variant. Group 1 was then asked about variants 1B, 1C and 1D, and Group 2 was then asked about variants 2B, 2C and 2D. These variants include a early withdrawal (1B), where the eligibility age was 55 instead of 60; a lower matching rate of 50 percent instead of 100 percent (1C); no early withdrawal (1D); delayed withdrawal, with an eligibility age of 65 instead of 60 (2B); a higher matching rate of 150 percent instead of 100 percent (2C); and an option for full withdrawal at age 60 (2D).

The experiment was conducted in conjunction with a detailed household survey that likely primed households to consider their financial needs (Zwane et al. 2011). As a result, households were randomly selected to receive the survey either before or after the module measuring micropension demand. Additionally, this experiment was conducted in conjunction with a separate module, detailed in Adhikari et al. 2012, to elicit household interest in a comprehensive social security scheme including the micropension, life insurance, and health insurance products. For that experiment, the surveyors suggested one of three price points for the bundled product: Rs. 230, Rs. 550 or Rs. 800.³ These suggested price points may have anchored household willingness to contribute to the micropension, so the empirical analysis controls for this possibility.⁴

2.1 Estimating Equations and Hypotheses

The empirical strategy leverages the randomized experiment and focuses on two responses regarding the micropension product: “adoption”, i.e., whether the household indicates in-

³Households were then given the choice to accept or reject the hypothetical offer – if the offer was rejected, the marketer either increased or decreased the price by Rs. 10 if the household wished to express a higher or lower willingness to pay.

⁴Figure A.1 illustrates the experimental design with regard to the order of the survey, anchors and micropension product variants.

terest in participating in the product, and “WTC”, i.e., the amount of annual contribution that the household is willing to contribute to the product.⁵ I group all households together in the analysis because all households express preferences over the baseline product, which is the reference category in every regression.

The main results are estimated by ordinary least squares (OLS) regressions of the following form:

$$Y_i = \alpha_i + \sum_j \beta_j \text{Variant}_j + \delta X_i + \omega X'_i + \epsilon_i, \quad (1)$$

where Y_i is either adoption or WTC, j represents the six product variants that manipulate features of the micropension (Variant_j is an indicator variable), X is a vector of covariates including scores of numeracy and financial literacy, and X' is a vector of experimental variables. Specifically, X includes the respondent’s age, sex, occupation, number of children, amount of land owned, consumption, and several measures of human capital including education, numeracy and financial literacy. The vector X' includes controls for whether the household was given the survey before the micropension product variants, and also includes fixed effects related to anchoring. Variant A is the reference category in every regression. Also, since each household provides four total responses, one for the baseline product and three variants, I cluster the standard errors at the household level (770 clusters) in all regressions.

Based on the experimental framework, several hypotheses emerge regarding the sign of β_j in either the adoption or WTC regressions. The hypotheses are formed based on the observation that four of the variants (1B, 2B, 1D, and 2D) deal with commitment features of the product: the inability to access assets until a particular age, and a feature that discourages early withdrawal. I expect the coefficient on the early eligibility variant, β_{1B} , to be greater than or equal to zero, unless the household values the commitment feature of

⁵Both annual and monthly contribution amounts were elicited by the survey, but the annual figure is informative of actual retirement saving because households have intermittent income and are better able to estimate their incomes over a longer time horizon (Sherraden, Schreiner and Beverly, 2003).

retirement saving. Analogously, the coefficient on late eligibility, β_{2B} , should be less than or equal to zero, unless there is a value for commitment. The coefficient on the lower match rate of 50 percent, β_{1C} , should be less than or equal to zero, while the β_{2C} , the coefficient on the higher match rate, should be greater than or equal to zero. Variants 1D and 2D both deal with the possibility of withdrawal prior to age 60. If early withdrawal is not allowed, I expect β_{1D} to be less than or equal to zero because households can always do better by choosing not to withdraw funds early unless there are commitment frictions. I expect β_{2D} to be greater than or equal to zero, unless again, there is a demand for commitment such that households prefer not to have early withdrawal.

One caveat in interpreting higher demand for the commitment-related variants is the possibility that it could be confounded with conflicts in intra-household bargaining (Ashraf 2009; Schaner 2011; Anderson and Baland 2002). For example, if a respondent, especially a woman, exhibits a lower demand for a product when the money is available at age 55 instead of 60, her preference could be based on the fear that her husband (or other family member) may use the money for purposes she would not favor. This is especially a concern in countries like India, where women live longer than men and may be seeking retirement saving for their widowhood (Liebig and Rajan 2003). Distinguishing between the demand for commitment and conflict in intra-household bargaining is outside the scope of my hypothetical survey, but one way to test whether this is a confound is to interact the various frames with whether the respondent is female. The intuition is that women may be more concerned with intra-household bargaining than men, which is highly plausible for poor households in rural India. The estimating equations follow the same structure of equation (1):

$$Y_i = \alpha_i + \sum_j \beta_j \text{Variant}_j + \sum_j \gamma_j \text{Variant}_j \cdot \text{Female}_i + \delta X_i + \omega X'_i + \epsilon_i, \quad (2)$$

where the covariate vector X is the same as in equation (1) and includes an indicator for

whether the respondent is female. If the “commitment” demand reflects intra-household bargaining concerns for the different micropension variants, then β_j should be zero and γ_j should be in the direction of commitment for the commitment-related variants. Specifically, γ_{1B} and γ_{2D} should be greater than or equal to zero, and γ_{1D} and γ_{2B} should be less than or equal to zero. If there is commitment, both men and women will demand it equally; if only women demand it, then it is likely indicative of their lower bargaining power rather than a demand for commitment.

2.2 Robustness

I show robustness of the main results to assumptions regarding functional form and time-invariant characteristics. To address potential concerns with the linear probability model, I also report results from nonlinear models. Specifically, I estimate a probit equation for the binary adoption outcome:

$$Takeup_i = \Phi\left(\sum_j \beta_j Variant_j + \delta X_i + \omega X'_i\right). \quad (3)$$

I expect the marginal effects of the probit estimates to be similar to the linear probability model estimates from equation (1) because the mean of the dependent variable across all product variants is 0.60.]⁶ The WTC measure also requires special care in estimation because the household’s annual WTC is a latent variable that adopts a positive value only if the household is interested in adoption. Since 20 percent of the households say that they are not interested in the basic micropension product, there is a large mass at zero. To address

⁶This is close to 0.5 and hence within the region of probabilities where the linear probability model typically produces consistent and unbiased estimates.

this censoring, I estimate the following tobit regression model:

$$WTC_i^* = \sum_j \beta_j \text{Variant}_j + \delta X_i + \omega X'_i + \epsilon_i, \quad (4)$$

where the error term remains normally distributed.

Finally, I estimate fixed effect regressions to control for unobservable household characteristics in adoption and WTC decisions. My estimating equation is the same as in equation (1), except that now I estimate a fixed effect η_i instead of including X_i and X'_i for each household. The fixed effect specification is appealing because the household survey elicits noisy measures of income, assets, and wealth: these are fixed for each household but difficult to measure precisely. I report these regressions as robustness checks because the fixed effect regressions do not allow me to estimate the effect of several covariates of interest to micropension design.

3 Data and Summary Statistics

The purpose of my experiment is to understand the demand for micropension by below poverty line households. To obtain my sample, I used detailed roster sheets of households provided by the Uttar Pradesh Nodal Agency; these sheets are maintained to determine whether a household qualifies for programs like ration cards for lower cost food or government subsidized health care. The survey districts were areas that the Nodal Agency indicated were to be targeted for micropension marketing in the subsequent year.

