

Insuring the Family or the Asset? Framing Effects on Insurance Demand

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Abstract

Despite its potential to protect vulnerable households, demand for index insurance remains low. One explanation is product framing: in pastoralist settings, index insurance is typically marketed as “livestock insurance,” framing it around a specific asset rather than around household consumption. We test whether reframing insurance around household welfare increases demand, using a lab-in-the-field experiment with 287 couples in Northern Kenya. Participants exposed to a “family framing” that describes payouts as funds for household expenses allocated 24% more of their budget to insurance (1.2 percentage points from a baseline of 5.1%) than those exposed to the standard livestock framing. This effect is larger in households where women have less decision-making power, consistent with a model in which narrow framing around male-controlled assets reduces the product’s perceived relevance for those who manage consumption. The results suggest that how insurance is presented can affect demand, particularly where economic responsibilities are divided along gender lines.

Keywords: Inclusive Insurance, Microinsurance, Framing, Intrahousehold, Index Insurance

1 Introduction

Economic shocks fall disproportionately on women and girls. Droughts, crop failures, and other climate shocks have been shown to adversely affect women's and girls' health, nutrition, and long-run human capital (Hoddinott and Kinsey, 2000; Akresh et al., 2011; Maccini and Yang, 2009; Anttila-Hughes and Hsiang, 2013; Dercon and Krishnan, 2000), and to erode women's assets and earnings (Quisumbing et al., 2018; Campos et al., 2025). These gendered impacts extend beyond direct exposure: increases in women's incomes improved survival rates and educational attainment for all household members, while increases in men's income benefited only boys (Qian, 2008).

While these adverse effects on women and girls are well documented, many economic shocks initially fall on assets and income streams controlled by men. These shocks affect women indirectly by reducing household consumption or creating pressure to liquidate assets to smooth consumption. This dynamic is prevalent in settings where men are the primary asset-owners or income-earners. For example, in pastoralist settings, men are often responsible for the larger and more valuable animals (Kristjanson et al., 2014), and in crop-based agricultural settings, they are often responsible for cash crops whose value drives household income (Carr, 2008). Fischer and Qaim (2012) find evidence that the commercialization of bananas in Kenya led to an increase in male control of the crop, suggesting that even crops traditionally controlled by women may become subject to male control when they become significant sources of income.

This paper studies whether emphasizing the potential benefits of insurance for insulating household consumption rather than protecting livestock can increase demand. We implemented a lab-in-the-field experiment in a well-suited setting for studying these questions: Samburu County, Kenya. The experiment was conducted shortly

after the baseline survey of an overlapping randomized controlled trial studying the effects of the index-based livestock insurance (IBLI) program originally designed by Chantarat et al. (2013a), as well as a poverty graduation program that transferred significant assets to women.¹ These two interventions were combined based on the premise that drought shocks could diminish women’s gains from the graduation program, even if their businesses were not livestock-related. However, early in the study, partners raised concerns that women in this context might not be interested in livestock insurance because livestock are generally considered men’s assets in Northern Kenya.

To address this, we developed a novel insurance framing to test whether emphasizing the instrument’s role in consumption smoothing could increase its appeal to women. Specifically, we test whether highlighting that insurance payouts received during a drought could prevent cuts to food consumption, school fees, or other household expenses in addition to protecting livestock increases demand. This hypothesis is supported by empirical evidence from the same insurance program in Southern Ethiopia, where insurance payouts were found to significantly increase food expenditures per adult equivalent in female-headed households (Timu et al., 2023).

We conducted the framed field experiment in Samburu County, a region where traditional gender roles dictate that men are generally the primary income earners and asset owners, and where frequent droughts expose their assets to severe shocks. We used a tablet-based simulation, *SimPastoralist*, in which participants invest in goats and purchase insurance over ten simulated ‘years.’ The insurance product and probabilities in the game were modeled after the IBLI program and real-world drought risks. The game was played with 287 couples randomly selected from the

¹Zheng et al. (2023) describe results from the larger randomized controlled trial. The poverty graduation program had significant benefits for women, leading to significant increases in assets and earnings.

aforementioned randomized controlled trial.² In half of the sessions, insurance was framed traditionally: as a product designed to offset livestock losses. In the remaining sessions, we modified the framing to explain that payouts could be used either to support animals or to pay for household expenses such as food or school fees.

We find that reframing insurance to emphasize that payouts can protect household consumption increases the amount of insurance purchased. This novel ‘family framing’ increases the share of total spending allocated to insurance by approximately 24% overall, or about 1.2 percentage points from a baseline of about 5 percent. When estimated separately by gender, the effect is somewhat larger for women (about 1.5 percentage points, or 32%) than for men (about 0.9 percentage points, or 18%), though the difference between these coefficients is not statistically significant. The findings from this experiment motivated a field intervention in which the IBLI product in the same region was redesigned around women’s risk exposure and household expenses and sold in family-sized units rather than per-animal units. Arteaga et al. (2026) find that this redesigned product increased demand by approximately 50% among households that had previously received an insurance subsidy. However, because that intervention was randomized at the household level, it could not distinguish how men and women individually responded to the reframing. The experiment reported here complements that field evidence by observing individual decisions within couples, allowing us to test whether framing effects differ by gender and by women’s decision-making power within the household.

The effect of reframing is larger in households where women score lower on an empowerment index. In households scoring above the median on this index, the effect on insurance purchase is statistically insignificant. However, in households below the median, the effect more than doubles to 2.5 percentage points. This pattern

²The study in this paper was done before the insurance had been launched in the real world. IBLI was launched in the neighboring Marsabit region in 2010, but was not yet available in Samburu County until late 2018, after this paper’s experiment was completed.

is consistent with our conceptual framework: in households where gender roles are more rigid, men and women operate in more separate economic spheres, making both partners more likely to narrowly frame livestock insurance as irrelevant to household consumption. The family framing bridges this gap. In more egalitarian households, the specific label matters less because the “separate spheres” friction is less binding.

This paper builds on the literature seeking to explain why uptake for index insurance has been lower than expected. Despite large potential benefits (Cai, 2016; Karlan et al., 2014; Jamison et al., 2014; Carter et al., 2016), uptake remains low. Existing research has explored many of these specific factors, including basis risk, uncertainty aversion, trust, social network effects, financial literacy, liquidity constraints, and disaster experience (Clarke, 2016; Carter et al., 2015; Cole et al., 2013; Jensen et al., 2015; Giné et al., 2008; Gaurav et al., 2011; Cai et al., 2015). Carter et al. (2017) and Jensen and Barrett (2017) provide specific overviews of the index insurance literature, and Platteau et al. (2017) offer a comprehensive review of the determinants of microinsurance demand more broadly. While much of this literature focuses on price, basis risk, and individual characteristics of potential subscribers, our results suggest that how insurance products are labeled and communicated can also affect demand.

The results also contribute to the literature on the impacts of narrow framing (Tversky and Kahneman, 1981; Rabin and Weizsäcker, 2009) on insurance purchase decisions (Gottlieb and Mitchell, 2020; Zheng, 2020; Dalhaus et al., 2020). While that literature argues that decision makers often view insurance in isolation from other risks, exacerbating loss aversion, this paper proposes a different type of narrow framing. Here, household members may view their incomes and assets separately, overlooking how shocks to one partner’s livelihood affect the other. Concretely, women who narrowly bracket might view livestock insurance as beneficial only to men. The alternative framing introduced here encourages a broader view of household finances:

losses to men’s livestock can force cuts to household consumption or the liquidation of women’s assets.

The conceptual framework in this paper draws on a large body of work on intrahousehold models, and connects them to insurance decisions. While cooperative models assume Pareto optimal outcomes (Chiappori and Mazzocco, 2017), non-cooperative models allow for inefficiencies (Lundberg and Pollak, 1993; Carter and Katz, 1997a). We draw on the non-cooperative framework of Browning et al. (2010) to argue that when household members make financial decisions separately, shocks to one partner’s assets may not be fully internalized by the other, reducing demand for insurance products framed around those assets. Focusing on a non-cooperative framework is supported by the work of McPeak and Doss (2006), who find evidence that decision-making in Northern Kenyan pastoralist households does not fit the predictions of cooperative models.