The experiment was conducted in two of the 71 districts in Uttar Pradesh: Fatehpur and Siddharthnagar. Together, these districts represent 2.7 percent of the state's total population and are among the more economically disadvantaged areas within an already poor state (Census India 2011). Within these two districts, we randomly selected 15 villages

that contained at least 50 below poverty line households.⁷ After the study villages were selected, the implementation team used the roster sheets from the Nodal Agency to identify households with a household head under age 60 because only these individuals are eligible to contribute to a micropension product. The list of all eligible households was then randomized to select 55 households in each village for the experiment. In total, the survey team reached 770 out of the potential 825 households. The survey was conducted in Hindi and administered by trained surveyors to each household in June and July 2012.

The survey collected detailed data on household composition, demographic information, consumption, assets, liabilities, and trust in government programs. Modules measuring numeracy and financial literacy of the household respondent were also included based on prior literature that suggests these affect saving decisions (e.g., [Lusardi and Mitchell \(2011\)](#)). Numeracy was measured by asking respondents to subtract the number seven from 100 in five sequential steps; this measure of numeracy is used in the Health and Retirement Study, and research using those data has successfully connected numeracy to other outcomes such as health decision making ([Levy et al. \(2014\)](#)). The specific survey questions were as follows:

“Now I am going to ask you some questions about subtraction.

1. One hundred minus seven equals what?
2. And seven from that amount?” [Repeat second question four times]

The variable used in the analysis is the fraction of correct responses for all five subtractions. On average, column 1 of Table 2 shows that respondents were able to make two to three of these subtractions correctly, since the average score is 37 percent. The three financial literacy questions are taken directly from [Behrman et al. \(2012\)](#):

1. “What is 8 percent of 100?”

⁷The actual randomization was conducted via a random number generator in Microsoft Excel.

2. Suppose you invest Rs. 100 in an account that pays 2 percent interest rate. At the end of the year, do you have less than Rs. 102, Rs. 102 exactly, or more than Rs. 102? (Choices: Less than Rs. 102, Rs. 102 exactly, More than Rs. 102, Do not know, Refuse to answer.)
3. Suppose you need to borrow Rs. 1,000. Two people offer you a loan. One requires you to pay back Rs. 1,200 in one month. The second requires you to pay back Rs. 1,000 plus 15 percent interest. Which would you prefer? (Options: Rs. 1,200, Rs. 1,000 + 15 percent interest, Do not know, Refuse to answer.)”

Table 2 shows summary statistics for the full sample and also by groups, since the randomization was done at the group level. The summary statistics for Groups 1 and 2 are very similar: Only two of the t-statistics are significant, and even then, significance is only at the 10 percent level. This is evidence that the randomization strategy was effective and carried out properly. The overall statistics are comparable to the typical distribution of below poverty line households (Pal and Palacios 2011). The average survey respondent was 43 years old, owned land, and was likely to be illiterate and have minimal schooling. The two most common activities in which households engaged were farming via cultivation on one’s own land (37 percent), and agricultural labor supplied to non-owned farms (34 percent). With respect to educational attainment, over 60 percent of respondents had never attended school, while 21 percent had five to 10 years of formal schooling. Only 38 percent of respondents reported that they could both read and write. Insurance access among the sample population was low, at 20 percent of the total sample population, with 66 percent of these households holding a life insurance policy. Saving penetration was relatively high, with 55 percent of the sample having access to a formal saving account. Households that saved had an average balance of Rs. 3,000 (about US \$65) in their saving accounts.

Trust is a central requirement in formulating a successful financial product, so I included

a series of questions to gauge respondents' trust in institutions on a scale from 1 to 5, with a level of 1 indicating a complete lack of trust and a level of 5 representing a very high level of trust. Figure 6 displays the full results; households reported the highest level of trust in banks (4.49) and the government (4.22), while NGOs (2.55) and village councils (3.34) were regarded as relatively less trustworthy. These results are informative about whether microfinance institutions or local governments can serve as successful intermediaries in the micropension product. Since the government is viewed as a trusted entity, citing the government as the architect and guarantor of the micropension would be an effective way to increase adoption and contributions.

Figure 2 shows how micropension adoption varies with demographic characteristics through cumulative distribution plots of probability of adoption over age, land holding, number of children, and total savings. There was no significant difference between adopters and non-adopters by age, although older respondents were less likely to report interest in the micropension. I also found that households with more land and less children were slightly less likely to adopt the micropension, and households with formal saving were more likely to adopt it. Figure 3 also shows this correlation between the amount of formal saving and desired willingness to contribute in the micropension; households that reported higher levels of formal saving also expressed higher levels of annual WTC. This raises the question of whether households currently desire long-term saving products and are using traditional saving accounts in the absence of targeted products like micropensions.

The survey also included several additional questions that are not reported in Table 2, but are detailed in Adhikari et al. (2012). For example, 74 percent of the formal saving was held at the National Bank, indicating that households trusted the government to hold money securely. Respondents reported that their main reasons for saving were to meet expenses related to health, weddings, and household items. Informal loans taken from relatives and neighbors were also popular methods used to meet these expenses. 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. On average, respondents reported that they believed that individuals should begin saving for old age at age 28; most reported that it was not beneficial to save after age 58.

4 Results on Micropension Adoption and WTC

Figure 4 shows adoption rates by product variant, where I see that about 80 percent of households reported interest in the baseline micropension product. On average, households were willing to contribute Rs. 1,282 (about US \$26) to the micropension. This amount is not trivial; given the 100 percent government match, it translates into Rs. 2,564 annually.⁸ Moreover, the average respondent indicated a desire to save for approximately 17 years, yielding a potential total contribution of about Rs. 43,600 by age 60. Since households in the survey reported consuming approximately Rs. 5,000 for eight people per month, the average monthly consumption per person is approximately Rs. 625. Accordingly, if the government only provided inflation-adjusted returns and the micropension-holder lived until age 70, then the policyholder's monthly benefit would be Rs. 180. This amount would be equal to about 30 percent of the older individual's needs, according to the consumption levels indicated in the survey.

Summary statistics on adoption by product variant also indicate some demand for commitment and a response to government matching. Households seemed more averse to the 50 percent reduction in matching rate (variant 1C) than the equivalent increase (variant 2C), but in both cases, adoptions rates moved in the expected direction. Regarding the evidence for commitment, households appeared to dislike early eligibility (variant 1B) and the option for full withdrawal at age 60 (variant 2D), although they disliked a total inability to access

⁸My survey suggests that on average, households earn about Rs. 15,000 per year in their working years.

their contributions before age 60 (variant 1D) and late eligibility (variant 2B). Figure 5, which plots annual WTC by product variant, illustrates the same outcomes. The annual WTC was significantly lower for the early eligibility variant and dropped to about half of the WTC for the baseline product for the other variants; the only exception was the variant offering the 150 percent match.

The demand for commitment hypothesis developed in Section 2.1 is also supported by the data. Table 3 shows the linear probability and probit estimates on adoption, where I see that households were significantly less willing to adopt any variant compared to the baseline product, with the exception of the variant promising a higher match rate (2C). The results corroborate the findings in Figure 4 and only three covariates are significant; age of the household head is negatively correlated with interest in the micropension, but the point estimate is small. Each additional year in age is correlated with a 0.24 percent reduction in adoption. Perfect scores on the numeracy and financial literacy modules are associated with a 1 and 3 percent increase in adoption, echoing prior research in other countries regarding the relationship between these variables (Lusardi and Mitchell 2011, Lusardi and Mitchell 2014). These findings are also consistent with the determinants of microinsurance demand in Eling, Pradhan and Schmit (2013).