Finally, this paper contributes to a growing literature on inclusive insurance design. The inclusive insurance agenda (ILO Impact Insurance Facility, 2017; International Association of Insurance Supervisors, 2023; World Bank Group, 2019) emphasizes that product design and delivery must be tailored to reach underserved populations, including women, and evidence documents persistent gender gaps in insurance literacy, risk perception, and access (Borghans et al., 2009; Barua, 2019; Buvinic and Furst-Nichols, 2020). Previous studies of IBLI in the region (Takahashi et al., 2016; Bageant and Barrett, 2017; Jensen et al., 2018) compared female- and male-headed households and found similar demand, but did not examine dynamics *within* households. Timu and Kramer (2023) note that existing products are often designed in ways that limit their appeal to women, and Taye (2025) argues that IBLI’s design overlooks how gender shapes drought risk. Even well-designed products may not reduce poverty without complementary interventions (Flores-Contró et al., 2025). Our results suggest that linking payouts to household welfare may be a simple way of

making insurance more inclusive.

The remainder of this paper is organized as follows. Section 2 presents the conceptual framework. Section 3 describes the experimental game and study design. Section 4 presents the results, and Section 5 concludes.

2 Conceptual Framework

The experiment in this paper was motivated by the idea that the linkage between livestock loss and household consumption may not be obvious or front-of-mind when households are deciding whether or not to buy insurance. In the drylands of Northern Kenya, livestock are the primary productive assets for most households (Chantarat et al., 2013b), and drought-induced livestock mortality can lead to catastrophic drops in household welfare. Index-based livestock insurance (IBLI) is designed to protect against this risk. However, if the product is framed narrowly around livestock asset replacement, household members may fail to connect insurance to its ultimate function: smoothing household consumption. This disconnect is likely exacerbated by two factors: the gendered structure of the household economy and behavioral framing effects.

2.1 Intrahousehold Risk Sharing

The demand for livestock insurance is likely to depend on the gendered economic structure of pastoralist households. As in many agrarian settings, pastoralist households in Northern Kenya have distinct economic responsibilities and control over different assets. Although women play central roles in milk production, small-stock management, and household provisioning, men typically claim ownership of large livestock and exercise primary authority over livestock-related decisions, particularly whether and when animals are sold or transferred (Lesorogol, 2011; Njuki and Sanginga, 2013).

Because men also undertake long-distance herding, women are often the ones who remain sedentary with children and smaller stock (Straight, 1997).

In most models of the household, risk to each partner's income is likely to affect the consumption of the other. However, in noncooperative and semi-cooperative models (Lundberg and Pollak, 1993; Carter and Katz, 1997a; Browning et al., 2010), this linkage may be less obvious than in fully cooperative models, since each partner in the household may manage their own budget and/or be responsible for certain types of decisions and expenditures. In our study context, men are the primary managers of livestock and are expected to sell livestock or otherwise contribute funds for household consumption, a dynamic that Carter and Katz (1997b) describe as the "conjugal contract." However, drought-induced livestock deaths are likely to lead men to default on this contract and reduce transfers to the household, forcing women to liquidate their own assets or reduce consumption to bridge the gap. This creates a specific friction for insurance demand. When insurance is framed around livestock, both partners may narrowly perceive its purpose. Men, who manage the herd, may view "livestock insurance" as a tool for replacing lost animals rather than for protecting household consumption, leading them to undervalue it relative to a product that explicitly covers household expenses. Women, who bear the indirect risk of drought-induced consumption shocks, may see "livestock insurance" as irrelevant to their sphere, assuming they will not control the payouts from a livestock-branded product, or that the payouts will be "stickily" labeled for herd reinvestment rather than household needs. Reframing insurance around household welfare may therefore increase demand for both men and women, but should be most effective in households where gender roles are rigid and men and women operate in separate economic spheres.

2.2 Behavioral Barriers: Narrow Framing and Labeling

This gendered disconnect is further compounded by behavioral barriers that affect how individuals process financial products. The traditional marketing of IBLI implicitly assumes that individuals assess risks to their total household welfare. However, behavioral economics suggests that individuals often engage in “narrow framing,” evaluating specific risks and decisions in isolation rather than in conjunction with the broader portfolio of household risks (Tversky and Kahneman, 1981; Rabin and Weizsäcker, 2009). When insurance is marketed strictly as “livestock insurance,” individuals may evaluate it solely within the domain of livestock management, comparing the cost of premiums to the value of the animals, rather than considering its role in stabilizing household consumption (e.g., food, school fees) during a shock.

This tendency is reinforced by the concept of “labeling” or mental accounting, where individuals sort financial resources into distinct mental buckets based on their source or description (Thaler, 1990, 1999). Empirical evidence confirms that labeling influences spending: transfers labeled as “Winter Fuel Payments” are disproportionately spent on heating (Beatty et al., 2014), and similar effects have been documented for SNAP benefits (Hastings and Shapiro, 2018) and in laboratory settings (Abeler and Marklein, 2017). If insurance is framed and labeled exclusively around livestock, payouts are likely mentally designated for herd reconstruction or fodder purchase. This labeling may obscure the product’s value for both partners: men may mentally earmark payouts for restocking rather than recognizing the broader consumption-smoothing role, while women may see the product as irrelevant to their primary concerns of food security and school fees. Women’s economic behavior may also be particularly responsive to family-oriented framing: Cassar et al. (2016) find that women are more likely to compete when rewards benefit their children.

The preceding discussion generates three testable predictions. First, reframing

insurance around household welfare rather than livestock should increase demand overall, since both men and women may narrowly frame “livestock insurance” as being solely about herd replacement. Second, this effect should be stronger in households where gender roles are more rigid and economic spheres are more separate, because the disconnect between “livestock insurance” and household consumption is greatest in these settings. Third, the effect should be larger for women than for men, since women are further from the livestock domain and may be more responsive to a household welfare frame. However, men in rigid-role households may also respond to the family framing if they narrowly frame livestock insurance payouts as being for herd replacement rather than household needs, so a positive effect for men is also consistent with the framework. We test these predictions in the experiment described below.

3 Experimental Game

This section describes a framed, incentivized field experiment designed to study how linking insurance to household public goods rather than male-owned assets or income affects demand. This experiment was conducted in Samburu County, Kenya, where most household livelihoods are based on herding livestock. The region is populated primarily by members of the Samburu tribe, and the household’s livestock herd and income are traditionally controlled by men, with women earning small amounts of income by tending to small stock (goats, sheep, or chickens) at home and/or operating kiosks. This fits the theory laid out in the previous section as the strongly patriarchal norms mean men consistently have larger expected incomes than women in these households and generally have greater say in decisions relating to livestock. Further, the region faces frequent droughts that cause large shocks to livestock assets and hence incomes. In focus group discussions with Samburu communities, On-

goro and Ogara (2012) found that women reported food shortages and disease as consequences of droughts, while men reported livestock losses and increased conflict risk, illustrating the gendered nature of drought impacts. Finally, the International Livestock Research Institute’s Index-Based Livestock Insurance (IBLI) program was being rolled out in Samburu County shortly after these experimental sessions were completed. This program has traditionally linked insurance payouts to replacing lost livestock or preventing their deaths, which according to the model above may provide limited benefit to women relative to a program that insures household public goods.

The experiment is based on a tablet-based game that simulates pastoralist life (SimPastoralist), allowing players to make investment and insurance decisions with probabilities and payoffs that approximate the real world. We collected data for this experiment in 56 sessions with a total of 287 couples. In half of the game sessions, insurance was framed around livestock to mirror the currently existing products offered by the IBLI Program. In the other half, insurance was framed to associate payouts with household public goods.

Framed field experiments have been used extensively to study index insurance, both as educational tools that can increase demand (Patt et al., 2009; Cai and Song, 2017; Vasilaky et al., 2020; Janzen et al., 2021) and to study how risk preferences, loss aversion, and uncertainty aversion shape insurance decisions (Brick and Visser, 2015; McIntosh et al., 2019; Norton et al., 2014; Serfilippi et al., 2020).

3.1 SimPastoralist

We designed SimPastoralist, a tablet-based experimental game, in close collaboration with local Samburu enumerators, young people from the study area who grew up in pastoralist households. The game simulates pastoralist decision-making with probabilities, prices, and insurance markup designed to match reality. It lasts 10 rounds,

and in each round players allocate their budget between insurance, goats (investment), and education. Figure 1 shows the main screen of the SimPastoralist game (see Appendix A for additional game details).

[Figure 1 about here.]

Players start with a relatively small budget of 25,000–35,000 Kenyan Shillings.³ At the beginning of each round in SimPastoralist, the player must pay 5,000 KSh for essential household consumption. If they do not have sufficient cash on hand, they can sell one or more goats to pay these costs. If they cannot pay these costs, the game ends early with a final score of zero; otherwise, it ends after 10 rounds, which simulates ten years.

After paying consumption expenses, players can buy and sell goats and insurance. Goats are worth 2,000 KSh and reproduce with probability $2/3$ in a good year and die with probability $2/3$ in a bad year. Goats that reproduce also produce milk, which leads to cash income of 1,500 KSh. There is no milk production in a bad year.

Each round each player also decides whether or not to send their children to school. School costs 2,000 KSh, and six years of school are required for graduation. If the student graduates from school, the player earns a bonus of 10,000 KSh at the end of the game.⁴

Insurance is sold in discrete units. The per unit premium is 350 KSh and each unit pays 1,000 KSh in the event of a drought, so the net income from insurance is -350 KSh in a good year and 650 KSh in the event of a drought. Bad years occur

³The exact starting budget (25,000, 30,000, or 35,000 KSh) was randomly assigned at the session level. In the couples version, each individual starts with half the session budget. See Appendix A for additional details.

⁴Nearly all participants of both genders chose to send their children to school until they graduated, meaning there is no significant variation in schooling decisions. This likely reflects the high cultural value placed on education in the region, where schooling is widely viewed as an important investment even when its financial return within the game is modest. The near-universal schooling choice means that the game's budget allocation effectively reduces to a three-way choice among goats, insurance, and cash savings.

with a probability of $1/3$, so the insurance is slightly more expensive than actuarially fair; the markup was designed to be similar to the Index-Based Livestock Insurance available in the region.

After each allocation decision, the good/bad year outcome is randomly determined and animated on screen: in good years rain falls and goats reproduce and produce milk; in bad years goats die. The game reports gains and losses, and the cycle continues for 10 rounds or until the player can no longer pay consumption expenses. The final score is the sum of the value of the goats in their herd and the cash in their wallet, plus a bonus of 10,000 KSh if their child finished school. In the incentivized rounds, every 500 KSh in the final game score translates into 1 KSh of real-world payment. Because data collection is integrated into the game, it moves quickly, allowing participants to practice several times before the incentivized round.

In addition to the individual version of the game, there is also a two player ‘couples’ version of the game. In that version, two players can play simultaneously on a split screen, and can transfer resources between each other. Otherwise, the game is identical: both players experience the same shocks and make individual investment and insurance decisions in response to them.

3.2 Sampling and Sessions

The experimental sessions were conducted over 14 days between July 26 and August 10, 2018 by four groups of enumerators, each of whom would host one experimental session each day, for a total of 56 sessions. Each group was assigned to a different part of Samburu County. The couples were randomly selected from a larger sample of women who are participating in a randomized controlled trial of the BOMA Rural Entrepreneur Access (REAP) program.⁵ In this study, a subset of women was invited

⁵The BOMA REAP Program is a poverty graduation program similar to the well-known BRAC Program documented in Banerjee et al. (2015) and elsewhere.

to participate and asked to bring their husbands. For that randomized controlled trial from which the sample was drawn, women were selected randomly from a group screened by BOMA through a participatory process designed to identify the poorer households in each village. As a result, the households in this study are also among the poorer households in the study region. This has implications for external validity: the sample is likely more asset-poor and more dependent on transfers than the general Samburu population, which may mean they are more constrained in their ability to purchase insurance and more sensitive to framing effects. However, this is also the population most targeted by inclusive insurance initiatives, making the results directly relevant for program design even if they may not generalize to wealthier pastoralist households.

The framings and starting budgets for each session were randomized with a computer in advance, and each team was informed in the morning whether they would be hosting a ‘Livestock’ or ‘Family’ session each day. The next section describes the experimental sessions and the differences between the two types.

3.3 Experimental Sessions

Each experimental session started with a brief overview of the experiment and a skit designed to introduce the participants to the idea of insurance. These skits were used to situate the insurance and were central to the experiment: in half of the sessions the skits introduced insurance as a product focused on livestock coverage during droughts as has traditionally been done in the index-based livestock insurance program. Each skit is oriented around two women discussing a drought affecting their families. In the ‘livestock framing’ the woman introducing insurance says:

“Have you heard about the new insurance program? It sends money to your M-Pesa account when droughts strike. We also lost half our goats

and cattle, but we'll be able to replace them using the insurance money.”

In the ‘family framing,’ which links insurance to household public goods, the woman introducing insurance instead focuses on the benefits for household welfare.

“Have you heard about the new insurance that helps families in this kind of situation? It sends money to your M-Pesa account when droughts strike to help cover household expenses. We also lost half our goats and cattle, but at least we'll be able to pay school fees and buy food.”

See Appendix A for the full text of the scripts used in the introductory skits.

The two scripts differ along several dimensions beyond the product label: the family framing describes payouts as helping “cover household expenses” and prices the hypothetical product per family member, while the livestock framing describes payouts as helping “revive your herd” and prices it per animal. The family framing does not remove the livestock framing; rather, it adds the household welfare language on top of the standard livestock description, so that participants hear about both uses for payouts (see Appendix A for full scripts). However, the game that participants play after the skit is *identical* across treatments. Insurance in SimPastoralist is sold in discrete units at 350 KSh each regardless of framing; there is no per-animal or per-person pricing in the game itself. The skit therefore shapes how participants *think about* the insurance product, but the product they actually purchase and the decision environment they face are the same in both conditions. This design isolates the effect of the initial framing on subsequent decisions made in an otherwise identical choice environment.

Following the introductory skit, participants were paired with enumerators and played two practice rounds without insurance and two with insurance to learn the game mechanics. They then played the incentivized individual game, knowing that one of the two incentivized games (individual or couples) would be randomly selected

for real-world payment at a rate of 1 KSh per 500 game KSh. After the individual game, participants played the couples version, again preceded by two practice rounds.

At the end of each session, participants were paid based on the selected incentivized round, with incentives paid individually in both the individual and couples games. All participants also received 500 KSh for their time.

3.4 Data

The sample consists of 287 couples. Of those, 151 were assigned to the family framing and 136 were assigned to the livestock framing.⁶ Because we drew this sample from a larger randomized controlled trial, we had detailed information on household characteristics available. Table 1 shows the sample means for a number of measures along with p-values from a t-test for differences in means. There are no statistically significant differences between the two groups at the 5% level, though baseline livestock holdings (TLU) are marginally different ($p = 0.075$). Results are robust to controlling for TLU (column 4 of all regression tables).

[Table 1 about here.]

The baseline survey, which was only administered to women, also contains a set of questions pertaining to decision power. The responses to those questions show that responsibilities are gendered as predicted. Figure 2 shows the distribution of answers to these questions among the women who participated in this experiment. Most women said they were fully or mostly responsible for decisions about purchasing household items, and fewer said the same for decisions to buy and sell livestock. Paying for children’s medical expenses and school fees seems to be in between, with

⁶Because treatment was randomized at the session level, a small number of individual records whose framing label did not match the session’s assigned framing (likely due to data entry errors) were reassigned to the session majority framing.

women typically reporting more involvement in those decisions than livestock decisions but less than in buying food and household goods. This supports the idea that women may have more control over funds earmarked for household expenses relative to livestock.

[Figure 2 about here.]

4 Results

This section tests whether altering the way insurance is framed affects the quantity of insurance purchased. Appendix Table 21 summarizes game behavior. On average, participants purchased about 4 units of insurance per round (worth 1,400 KSh) and held about 12 goats. Approximately 79% of player-round observations involve some insurance purchase. Mean net worth is about 45,500 KSh, so a 1 percentage point change in the insurance budget share corresponds to approximately 455 KSh.⁷

In summary, participants allocated approximately 24% more of their budget to insurance under the family framing than under the livestock framing. Our main specifications pool data from both the individual and couples versions of the game, but results are robust to estimating them separately (Appendix Tables 17, 18, and 19).