My OLS estimates of the annual WTC are presented in Table 4. In general, I find that households responded significantly to the different variants. The average household reported much lower WTC in every frame except for the one that promises a higher match rate; in that case, variant 2C, households sought to contribute nearly 10 percent more annually. The effects are large on the other variants; early eligibility decreased the annual WTC by Rs. 163, or an effect size of more than 13 percent. The lower match rate decreases annual WTC by almost Rs. 350, or nearly 30 percent; part of this effect is likely due to loss aversion, since the baseline product offered a match rate. The other covariates are also important. Both farmers and households with formal saving accounts said they would contribute nearly 10 percent

more; households with insurance policies and high level of financial literacy said they would contribute 5 percent more; and contributions were lower for older and male respondents. Landholding and the number of children appear to serve as substitutes to old-age saving, since each was associated with significantly lower levels of annual WTC.

Tobit estimates in Table 5 are offered as robustness checks. The directions of the effects are the same as in the OLS regression for every variable, and the size of the coefficients is about 30 percent higher. In Table 6, I find heterogeneity by sex only for the WTC on the variants related to the government match rate. Women did not decrease their annual WTCs if the match rate was 50 percent instead of 100 percent, but they expressed a 20 percent higher annual WTC if the match rate was increased to 150 percent. The fixed effect regression estimate in Table 7 are similar to the OLS regressions for both adoption and annual WTC.

One drawback of a hypothetical survey is that the estimates of adoption and WTC may be biased upward due to the hypothetical nature of the experiment. Nevertheless, studies examining the degree to which hypothetical and actual survey measures differ have yielded mixed results.⁹ In the present experimental setting, I believe that households provided reliable estimates of their willingness to pay for two reasons. First, households were made aware that the micropension product is on offer and could actually be “purchased” if desired, so the product was not purely hypothetical (Loomis et al. 1996). Second, about 15 percent of households knew that the marketers sold real life insurance products and were employed by the Life Insurance Corporation of India. As a result, the households associated these marketers with real financial products and understood that these agents could help them

⁹Blumenschein et al. (2001) find that actual willingness to adopt a health insurance product is about one-third of the hypothetical willingness to adopt the same product. Carlsson and Martinsson (2001), however, employ an experimental design and find no difference in the hypothetical and actual willingness to pay for environmental amenities. Several studies, such as Johannesson et al. (1999) and Johannesson, Liljas and Johansson (1998), suggest that hypothetical and actual willingness to pay measures can be reconciled with data on how “sure” the respondent is about his or her response. The surveyors in this experiment did not ask this question out of fear that it might confuse the respondents as they deliberated the product variants.

purchase the product if they expressed a genuine interest. Of course, there could still be a discrepancy between stated and actual willingness to contribute for below poverty households because their incomes are volatile, which makes it difficult for them to predict their spending potential with accuracy.

5 Conclusion

This paper provides the first evidence regarding features of micropensions that BPL households would value. I find considerable interest in the micropension product with a substantial willingness to contribute about 8.5 percent of annual earnings to access its benefits. Factors influencing the decision included the household's landholdings, access to formal savings and insurance, and low financial literacy, along with product features including commitment restrictions. In addition, households responded to an increase in the government matching rate by increasing their willingness to contribute.

An effective saving device for the aging poor must consider cashflow needs, seasonality of incomes, competing spending priorities, and alternative investment options for old age security. Many of the households surveyed by the research team were among the poorest in their communities, and they rely heavily on agricultural income to finance their household consumption. Previous studies on the financial lives of the poor document that their income is irregular and highly seasonal, so requiring them to pay significant sums upfront could significantly reduce demand ([Banerjee and Duflo, 2007](#)). For this reason, offering frequent opportunities for the household to contribute small amounts will be critical to the scheme's success.

The low levels of numeracy and financial literacy demonstrated by the households studied here highlight the necessity of designing an effective information campaign or providing the micropension in conjunction with a financial literacy program. Providing contribution

signals in the form of anchors may also boost adoption. Since most respondents stated that they plan to rely on children for old age support, targeting information to younger household members could also be an effective marketing strategy. This study also found that households with formal saving accounts were more likely to both adopt and contribute to the micropension product, suggesting possible synergies between traditional banking and delivery of the comprehensive scheme.

Future work on micropensions will need to explore consumers' demand for commitment in more detail. When people report saving for weddings, health shocks, and household items, it may be that people view the micropension as a way to save for these rather than for old age. It is also of possible interest to evaluate the tradeoffs between micropensions and bequests. I hope that my exploratory study of micropensions in this paper inspires further research on the full array of potential products that can help poor and vulnerable households save effectively for old age.

References

- Adhikari, Samik, Anita Mukherjee, Shardul Oza, and Shahid Vaziralli.** 2012. "Assessing the Need for a Comprehensive Social Security Scheme for India's Below Poverty Line Population." *Centre for Micro Finance Working Paper*.
- Adlakha, Arjun.** 2007. "International Brief: Population Trends, India." U.S. Department of Commerce, Bureau of the Census.
- Anderson, Siwan, and Jean-Marie Baland.** 2002. "The Economics of Roscas and Intrahousehold Resource Allocation." *The Quarterly Journal of Economics*, 117(3): 963–995.
- Asher, Mukul G.** 2009. "Pension Plans, Provident Fund Schemes and Retirement Policies: India's Social Security Reform Imperative." *ASCI Journal of Management*, 39(1): 1–18.

- Ashraf, Nava.** 2009. "Spousal Control and Intra-Household Decision Making: An Experimental Study in the Philippines." *The American Economic Review*, 99(4): 1245–1277.
- Ashraf, Nava, Dean Karlan, and Wesley Yin.** 2006. "Tying Odysseus to the Mast: Evidence from a Commitment Savings Product in the Philippines." *Quarterly Journal of Economics*, 121(2): 635–672.
- Banerjee, Abhijit V., and Esther Duflo.** 2007. "The Economic Lives of the Poor." *Journal of Economic Perspectives*, 21(1): 141.
- Behrman, Jere R., Olivia S. Mitchell, Cindy K. Soo, and David Bravo.** 2012. "How Financial Literacy Affects Household Wealth Accumulation." *The American Economic Review, Papers and Proceedings*, 102(3): 300–304.
- Biener, Christian, Martin Eling, and Joan T Schmit.** 2013. "Regulation in Microinsurance Markets: Principles, Practice, and Directions for Future Development." *Practice, and Directions for Future Development*.
- Bloom, David E., Ajay Mahal, Larry Rosenberg, and Jaypee Sevilla.** 2010. "Economic Security Arrangements in the Context of Population Ageing in India." *International Social Security Review*, 63(3-4): 59–89.
- Blumenschein, K., M. Johannesson, K. K. Yokoyama, and P. R. Freeman.** 2001. "Hypothetical versus Real Willingness to Pay in the Health Care Sector: Results From a Field Experiment." *Journal of Health Economics*, 20(3): 441.
- Brown, Jeffrey R., Arie Kapteyn, and Olivia S. Mitchell.** 2013. "Framing and Claiming: How Information-Framing Affects Expected Social Security Claiming Behavior." Wiley Online Library.
- Carlsson, Fredrik, and Peter Martinsson.** 2001. "Do Hypothetical and Actual Marginal Willingness to Pay Differ in Choice Experiments?: Application to the Valuation of the Environment." *Journal of Environmental Economics and Management*, 41(2): 179–192.