The first question of interest is whether the family framing increases demand for insurance on average. The basic form of the regression we use to answer this question is:

$$S_{it} = \alpha + \beta_1 FF_i + \gamma X_i + \delta_t + \phi_e + \epsilon_{it} \tag{1}$$

⁷About 5% of person-round observations involve net worth falling below 2,000 KSh, the minimum required to continue playing.

where S_{it} is the share of the budget allocated to insurance, FF_i is a dummy variable equal to 1 when the family framing was presented and 0 when the traditional livestock framing was presented, X_i is a vector of household-level controls, δ_t denotes round fixed effects, and ϕ_e denotes enumerator fixed effects.⁸ Round fixed effects δ_t account for learning and strategic behavior over the game, and enumerator fixed effects ϕ_e control for variation in presentation across teams. The controls X_i include baseline livestock holdings (TLU) and household size. Table 2 builds from a simple bivariate regression (column 1) to the full specification (column 4). In all specifications, standard errors are clustered at the session level, since treatment was randomized across sessions and session is the natural unit at which treatment assignment varies.^{9,10}

Table 2 shows the results. The family framing increases the share of insurance purchased, with statistically significant effects in specifications that include enumerator fixed effects. Among those exposed to the livestock framing, the average budget share spent on insurance is 5.1%, compared to 6.3% under the family framing, an increase of approximately 1.2 percentage points, or roughly 550 KSh per round.¹¹

[Table 2 about here.]

[Figure 3 about here.]

⁸We exclude person-round observations where the participant’s net worth falls below 2,000 KSh, the price of a single goat, since these participants face no meaningful allocation decision. This drops approximately 5% of person-round observations, and the dropout rate does not differ significantly across treatment arms ($p = 0.61$).

⁹Appendix Tables 22 and 23 show robustness to alternative clustering (player, household, and two-way session-player). Appendix Table 24 shows that the effect is present in both early and late rounds.

¹⁰Budget is endogenous to prior decisions that may be affected by treatment, so we exclude it from main specifications. Results are robust to its inclusion (Appendix Table 20).

¹¹Since the dependent variable is a proportion bounded between zero and one with approximately 21% of observations at zero, we also estimate a fractional response model (Papke and Wooldridge, 1996). Average marginal effects from the fractional logit are nearly identical to the OLS coefficients across all specifications and subsamples.

4.1 Heterogeneity by Gender and Empowerment

We next test whether the family framing operates differently for women and men by interacting the treatment with a male indicator (Table 3). The point estimates are directionally consistent with our prediction: the effect is somewhat larger for women (about 1.5 percentage points) than for men (about 0.9 percentage points). However, the interaction term is statistically insignificant, consistent with the framework if men also narrowly frame livestock insurance as being about herd replacement, so that the family framing broadens both partners' perception.¹²

[Table 3 about here.]

The mechanism posited in this paper suggests that the framing effect should be strongest in households where women have less control over financial decisions. To test this, we interact the framing treatment with a “High Empowerment” dummy, equal to one for households where the woman’s empowerment score is above the sample median (see Appendix C for details on the empowerment index). Table 4 presents the results. The base effect of the family framing, which now captures the effect among low-empowerment households, is large and statistically significant, ranging from 1.7 to 2.0 percentage points. The interaction term is negative, indicating that the framing effect is attenuated in high-empowerment households, though the interaction term does not reach statistical significance.¹³

[Table 4 about here.]

Appendix Table 10 confirms this pattern using the continuous empowerment index

¹²Appendix Table 9 shows separate regressions by gender and empowerment subgroup. The results are consistent with the interaction specification.

¹³The empowerment index could proxy for other household characteristics such as education or wealth. However, the heterogeneity pattern is robust to additionally controlling for wife’s years of schooling, husband’s years of schooling, and baseline livestock holdings (TLU). Correlations between the empowerment index and these observables are modest ($r < 0.20$).

rather than a median split: each unit increase in empowerment reduces the framing effect by approximately 1.2 percentage points ($p < 0.10$).

Tables 5 and 6 further confirm this pattern with subsample regressions. The effect of reframing insurance is driven almost entirely by households with lower female empowerment. In “Low Empowerment” households (Table 5), the family framing increases the budget share allocated to insurance by 1.7 to 2.5 percentage points, with the effect highly significant in specifications with enumerator fixed effects. In contrast, in “High Empowerment” households (Table 6), the effect is essentially zero and statistically insignificant.

[Table 5 about here.]

[Table 6 about here.]

This heterogeneity is consistent with the theoretical framework: the “separate spheres” friction is most binding in low-empowerment households, where the family framing has the largest effect. The 2.5 percentage point increase corresponds to approximately 1,140 KSh per round, or roughly 3.3 additional units of insurance. Figure 4 summarizes the pattern of treatment effects across subgroups.

[Figure 4 about here.]

4.2 Extensive and Intensive Margins

Our dependent variable combines the extensive margin (whether to buy any insurance) and the intensive margin (how much to buy). Table 7 decomposes the effect. Roughly 79% of player-round observations involve some insurance purchase regardless of framing, and the extensive margin effect is not statistically significant. The framing effect operates on the intensive margin: among buyers, the family framing

significantly increases purchases in the full sample (1.5 percentage points, $p < 0.05$) and especially in low-empowerment households (2.5 percentage points, $p < 0.05$).

[Table 7 about here.]

4.3 Portfolio Reallocation

Since portfolio shares must sum to one, an increase in insurance must be offset elsewhere. Table 8 estimates the treatment effect on each portfolio component. In the full sample, the only significant shift is into insurance (+1.2 percentage points). In low-empowerment households, the insurance increase of 2.5 percentage points ($p < 0.01$) is offset primarily by a decrease in the cash share ($p = 0.17$), with the livestock share essentially unchanged. This suggests that the family framing induces participants to convert precautionary cash into insurance rather than reducing livestock holdings. In high-empowerment households, no component shifts significantly.

[Table 8 about here.]

5 Conclusion

Despite its potential to protect vulnerable households from climate shocks, demand for index insurance has remained persistently low. A large literature has examined price, basis risk, trust, and other supply- and demand-side explanations for this puzzle (Platteau et al., 2017). This paper proposes a complementary explanation rooted in product framing: when insurance is labeled around a specific asset class, household members who do not directly control that asset may fail to recognize the product's value for smoothing their own consumption. In pastoralist settings where men control livestock and women manage household provisioning, "livestock insurance" may be

narrowly framed as a tool for herd replacement rather than a mechanism for protecting household welfare.

We test this hypothesis using a lab-in-the-field experiment with pastoralists in Northern Kenya. We find that a “family framing” that explicitly describes insurance payouts as funds for household expenses rather than asset replacement increases the share of the budget allocated to insurance by approximately 24%. This effect is larger in households where women have limited decision-making power. In these households, gender roles are more rigid and men and women operate in more separate economic spheres, so the disconnect between “livestock insurance” and household consumption is greatest. In more egalitarian households, the specific label matters less because both partners already perceive the link between livestock shocks and household welfare.

Several limitations should be noted. First, the introductory skits that constitute the treatment differ along multiple dimensions: not only the product label but also the stated use of payouts and the unit of pricing described. While the game that participants play after the skit is identical across treatments, and the treatment therefore shapes how participants think about the product rather than changing the product itself, we cannot isolate which specific element of the framing drives the result. This is a common feature of framing interventions, which in practice change how a product is presented as a package rather than along a single dimension. However, the compound nature of the treatment is also what makes it policy-relevant: an insurer or NGO redesigning its marketing would change the label, stated benefits, and narrative emphasis together, not in isolation. The experiment therefore identifies the reduced-form effect of a realistic, implementable framing change. Second, the empowerment interaction, while the subsample results are striking, does not reach statistical significance in the interaction specification, and the empowerment index may proxy for other household characteristics beyond decision-making power. Third, lab-in-the-field experiments abstract away from real-world frictions such as trust, ba-

sis risk, and liquidity constraints (Cole et al., 2013; Clarke, 2016) that could either amplify or attenuate framing effects. The simulation approach is appropriate for isolating the behavioral mechanism, but the magnitude of the effect may differ in field settings where these frictions are present.

These limitations notwithstanding, the findings have practical relevance for the design of inclusive insurance products. Much of the literature on microinsurance demand has focused on price, subsidies, and financial literacy (Platteau et al., 2017; Flores-Contró et al., 2025), but our results suggest that changes to how insurance benefits are communicated can also increase uptake, consistent with evidence that choice architecture can have large effects on behavior (Thaler and Sunstein, 2008). Rather than designing entirely new products, insurers and policymakers can make existing products more inclusive by presenting them around the needs of the household members they are meant to protect.

In practice, training scripts, marketing materials, and onboarding processes should emphasize how payouts support household welfare rather than focusing narrowly on asset replacement. Such framing adjustments are low-cost and can complement supply-side interventions aimed at closing gender gaps in insurance coverage (International Association of Insurance Supervisors, 2023).

If insurance is to serve as a safety net for the whole household, it should be presented as such.

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A Experimental Details

SimPastoralist Game Details

Figure 1 shows the main screen of the SimPastoralist game. The shield icons represent the amount of insurance the player has, and the graduation hat icon represents years of school. The balance of the wallet is shown both numerically and by adjusting the size of the visible stack of cash on the left-hand side of the screen. The enumerators explain all of these symbols to the players and update them on their balances of cash, goats, and insurance before they finalize each decision and at the beginning of each round.

The exact starting budget was randomly chosen for each session using a random number generator to be 25,000, 30,000, or 35,000 KSh. In the couples version of the game, the starting budget is divided in half, so each individual starts with a smaller budget and the household budget is the same. The exchange rate at the time of the experiment was about 100 KSh/USD, so this corresponds to approximately 250–350 US dollars.

After the player decides how to allocate their budget between goats, insurance, and school, the clouds at the top of the screen begin moving to depict the passage of time, and the good/bad year outcome is randomly determined. In good years, rain falls on the screen and goats reproduce and produce milk. In bad years, no rain falls and goats that die fall off the screen. The game then reports the total gains/losses in animals, the amount of milk produced, and any insurance payout received.

For real-world payment, every 500 KSh in the final game score translates into 1 KSh. For example, a player ending the game with 50,000 KSh and 25 goats (a total value of 100,000 KSh) would receive a payout of 200 KSh in addition to the 500 KSh offered to all participants in compensation for their time. In both the individual and couples versions of the game, each individual has their own cash and herd of animals, so incentives were paid individually (not to couples collectively) regardless of which game was chosen for payment.

Participants reported without prompting that they felt the game was educational and reflective of their lives, and many asked to stay longer to play more after the sessions were over.

Scripts

The following are the scripts that were read by pairs of enumerators at the beginning of each session. Within each of the four teams, the same two enumerators held the

roles in each session to minimize variation.

Family Framing

Woman 1: It has been a tough season - no rain at all. How is the drought affecting your family?

Kotogolo ana ng'amata meti nchan pii , aji eikunita nkolong'/lamei nkang' ino?

Woman 2: We lost half our goats and cattle and have been cutting back on meals because the goats that survived aren't producing much milk. It's going to be hard to pay school fees this year, and if the children have any medical expenses we will probably have to sell even more livestock.

Kotuata yio nkineji o nkishu, nomokure eta nkera ndaa, amaa amu meata ntare natelekunye naara kule. Kogolu abaki laata e skool e nkera, teneibisieng'u abaki nkera suom natelekunye naake kimir .

Woman 1: Have you heard about the new insurance that helps families in this kind of situation? It sends money to your M-Pesa account when droughts strike to help cover household expenses. We also lost half our goats and cattle, but at least we'll be able to pay school fees and buy food.

You can also buy insurance to help offset lost animals in the event of drought. You have to pay 500 KSh per goat in August, before the rainy season begins. If the rains are poor, they send 1000 Ksh for each goat to help revive your herd.

Itining'o ana ripet ng'ejuk naret nkang'ite ta mbaa/ramat natiwenyi? Kereu ropiyiani te simu (M-pesa) nkata e nkolong' payie eyasie ramat e nkaji. Kotuata yio ntare o nkishu, keikash naa amu kindim taa atalak ropiyiani e nkera e skool, nikindim sii ainy'angu ndaa

Woman 2: That sounds very helpful. How do I get this benefit?

Panijo kotuwua keretisho kulo omon. Aji aiko payie atum ana reto?

Woman 1: Well, it's not free – you have to pay a X KSh per family member in August, before the rainy season begins. If the rains are poor, they send 1000 Ksh for each person to help pay household expenses.

If you're interested, I can introduce you to the agent who sold us our insurance.

Maara taa pesheu, keyiari nilak ropiyiani X te ltung'ani obo le nkaji Ta lapa le esiet, eng'or ltumuren .tanaa etuesha aitibiraki nikirewakini 1000 te Ltung'ani obo le nkaji payie iasishere te ramat e nkaji. Tanaa iyieukaidim atirikoki ltung'ani otimiraka yio Inia ripet

Woman 2: Sounds interesting - I will speak to the agent to learn more.

Keining'o ajo keisupati kulo omon pii-kalo aiparishere ltung'ani omir ripet

Livestock Framing

Woman 1: It has been a tough season - no rain at all. How is the drought affecting your family?

Kotogolo ana ng'amata meti nchan pii , aji eikunita nkolong'/lamei nkang' ino?

Woman 2: We lost half our goats and cattle. It's going to be hard to pay school fees this year, and if the children have any medical expenses we will probably have to sell even more livestock.

Kotuata yio nkiteeng'ata e nkishu o nkineji.kogoliki yio laata e skool tale ari, o si tinimaniki ebisiong'u nkera, kuna kuni suom naatelekunye naake kimir alakie sipitali

Woman 1: Have you heard about the new insurance program? It sends money to your M-Pesa account when droughts strike. We also lost half our goats and cattle, but we'll be able to replace them using the insurance money.

Itining'o ana ripet ng'ejuk? Kereu ropiyiani te simu (M-pesa) nkata e nkolong'. Kotuata yio ntare o nkishu, keikash naa amu kindim taa ainyang'u nkule te nenia ropiyiani e ripet.

Woman 2: That sounds very helpful. How do I get this benefit?

Panijo kotuwua keretisho kulo omon. Aji aiko payie atum ana reto?

Woman 1: Well, it's not free – you have to pay a X KSh per goat or X*5 KSh per cow in August, before the rainy season begins. If the rains are poor, they send 1000 Ksh for each goat or 5000 KSh for cow to help revive your herd.

If you're interested, I can introduce you to the agent who sold us our insurance.

Maara taa pesheu, keyiari nilak ropiyiani X te nkine nabo o ropiyiani X te nkiteng' nabo Ta lapa le esiet, eng'or ltumuren.tanaa etuesha aitibiraki nikirewakini 1000 te nkine nabo o si 5000 te nkiteng' nabo payie iramatie mboo ino. Tanaa iyieu,kaidim atirikoki ltung'ani otimiraka yio Inia ripet

Woman 2: Sounds interesting - I will speak to the agent to learn more.

Keining'o ajo keisupati kulo omon pii-kalo aiparishere ltung'ani omir ripet

B Additional Regression Results

[Table 9 about here.]

[Table 10 about here.]

[Table 11 about here.]

[Table 12 about here.]

[Table 13 about here.]

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[Table 16 about here.]

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[Table 21 about here.]

[Table 22 about here.]

[Table 23 about here.]

[Table 24 about here.]

C Empowerment Index

The empowerment index used in this study was informed by the work of Alkire et al. (2013) on the Women’s Empowerment in Agriculture Index, but was modified to fit the livestock-based livelihoods of pastoralists. Our data collection occurred prior to the publication of the Women Empowerment in Livestock Index (Galiè et al., 2019), but does capture 5 of the 6 domains identified in that index.¹⁴ This questionnaire was administered only to women (and not to men), as they are the primary participants in the larger study taking place in the region that these data were taken from.

The index we calculate is based on equal weighting of the following 10 questions, each of which is answered on a scale from 1 to 5 (1=“None – I have no say”, 2=“Little – I am rarely consulted or my opinion usually doesn’t count”, 3=“Somewhat – I make some decisions or have a say in some decisions”, 4=“Mostly – I usually make the decisions or have a major say in decisions”, 5=“Fully – I make the decisions”). We classify households where the index is above the sample median (3.3) as “High Empowerment” and those at or below the median as “Low Empowerment.”

The index can be decomposed into a household domain (questions 1–5, covering food, household items, medical expenses, school fees, and school choice) and a livestock domain (questions 6–9, covering purchasing and selling livestock). The household domain mean is higher than the livestock domain mean, consistent with women having more decision-making authority over household provisioning than over livestock transactions. The tenth question, on community-level decisions, captures a broader civic participation dimension.