- Committee on Financial Sector Reforms and India. Planning Commission and Planning Commission Government of India.** 2009. *A Hundred Small Steps: Report of the Committee on Financial Sector Reforms*. SAGE Publications.
- Deaton, Angus.** 1990. "Savings in Developing Countries: Theory and Review." 61–108, World Bank.
- Dupas, Pascaline, and Jonathan Robinson.** 2013. "Why Don't the Poor Save More? Evidence from Health Savings Experiments." *The American Economic Review*, 103(4): 1138–71.
- Eling, Martin, Shailee Pradhan, and Joan T. Schmit.** 2013. "The Determinants of Microinsurance Demand." *University of St. Gallen Working Paper*.
- Johannesson, Magnus, Bengt Liljas, and Per-Olov Johansson.** 1998. "An Experimental Comparison of Dichotomous Choice Contingent Valuation Questions and Real Purchase Decisions." *Applied Economics*, 30(5): 643–647.
- Johannesson, Magnus, Glenn C. Blomquist, Karen Blumenschein, Per-Olov Johansson, Bengt Liljas, and Richard M. O'Connor.** 1999. "Calibrating Hypothetical Willingness to Pay Responses." *Journal of Risk and Uncertainty*, 18(1): 21–32.
- Karlan, Dean, Aishwarya Lakshmi Ratan, and Jonathan Zinman.** 2013. "Savings By and For the Poor: A Research Review and Agenda."
- Karlan, Dean, Margaret McConnell, Sendhil Mullainathan, and Jonathan Zinman.** 2010. "Getting to the Top of Mind: How Reminders Increase Saving." NBER Working Paper No. 16205.
- Levy, Helen, Peter A. Ubel, Amanda J. Dillard, David R. Weir, and Angela Fagerlin.** 2014. "Health Numeracy The Importance of Domain in Assessing Numeracy." *Medical Decision Making*, 34(1): 107–115.

- Liebig, Phoebe S., and S. Irudaya Rajan.** 2003. "An Aging India: Perspectives, Prospects, and Policies." *Journal of Aging and Social Policy*, 15(2-3): 1–9.
- Loomis, John, Thomas Brown, Beatrice Lucero, and George Peterson.** 1996. "Improving Validity Experiments of Contingent Valuation Methods: Results of Efforts to Reduce the Disparity of Hypothetical and Actual Willingness to Pay." *Land Economics*, 72(4): 450–461.
- Lusardi, Annamaria, and Olivia S. Mitchell.** 2011. "Financial Literacy and Planning: Implications for Retirement Well-Being." In *Financial Literacy: Implications for Retirement Security and the Financial Marketplace*, Eds. O. S. Mitchell and A. Lusardi. Oxford: Oxford University Press: 17-39.
- Lusardi, Annamaria, and Olivia S. Mitchell.** 2014. "The Economic Importance of Financial Literacy: Theory and Evidence." *Journal of Economic Literature*, 52(1): 5–44.
- Nelson, Dean.** 2012. "India Facing Elderly Population Time Bomb." The Telegraph, <http://www.telegraph.co.uk/news/worldnews/asia/india/9690781/India-facing-elderly-population-time-bomb.html>.
- Pal, Sarmistha, and Robert Palacios.** 2011. "Understanding Poverty Among the Elderly in India: Implications for Social Pension Policy." *Journal of Development Studies*, 47(7): 1017–1037.
- Rutherford, Stuart.** 2009. "Micropensions: Old Age Security for the Poor?" In *New Partnerships for Innovation in Microfinance*. 229–252. Springer.
- Schaner, Simone.** 2011. "Intrahousehold Preference Heterogeneity, Commitment, and Strategic Savings: Theory and Evidence from Kenya." *Dartmouth College Working Paper*.
- Shankar, Savita, and Mukul G. Asher.** 2011. "Micro-pensions in India: Issues and challenges." *International Social Security Review*, 64(2): 1–21.

Sherraden, Michael, Mark Schreiner, and Sondra Beverly. 2003. “Income, Institutions, and Saving Performance in Individual Development Accounts.” *Economic Development Quarterly*, 17(1): 95–112.

Zwane, Alix Peterson, Jonathan Zinman, Eric Van Dusen, William Pariente, Clair Null, Edward Miguel, Michael Kremer, Dean S Karlan, Richard Hornbeck, Xavier Giné, et al. 2011. “Being Surveyed Can Change Later Behavior and Related Parameter Estimates.” *Proceedings of the National Academy of Sciences*, 108(5): 1821–1826.

Figure 1: Population Trends in India

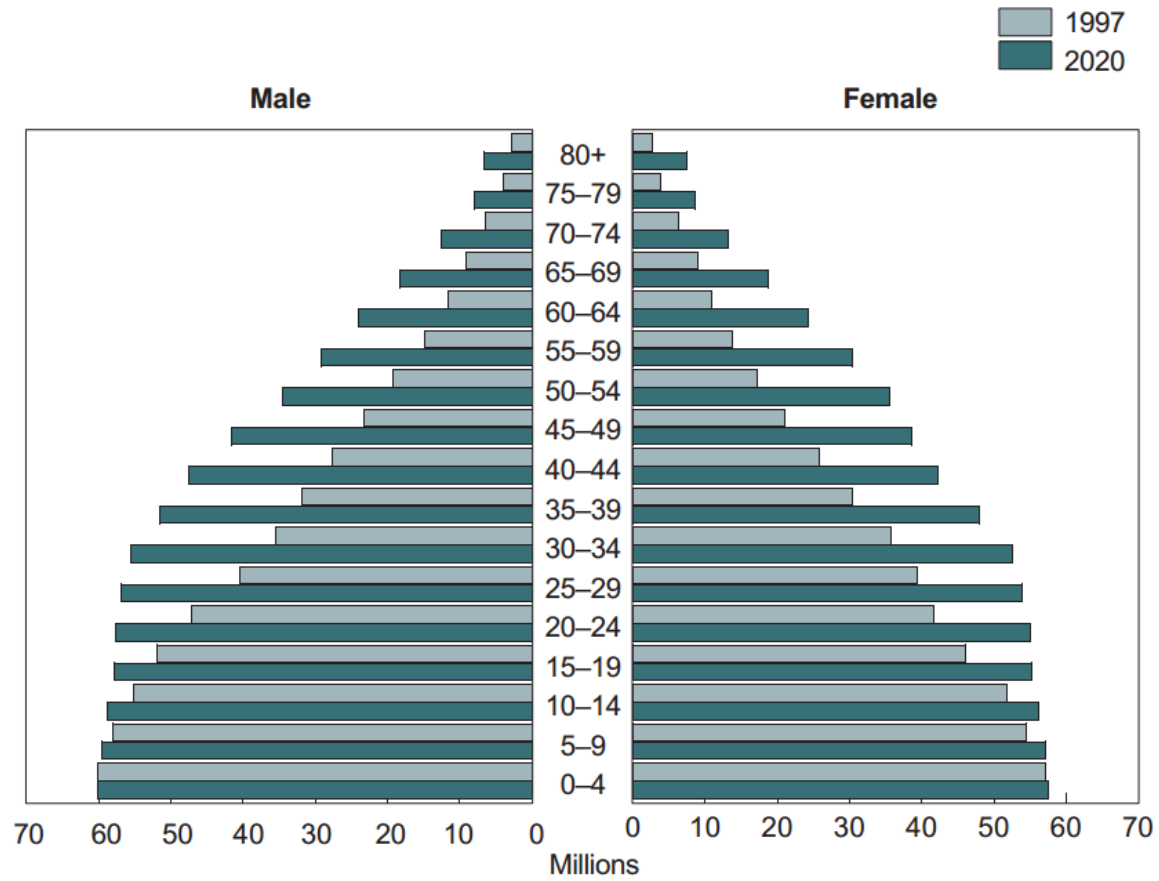


Figure shows the population of India by age and sex in 1997 and expected numbers for 2020. Taken from Adlakha (2007).