The index has the following distributional properties. The mean index value is approximately 3.3 (by construction near the median), with a standard deviation of

¹⁴The domains are (1) decisions about agricultural production; (2) decisions related to nutrition; (3) access to and control over resources; (4) control and use of income; (5) access to and control of opportunities; and (6) workload and control over own time. This index captures information about all of those with the exception of workload and control over own time.

approximately 0.8. The interquartile range spans approximately 2.8 to 3.9, and the full range is 1.0 to 5.0. Correlations between the empowerment index and observable household characteristics are modest: $r < 0.20$ for TLU, household size, wife's schooling, and husband's schooling. This suggests the index captures decision-making dynamics not fully proxied by wealth or education.

Several robustness checks support the empowerment heterogeneity results. Appendix Table 10 shows that the pattern holds using the continuous index rather than a median split: each unit increase in empowerment reduces the framing effect by approximately 1.2 percentage points. The subsample results are robust to progressively adding controls for TLU, household size, wife's and husband's schooling, and wife's and husband's age.

Below is a complete list of the questions. Figure 5 shows the distribution of answers to each of the questions.

- To what extent are you involved in household decisions regarding buying food for the household?
- To what extent are you involved in household decisions regarding purchasing household items (like cups)?
- To what extent are you involved in household decisions regarding paying for children's medical expenses?
- To what extent are you involved in household decisions regarding paying for children's school fees?
- To what extent are you involved in household decisions regarding which children to send to school?
- To what extent are you involved in household decisions regarding purchasing livestock for yourself?

- To what extent are you involved in household decisions regarding purchasing livestock for the whole family or household?
- To what extent are you involved in household decisions regarding selling livestock you own?
- To what extent are you involved in household decisions regarding selling livestock your household own?
- To what extent are you involved in community-level decisions?

[Figure 5 about here.]

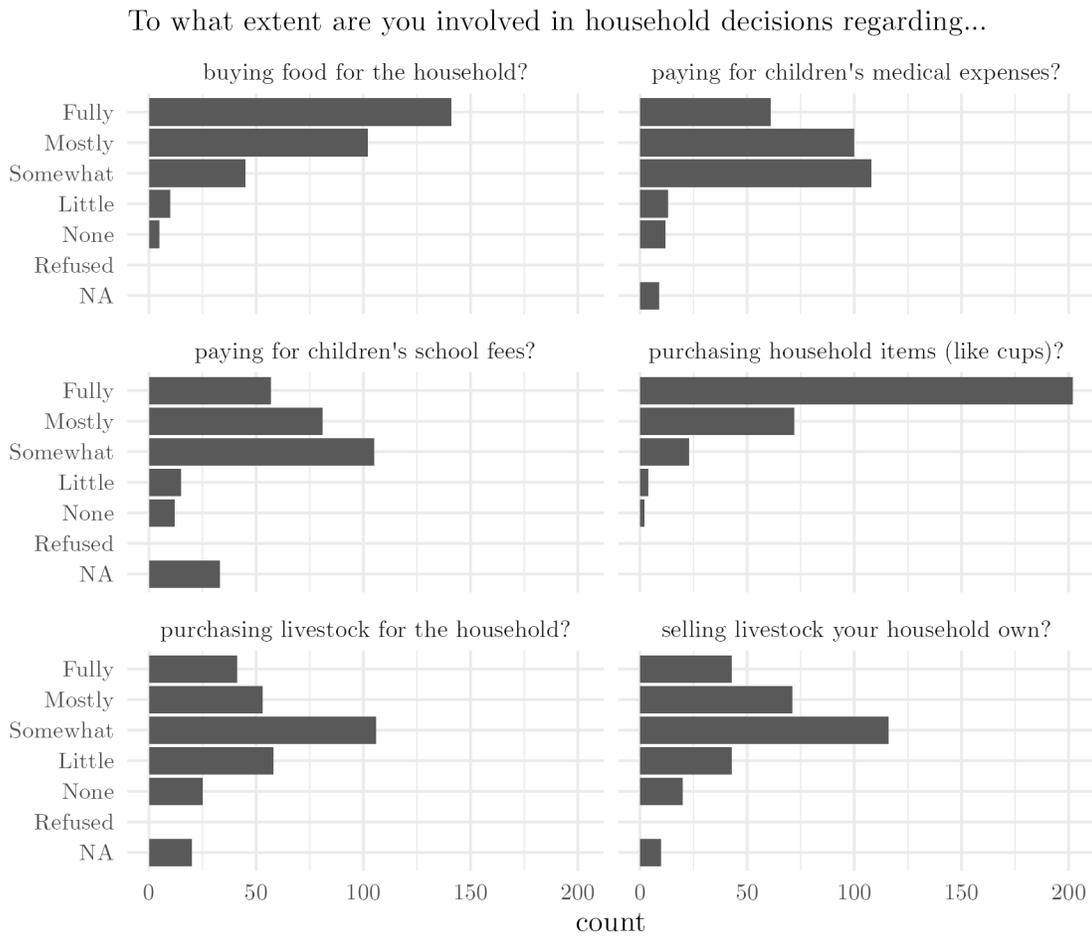
List of Figures

1	SimPastoralist	41
2	Distribution of responses to decision-making questions	42
3	Mean Insurance Share by Treatment Arm	43
4	Family Framing Effect by Subgroup	44
5	Distribution of responses to decision-making questions	45

Figure 1: SimPastoralist

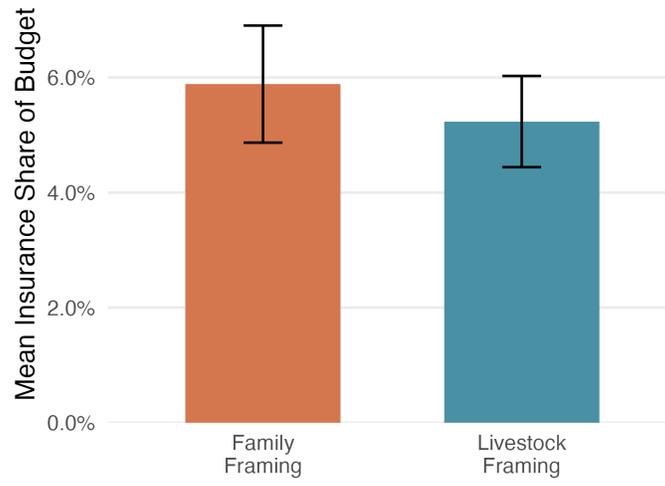


Figure 2: Distribution of responses to decision-making questions



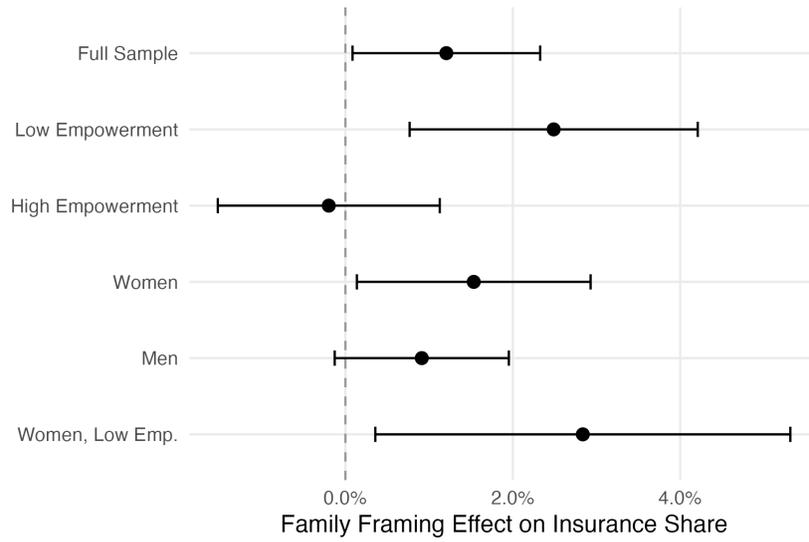
Answer text is abbreviated in the graphic above. The options in the survey read: "None – I have no say", "Little – I am rarely consulted or my opinion usually doesn't count", "Somewhat – I make some decisions or have a say in some decisions", "Mostly – I usually make the decisions or have a major say in decisions", and "Fully – I make the decisions."

Figure 3: Mean Insurance Share by Treatment Arm



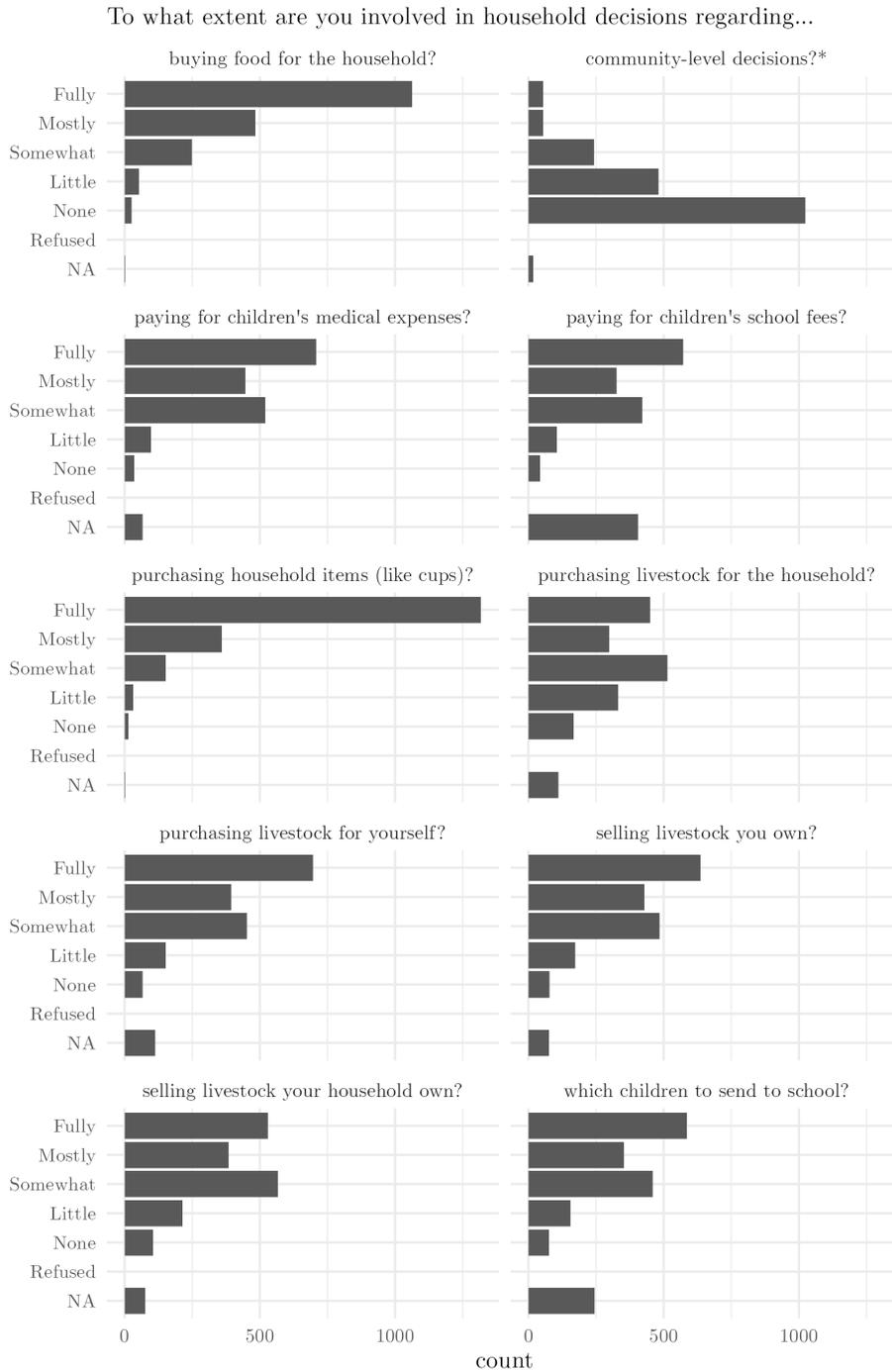
Bars show the mean share of budget allocated to insurance by treatment arm. Error bars show 95% confidence intervals computed from session-level means.

Figure 4: Family Framing Effect by Subgroup



Points show estimated coefficients on the family framing indicator from separate OLS regressions with round and enumerator fixed effects and controls for TLU and household size. Horizontal bars show 95% confidence intervals based on session-clustered standard errors.

Figure 5: Distribution of responses to decision-making questions



*This question reads "To what extent are you involved in community-level decisions?"

List of Tables

1	Sample Balance	47
2	Average Effect of Family Framing	48
3	Gendered Effect of Family Framing	49
4	Empowerment and the Effect of Family Framing	50
5	Effect of Family Framing: Low Empowerment Households	51
6	Effect of Family Framing: High Empowerment Households	52
7	Extensive and Intensive Margins	53
8	Portfolio Allocation Effects of Family Framing	54
9	Gendered Effect of Family Framing	55
10	Continuous Empowerment Interaction	56
11	Effect of Family Framing: Men	57
12	Effect of Family Framing: Women	58
13	Effect of Family Framing: Women in High Empowerment Households	59
14	Effect of Family Framing: Women in Low Empowerment Households	60
15	Effect of Family Framing: Men in High Empowerment Households	61
16	Effect of Family Framing: Men in Low Empowerment Households	62
17	Average Effect of Family Framing: Individual Game	63
18	Average Effect of Family Framing: Couples Game	64
19	Individual and Couples Results	65
20	Average Effect of Family Framing (Budget Controls)	66
21	Descriptive Statistics: Game Behavior	67
22	Clustering Robustness: Pooled Effect	68
23	Clustering Robustness: Empowerment Interaction	69
24	Learning Effects: Early vs. Late Rounds	70

Table 1: Sample Balance

Variable	Livestock	Family	p-value
Household Size	5.986	6.060	0.778
Husband Age	41.935	42.093	0.936
Husband School	2.217	1.824	0.399
Empowerment Index	3.243	3.359	0.231
Wife Age	31.856	33.227	0.339
Wife School	1.000	1.189	0.570
Total Livestock Units	0.957	0.797	0.075

Table 2: Average Effect of Family Framing

	(1)	(2)	(3)	(4)
Family Framing	0.012 (0.007)	0.012 (0.007)	0.012** (0.006)	0.012** (0.006)
Livestock (TLU)				-0.006 (0.004)
Household Size				0.001 (0.001)
R^2	0.006	0.007	0.087	0.092
N	7923	7923	7923	7888
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 3: Gendered Effect of Family Framing

	(1)	(2)	(3)	(4)
Family Framing	0.014*	0.014*	0.014*	0.014*
	(0.008)	(0.008)	(0.007)	(0.007)
Man	0.005	0.005*	0.005	0.005
	(0.003)	(0.003)	(0.003)	(0.003)
Man x Family Framing	-0.004	-0.004	-0.003	-0.003
	(0.005)	(0.005)	(0.005)	(0.005)
Livestock (TLU)				-0.006
				(0.004)
Household Size				0.001
				(0.001)
R^2	0.007	0.007	0.088	0.093
N	7923	7923	7923	7888
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 4: Empowerment and the Effect of Family Framing

	(1)	(2)	(3)	(4)
Family Framing	0.017*	0.017*	0.019**	0.020**
	(0.009)	(0.009)	(0.008)	(0.008)
High Empowerment	0.003	0.003	0.003	0.005
	(0.007)	(0.007)	(0.008)	(0.008)
High Emp. x Framing	-0.011	-0.011	-0.014	-0.017
	(0.011)	(0.011)	(0.011)	(0.011)
Livestock (TLU)				-0.006*
				(0.004)
Household Size				0.001
				(0.001)
R^2	0.008	0.008	0.090	0.095
N	7923	7923	7923	7888
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 5: Effect of Family Framing: Low Empowerment Households

	(1)	(2)	(3)	(4)
Family Framing	0.017*	0.017*	0.025***	0.025***
	(0.009)	(0.009)	(0.009)	(0.009)
Livestock (TLU)				-0.003
				(0.005)
Household Size				0.002
				(0.002)
R^2	0.011	0.012	0.102	0.105
N	4333	4333	4333	4333
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 6: Effect of Family Framing: High Empowerment Households

	(1)	(2)	(3)	(4)
Family Framing	0.006 (0.009)	0.006 (0.009)	0.000 (0.007)	-0.002 (0.007)
Livestock (TLU)				-0.012** (0.005)
Household Size				-0.000 (0.002)
R^2	0.002	0.003	0.129	0.141
N	3590	3590	3590	3555
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 7: Extensive and Intensive Margins

	Extensive Margin			Intensive Margin		
	Full Sample	Low Emp.	High Emp.	Full Sample	Low Emp.	High Emp.
Family Framing	0.010 (0.029)	0.067 (0.041)	-0.044 (0.046)	0.015** (0.006)	0.025** (0.009)	0.001 (0.007)
Livestock (TLU)	-0.032 (0.022)	-0.035 (0.024)	-0.022 (0.032)	-0.003 (0.004)	0.001 (0.005)	-0.014** (0.006)
Household Size	-0.001 (0.006)	-0.013 (0.010)	0.004 (0.008)	0.002 (0.001)	0.003* (0.002)	-0.000 (0.002)
R^2	0.057	0.092	0.102	0.100	0.119	0.136
N	7888	4333	3555	6218	3401	2817
Round Effects	X	X	X	X	X	X
Enumerator Effects	X	X	X	X	X	X

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

Standard errors clustered at the session level.