Figure 2: Variable CDF Plots by Micropension Adoption

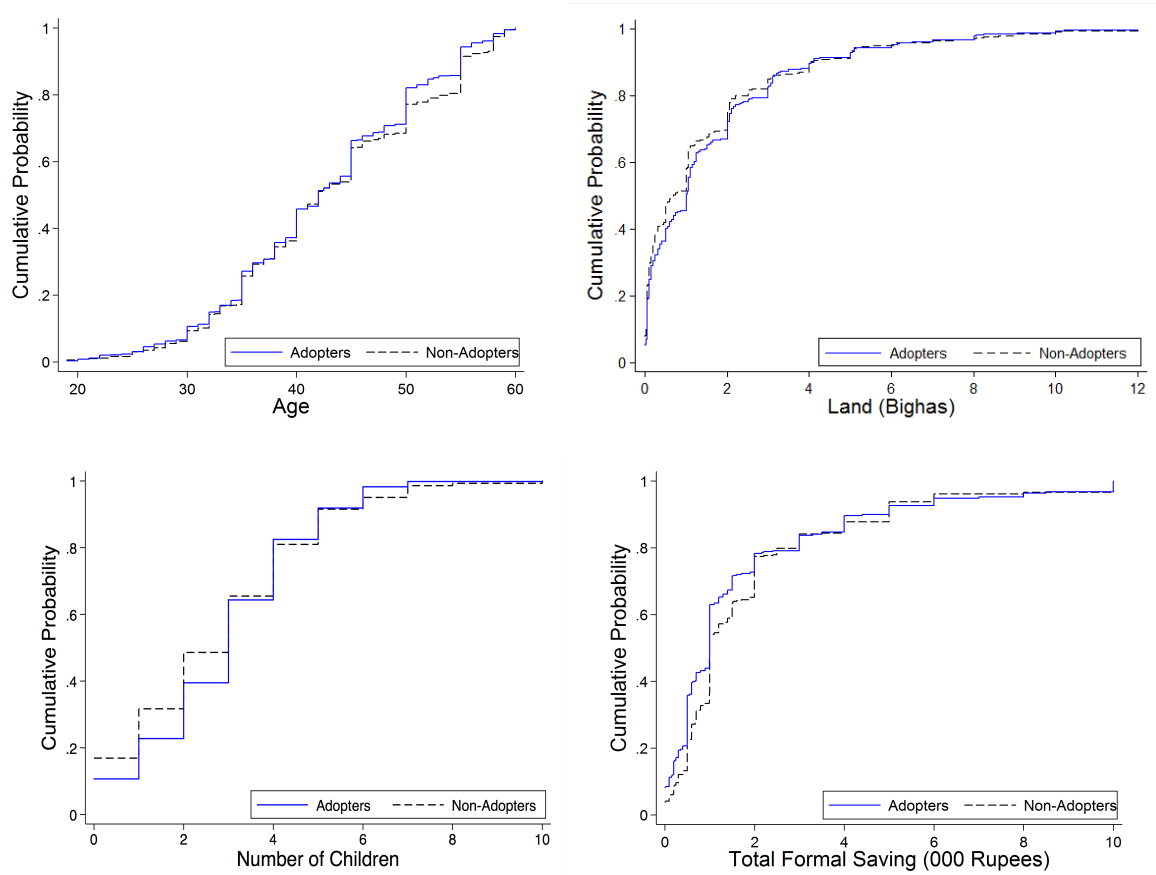


Figure shows the cumulative density function plots of various covariates by whether the household respondent decided to (hypothetically) participate in the micropension product; the household is an “Adopter” if the respondent decides to the micropension product and the household is a “Non-Adopter” otherwise. See notes for Table 2 for variable definitions.

Figure 3: Annual WTC and Formal Saving

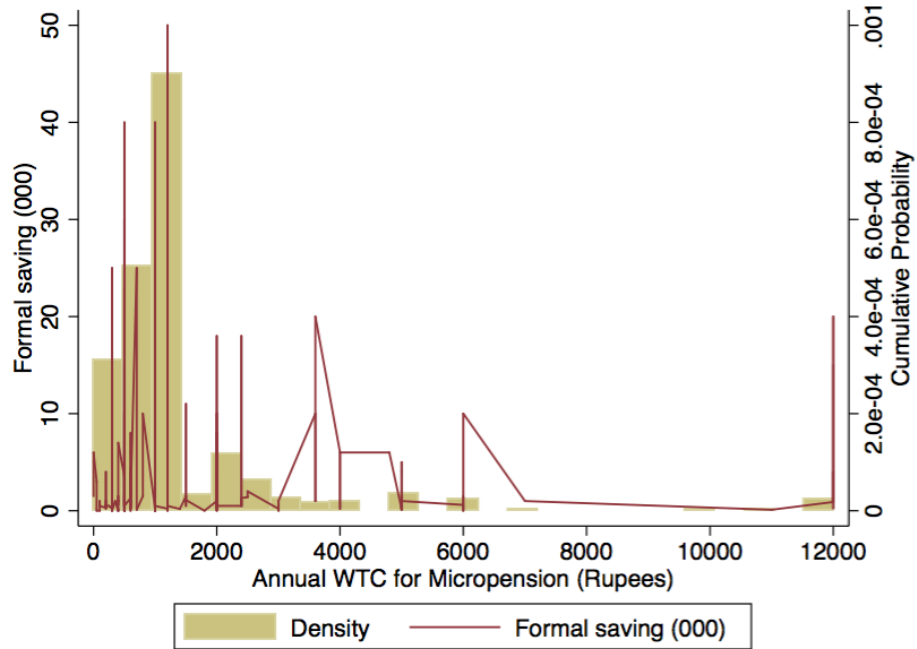


Figure shows the histogram of the annual willingness to contribute (WTC) to the micropension product, overlaid with a line graph illustrating the raw relationship between total formal saving (measured in 000 Rupees) and annual WTC for the micropension. There appears to be a positive relationship between existing formal saving and willingness to contribute in the micropension product.

Figure 4: Adoption Rates by Product Variant

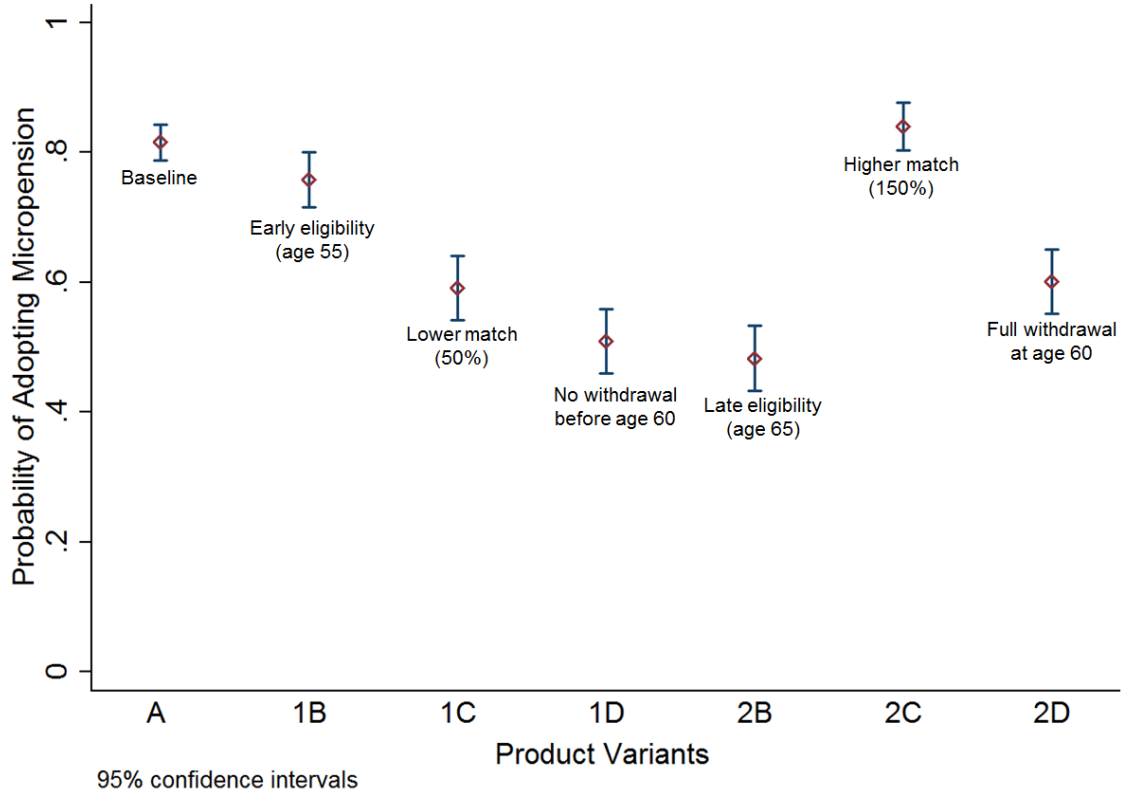


Figure shows the adoption rate by product variant. Sample includes all households. All product variants are described in Table 1.

Figure 5: Annual Willingness to Contribute by Product Variant

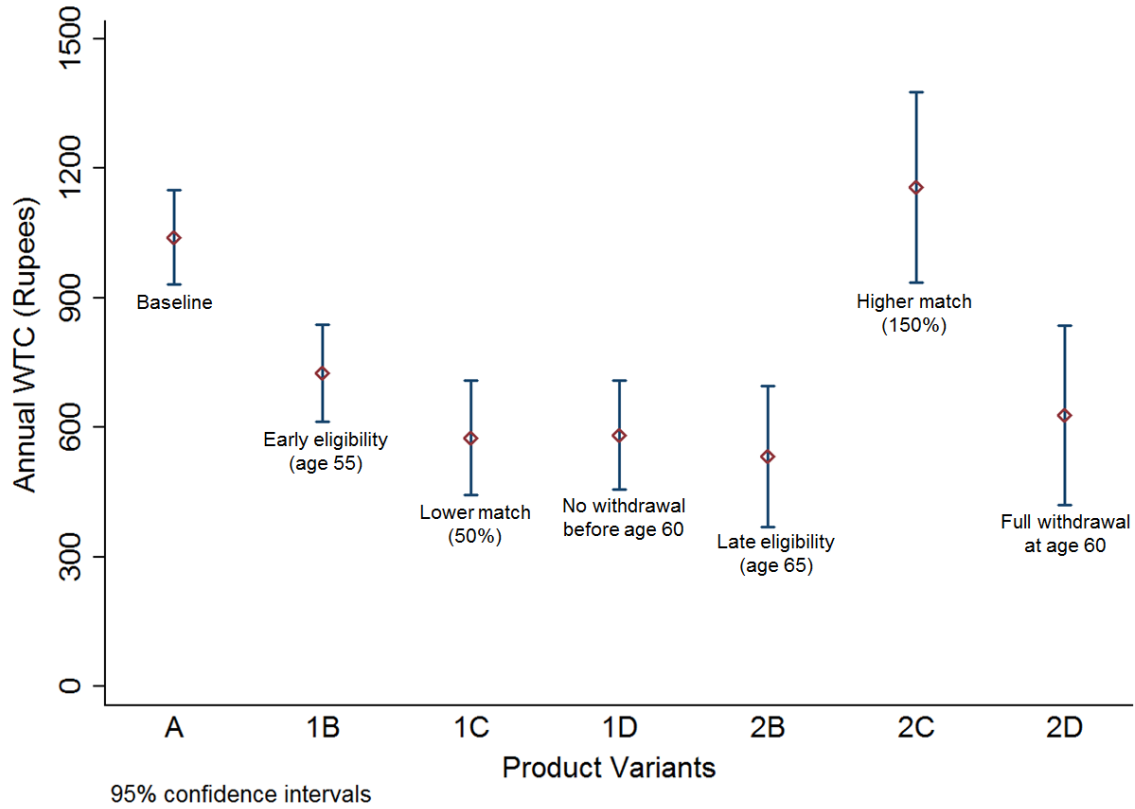


Figure shows the annual willingness to contribute (measured in rupees) by product variant; this figure includes all households. Households wishing not to adopt the micropension product are given a value of zero for its annual willingness to contribute in the product. All product variants are described in Table 1.

Figure 6: Trust Level by Institution

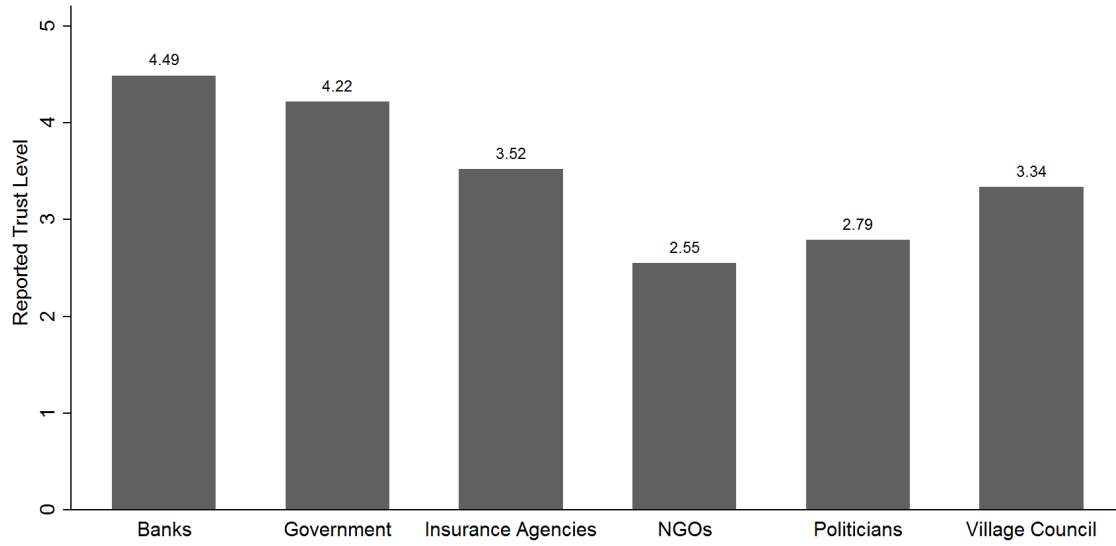


Figure shows levels of trust in different institutions, with a level of 1 indicating complete lack of trust and a level of 5 indicating very high trust.

Table 1: Micropension Product and Experimental Variants

Variant	Survey Question
A: Baseline	<p>“We would like to speak to you now about a new pension scheme that allows you to put aside money for your old age. The money you put aside until age 60 will be available for you at age 60. In other words, you pay an amount into the scheme every month or every year, the government invests your money in a safe way, and then pays all of the money plus its return to you at age 60.</p> <p>Once you reach the age of 60, you begin receiving a monthly payment from the scheme. The amount that you pay in every year, for the first five years, will be matched by the government if you contribute at least Rs. 1,000 over the course of the year. If you choose to withdraw before age 60, you can withdraw 20 percent of the total amount that you have put side in a one-time payment with 80 percent staying in an account that will pay out at a certain amount each month after age 60.</p> <p>After you turn 60, you can take out up to 60 percent as a one-time payment with 40 percent staying in an account that will pay a certain amount after age 60. If you contribute to the scheme for over 20 years, you can take the money out under the same withdrawal conditions I just described, but at age 50. If you pass away, then 100 percent of the wealth can be taken out by somebody in your family, or this person can continue receiving the pension subject to certain rules.”</p>
1B: Early eligibility (age 55)	<p>“Now imagine that you can withdraw your money at age 55 instead of age 60. In other words, the original scheme allows you to access the money you’ve put aside at age 60—now imagine that you could access the money you’ve put aside at age 55.”</p>
1C: Lower match (50 percent)	<p>“Now imagine that the government matches one-half of your deposits if you contribute 1,000. Hence, if you put in Rs. 1,000, the government will put in Rs. 500 and you will have a total of Rs. 1,500. Now remember we are talking about the original scheme where you can access the money you’ve put aside until age 60 at age 60.”</p>
1D: No withdrawal before age 60	<p>“Now imagine that the product does not allow for any early withdrawal. In other words, the amount you put into the pension will only be available at age 60. If you pass away before you receive the pension, any family member you designate can still receive 100 percent of the pension.”</p>
2B: Late eligibility (age 65)	<p>“Now imagine that you cannot withdraw your money until age 65 instead of age 60. At age 65 you can access the money you have put aside until the age of 65.”</p>
2C: Higher match (150 percent)	<p>“Remember in the original product, you can withdraw at age 60 the money you have put aside since then. The withdrawal age is 60. Now imagine that the government decides to match one and a half times the amount you deposit each year for your pension if you contribute at least Rs. 1,000. If you deposit Rs. 1,000, the government will deposit $1,000 + 1,500 = \text{Rs. } 2,500$ for a total of Rs. 25,000.”</p>
2D: Full withdrawal at age 60	<p>“Remember in the original product, the government contributes Rs. 1,000 if you contribute Rs. 1,000 per year. Now imagine that the product allows for withdrawal of the full amount of your deposits at or after age 60. Note that originally this was 60 percent. You can still only withdraw up to 20 percent of your deposits before age 60.”</p>

Table 2: Summary Statistics by Group

	(1) All	(2) Group 1	(3) Group 2	(4) t-statistic
<i>Demographics</i>				
Male	0.65	0.67	0.64	(0.66)
Age ÷ 100 of HH Head	0.43	0.42	0.43	(-0.38)
Household head	0.78	0.80	0.77	(0.94)
Number of children	2.87	2.77	2.98	(-1.61)
Landowner	0.95	0.95	0.94	(0.38)
<i>Occupation</i>				
Farmer	0.37	0.42	0.38	*(2.54)
Agricultural laborer	0.34	0.32	0.36	(-0.97)
Non-Agricultural laborer	0.15	0.14	0.15	(-0.42)
<i>Consumption and Assets</i>				
Consumption-30 Days (000)	4.98	5.05	4.91	(0.44)
Has Saving Account	0.55	0.55	0.59	*(-2.14)
Formal Saving (000)	3.18	3.17	3.18	(-0.02)
Has Any Insurance	0.19	0.21	0.18	(1.02)
<i>Human Capital</i>				
Numeracy	0.37	0.38	0.36	(0.60)
Financial Literacy	0.24	0.25	0.24	(0.14)
Can Read and Write	0.38	0.40	0.36	(0.96)
No schooling	0.60	0.59	0.62	(-0.80)
Schooling: ≤ 5 years	0.14	0.15	0.12	(1.36)
Schooling: 5-10 years	0.21	0.21	0.22	(-0.41)
Schooling: ≥ 10 years	0.05	0.05	0.05	(0.43)
Observations	770	389	381	770

Notes: This table serves as a randomization check because the analysis relies on the assumption that Groups 1 and 2, which were randomly drawn from the full household roster list, are comparable.

Table 3: Determinants of Micropension Adoption

Estimation Model:	Linear Probability			Probit		
	(1)	(2)	(3)	(4)	(5)	(6)
1B: Early Eligibility	-0.05** (0.03)	-0.06** (0.03)	-0.05** (0.03)	-0.07** (0.03)	-0.08** (0.03)	-0.07** (0.03)
1C: Lower Match Rate	-0.22*** (0.03)	-0.23*** (0.03)	-0.22*** (0.03)	-0.25*** (0.03)	-0.26*** (0.03)	-0.27*** (0.03)
1D: No Early Withdrawal	-0.31*** (0.03)	-0.31*** (0.03)	-0.31*** (0.03)	-0.33*** (0.03)	-0.35*** (0.03)	-0.35*** (0.03)
2B: Late Eligibility	-0.33*** (0.03)	-0.33*** (0.03)	-0.33*** (0.03)	-0.36*** (0.03)	-0.36*** (0.03)	-0.37*** (0.03)
2C: Higher Match Rate	0.03 (0.03)	0.03 (0.03)	0.03 (0.03)	0.04 (0.03)	0.04 (0.03)	0.04 (0.03)
2D: Early Withdrawal	-0.22*** (0.03)	-0.22*** (0.03)	-0.22*** (0.03)	-0.25*** (0.03)	-0.25*** (0.03)	-0.26*** (0.03)
Age ÷ 100		-0.24** (0.10)	-0.24** (0.10)		-0.27*** (0.10)	-0.28*** (0.11)
Male		-0.01 (0.02)	-0.02 (0.02)		-0.01 (0.02)	-0.02 (0.02)
Number of Children		-0.01 (0.01)	-0.01 (0.01)		-0.01 (0.01)	-0.01 (0.01)
Farmer		0.09*** (0.02)	0.08*** (0.02)		0.09*** (0.02)	0.09*** (0.02)
Financial Literacy		0.03*** (0.01)	0.03** (0.01)		0.04*** (0.01)	0.03** (0.01)
Numeracy		0.01** (0.00)	0.01** (0.00)		0.01** (0.00)	0.01** (0.00)
Land (Bighas)			0.00 (0.00)			0.00 (0.00)
Has Saving Account			0.13*** (0.02)			0.14*** (0.02)
Constant	0.82 (0.02)	0.76 (0.23)	0.84 (0.23)	- -	- -	- -
Has Any Insurance			0.02			0.03
R-squared	0.09	0.10	0.12	-	-	-
Observations	3,080	3,080	3,080	3,080	3,080	3,080
Additional Controls		✓	✓		✓	✓

Notes: Marginal effects are reported for columns 4-6. Additional controls include household size; number of household members above age 55; number of household members below age 18; whether the respondent can read and write; amount of land (in bighas); consumption in the past 30 days (measured in rupees); and whether the household holds any insurance policy. Robust standard errors are in parentheses and are clustered at the household level (770 clusters).

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 4: OLS Estimates of Annual Willingness to Contribute

	Dependent variable: Annual WTC (Rupees)		
	(1)	(2)	(3)
1B: Early Eligibility	-163.00*** (29.88)	-168.12*** (29.44)	-164.97*** (29.12)
1C: Lower Match Rate	-347.43*** (29.88)	-352.55*** (29.44)	-349.40*** (29.12)
1D: No Early Withdrawal	-291.20*** (29.88)	-296.32*** (29.44)	-293.17*** (29.12)
2B: Late Eligibility	-333.52*** (30.09)	-328.30*** (29.64)	-331.51*** (29.32)
2C: Higher Match Rate	135.74*** (30.09)	140.97*** (29.64)	137.75*** (29.32)
2D: Early Withdrawal	-285.73*** (30.09)	-280.51*** (29.64)	-283.72*** (29.32)
Age ÷ 100		-394.47*** (101.45)	-348.57*** (101.42)
Male		-34.14 (20.85)	-35.11* (20.76)
Number of Children		-24.05*** (8.14)	-24.27*** (8.08)
Farmer		88.52*** (18.43)	104.29*** (19.00)
Financial Literacy		53.44*** (12.11)	50.18*** (12.06)
Numeracy		4.50 (4.91)	3.62 (4.87)
Land (Bighas)			-10.61*** (3.39)
Has Saving Account			119.60*** (17.57)
Has Any Insurance			58.70*** (22.09)
Constant	685.68*** (17.31)	768.49*** (242.55)	795.58*** (240.53)
R-squared	0.114	0.143	0.164
Observations	3,080	3,080	3,080

Notes: Additional controls include household size; number of household members above age 55; whether the respondent can read and write; and consumption in the past 30 days (measured in rupees). Robust standard errors are in parentheses and are clustered at the household level (770 clusters). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 5: Tobit Estimates of Annual Willingness to Contribute

	Dependent variable: Annual WTC (Rupees)		
	(1)	(2)	(3)
1B: Early Eligibility	-244.66*** (45.43)	-252.11*** (44.64)	-245.62*** (44.08)
1C: Lower Match Rate	-504.95*** (46.48)	-512.59*** (45.70)	-505.03*** (45.13)
1D: No Early Withdrawal	-482.53*** (46.95)	-488.30*** (46.14)	-481.24*** (45.58)
2B: Late Eligibility	-551.17*** (47.73)	-541.94*** (46.92)	-548.30*** (46.41)
2C: Higher Match Rate	148.42*** (44.73)	157.05*** (43.92)	151.40*** (43.37)
2D: Early Withdrawal	-474.57*** (47.25)	-465.22*** (46.43)	-471.21*** (45.91)
Age ÷ 100		-556.02*** (155.66)	-520.74*** (155.44)
Male		-53.85* (32.32)	-59.77* (32.15)
Number of Children		-32.28*** (12.50)	-32.13*** (12.40)
Farmer		148.78*** (28.28)	160.86*** (29.03)
Financial Literacy		78.58*** (18.46)	69.95*** (18.39)
Numeracy		1.04 (7.60)	2.76 (7.54)
Land (bighas)			-8.49* (5.12)
Has Saving Account			203.86*** (27.22)
Has Any Insurance			75.00** (33.60)
Constant	609.28*** (25.88)	661.80* (371.42)	753.39** (367.88)
Observations	3,080	3,080	3,080

Notes: Marginal effects are reported for all columns. Additional controls include household size; number of household members above age 55; whether the respondent can read and write; and consumption in the past 30 days (measured in rupees). Robust standard errors are in parentheses and are clustered at the household level (770 clusters). * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 6: Heterogeneity by Gender in Adoption and WTC

	Dependent Variable: Adoption			Dependent Variable: WTC		
	(1)	(2)	(3)	(4)	(5)	(6)
1B: Early Eligibility	-0.06* (0.03)	-0.06* (0.03)	-0.06* (0.03)	-188.26*** (36.56)	-191.85*** (36.19)	-188.72*** (35.74)
1C: Lower Match Rate	-0.25*** (0.03)	-0.26*** (0.03)	-0.25*** (0.03)	-362.84*** (36.56)	-366.44*** (36.19)	-363.30*** (35.74)
1D: No Early Withdrawal	-0.32*** (0.03)	-0.32*** (0.03)	-0.32*** (0.03)	-317.07*** (36.56)	-320.66*** (36.19)	-317.52*** (35.74)
2B: Late Eligibility	-0.31*** (0.03)	-0.31*** (0.03)	-0.31*** (0.03)	-330.78*** (37.25)	-326.98*** (36.86)	-330.29*** (36.41)
2C: Higher Match Rate	0.00 (0.03)	0.00 (0.03)	0.00 (0.03)	123.30*** (37.25)	127.10*** (36.86)	123.78*** (36.41)
2D: Early Withdrawal	-0.20*** (0.03)	-0.20*** (0.03)	-0.20*** (0.03)	-285.31*** (37.25)	-281.51*** (36.86)	-284.83*** (36.41)
1BxFemale	0.01 (0.06)	0.01 (0.06)	0.01 (0.06)	71.96 (62.90)	69.48 (62.23)	69.65 (61.46)
1CxFemale	0.08 (0.06)	0.08 (0.06)	0.08 (0.06)	107.35* (62.90)	104.86* (62.23)	105.03* (61.46)
1DxFemale	0.03 (0.06)	0.03 (0.06)	0.04 (0.06)	73.76 (62.90)	71.28 (62.23)	71.45 (61.46)
2BxFemale	-0.05 (0.06)	-0.05 (0.06)	-0.06 (0.06)	-4.23 (62.68)	-2.22 (62.02)	-2.07 (61.25)
2CxFemale	0.04 (0.06)	0.04 (0.06)	0.03 (0.06)	110.66* (62.68)	112.68* (62.02)	112.83* (61.25)
2DxFemale	0.00 (0.06)	0.00 (0.06)	-0.00 (0.06)	2.29 (62.68)	4.30 (62.02)	4.45 (61.25)
Female	-0.05 (0.03)	-0.02 (0.04)	-0.03 (0.03)	-107.63*** (36.24)	-72.27* (37.40)	-74.76** (37.01)
R-squared	0.086	0.100	0.117	0.123	0.144	0.167
Observations	3,080	3,080	3,080	3,080	3,080	3,080
Additional Controls		✓	✓		✓	✓

Notes: In addition to the variables shown, all controls are the same as in Table 4 — i.e., variables such as age and financial literacy are controlled as part of “Additional controls”. Robust standard errors are in parentheses and are clustered at the household level (770 clusters): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table 7: Fixed Effect OLS Regressions

	Adoption (1)	WTC (2)
1B: Early Eligibility	-0.05** (0.02)	-169.92*** (24.98)
1C: Lower Match Rate	-0.22*** (0.02)	-332.68*** (24.98)
1D: No Early Withdrawal	-0.31*** (0.02)	-298.12*** (24.98)
2B: Late Eligibility	-0.33*** (0.02)	-326.46*** (25.24)
2C: Higher Match Rate	0.01 (0.02)	168.63*** (25.24)
2D: Early Withdrawal	-0.20*** (0.02)	-278.66*** (25.24)
Constant	0.82*** (0.01)	685.68*** (12.55)
Observations	3,080	3,080

Notes: Constant term denotes the average value of the individual fixed effects. Robust standard errors are in parentheses and are clustered at the household level (770 clusters): * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

A Additional Figures and Tables

Figure A.1: Experimental Design: Randomization of Price Anchors

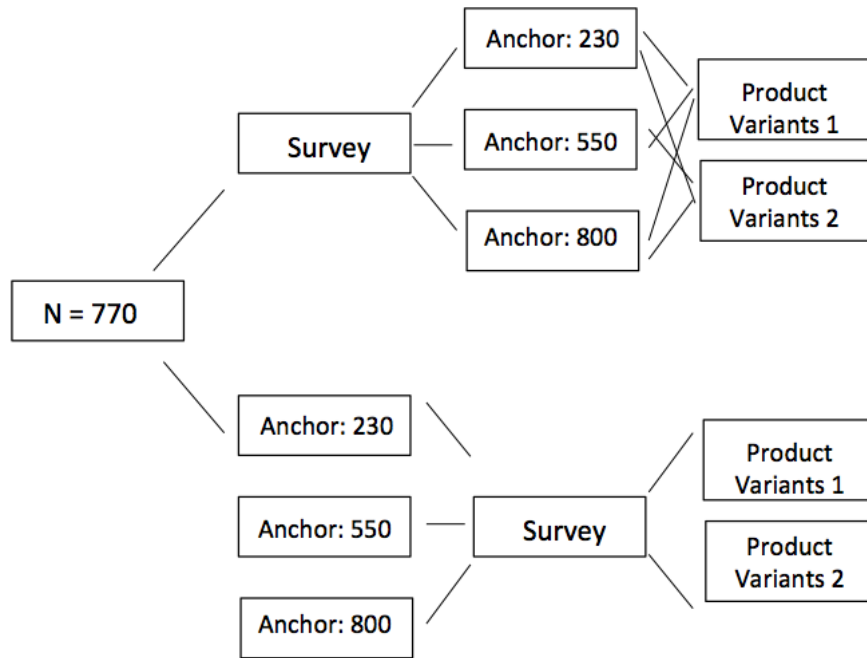


Figure shows the order in which survey respondents received the price anchors relative to the actual survey and experiment with the product variants.