Extensive margin: dependent variable is an indicator for purchasing any insurance.

Intensive margin: dependent variable is share of budget allocated to insurance, conditional on buying.

Table 8: Portfolio Allocation Effects of Family Framing

	Insurance	Livestock	Cash	Education
<i>Panel A: Full Sample</i>				
Family Framing	0.012** (0.006)	-0.014 (0.017)	0.003 (0.019)	-0.001 (0.004)
R^2	0.087	0.049	0.097	0.169
N	7923	7923	7923	7923
<i>Panel B: Low Empowerment</i>				
Family Framing	0.025*** (0.009)	0.007 (0.020)	-0.031 (0.022)	-0.001 (0.005)
R^2	0.102	0.077	0.125	0.175
N	4333	4333	4333	4333
<i>Panel C: High Empowerment</i>				
Family Framing	0.000 (0.007)	-0.023 (0.025)	0.024 (0.025)	-0.000 (0.007)
R^2	0.129	0.069	0.127	0.176
N	3590	3590	3590	3590

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

Each column estimates the same specification with a different portfolio share as the dependent variable.

Portfolio shares sum to one: Insurance + Livestock + Cash + Education = 1.

All specifications include round and enumerator fixed effects. Standard errors clustered at the session level.

Table 9: Gendered Effect of Family Framing

	Full Sample		Low Empowerment		High Empowerment	
	Women	Men	Women	Men	Women	Men
Family Framing	0.015** (0.007)	0.009* (0.005)	0.028** (0.013)	0.022*** (0.007)	0.000 (0.008)	-0.003 (0.007)
Livestock (TLU)	-0.005 (0.004)	-0.007* (0.004)	0.001 (0.006)	-0.006 (0.005)	-0.014*** (0.005)	-0.010* (0.005)
Household Size	0.001 (0.001)	0.002 (0.001)	0.001 (0.002)	0.003 (0.002)	-0.000 (0.002)	0.000 (0.002)
R^2	0.092	0.104	0.107	0.128	0.151	0.153
N	3968	3920	2215	2118	1753	1802
Round Effects	X	X	X	X	X	X
Enumerator Effects	X	X	X	X	X	X

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

Dependent variable: share of budget allocated to insurance.
Standard errors clustered at the session level.

Table 10: Continuous Empowerment Interaction

	(1)	(2)	(3)	(4)
Family Framing	0.028 (0.025)	0.028 (0.025)	0.046* (0.025)	0.052** (0.025)
Empowerment Index	0.002 (0.004)	0.002 (0.004)	0.004 (0.004)	0.004 (0.004)
Emp. Index x Framing	-0.005 (0.007)	-0.005 (0.007)	-0.010 (0.007)	-0.012* (0.007)
Livestock (TLU)				-0.006* (0.004)
Household Size				0.001 (0.001)
R^2	0.007	0.007	0.090	0.096
N	7923	7923	7923	7888
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 11: Effect of Family Framing: Men

	(1)	(2)	(3)	(4)
Family Framing	0.010 (0.008)	0.010 (0.008)	0.009* (0.005)	0.009* (0.005)
Livestock (TLU)				-0.007* (0.004)
Household Size				0.002 (0.001)
R^2	0.004	0.006	0.098	0.104
N	3935	3935	3935	3920
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 12: Effect of Family Framing: Women

	(1)	(2)	(3)	(4)
Family Framing	0.014*	0.014*	0.015**	0.015**
	(0.008)	(0.008)	(0.007)	(0.007)
Livestock (TLU)				-0.005
				(0.004)
Household Size				0.001
				(0.001)
R^2	0.008	0.008	0.088	0.092
N	3988	3988	3988	3968
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 13: Effect of Family Framing: Women in High Empowerment Households

	(1)	(2)	(3)	(4)
Family Framing	0.006 (0.009)	0.006 (0.009)	0.003 (0.008)	0.000 (0.008)
Livestock (TLU)				-0.014*** (0.005)
Household Size				-0.000 (0.002)
R^2	0.002	0.004	0.131	0.151
N	1773	1773	1773	1753
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 14: Effect of Family Framing: Women in Low Empowerment Households

	(1)	(2)	(3)	(4)
Family Framing	0.020*	0.020*	0.028**	0.028**
	(0.011)	(0.011)	(0.013)	(0.013)
Livestock (TLU)				0.001
				(0.006)
Household Size				0.001
				(0.002)
R^2	0.015	0.017	0.105	0.107
N	2215	2215	2215	2215
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 15: Effect of Family Framing: Men in High Empowerment Households

	(1)	(2)	(3)	(4)
Family Framing	0.006 (0.010)	0.006 (0.010)	-0.002 (0.007)	-0.003 (0.007)
Livestock (TLU)				-0.010* (0.005)
Household Size				0.000 (0.002)
R^2	0.001	0.006	0.146	0.153
N	1817	1817	1817	1802
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 16: Effect of Family Framing: Men in Low Empowerment Households

	(1)	(2)	(3)	(4)
Family Framing	0.013 (0.010)	0.014 (0.010)	0.021*** (0.007)	0.022*** (0.007)
Livestock (TLU)				-0.006 (0.005)
Household Size				0.003 (0.002)
R^2	0.008	0.013	0.120	0.128
N	2118	2118	2118	2118
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 17: Average Effect of Family Framing: Individual Game

	(1)	(2)	(3)	(4)
Family Framing	0.008 (0.007)	0.008 (0.007)	0.010* (0.006)	0.010* (0.006)
Livestock (TLU)				-0.002 (0.004)
Household Size				0.000 (0.001)
R^2	0.005	0.008	0.093	0.096
N	4019	4019	4019	4004
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 18: Average Effect of Family Framing: Couples Game

	(1)	(2)	(3)	(4)
Family Framing	0.015*	0.015*	0.014**	0.014**
	(0.009)	(0.009)	(0.007)	(0.006)
Livestock (TLU)				-0.010**
				(0.004)
Household Size				0.002
				(0.001)
R^2	0.007	0.009	0.103	0.112
N	3904	3904	3904	3884
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 19: Individual and Couples Results

	(1)	(2)	(3)	(4)
Family Framing	0.008 (0.007)	0.008 (0.007)	0.010 (0.006)	0.010 (0.006)
Couples	0.012*** (0.002)	0.012*** (0.002)	0.013*** (0.003)	0.013*** (0.003)
Couples x Family Framing	0.007 (0.005)	0.007 (0.005)	0.004 (0.005)	0.005 (0.005)
Livestock (TLU)				-0.006 (0.004)
Household Size				0.001 (0.001)
R^2	0.017	0.018	0.097	0.102
N	7923	7923	7923	7888
Round Effects		X	X	X
Enumerator Effects			X	X

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

Dependent variable: share of budget allocated to insurance.
Standard errors clustered at the session level.

Table 20: Average Effect of Family Framing (Budget Controls)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Family Framing	0.012 (0.007)	0.012 (0.007)	0.012** (0.006)	0.012** (0.006)	0.011 (0.007)	0.011 (0.007)	0.011* (0.006)	0.011* (0.006)
Budget					-0.007*** (0.002)	-0.007*** (0.003)	-0.006** (0.003)	-0.006** (0.003)
Livestock (TLU)				-0.006 (0.004)				-0.006* (0.004)
Household Size				0.001 (0.001)				0.001 (0.001)
R^2	0.006	0.007	0.087	0.092	0.019	0.021	0.097	0.103
N	7923	7923	7923	7888	7923	7923	7923	7888
Round Effects		X	X	X		X	X	X
Enumerator Effects			X	X			X	X

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

Dependent variable: share of budget allocated to insurance.

Standard errors clustered at the session level.

Table 21: Descriptive Statistics: Game Behavior

Variable	Mean	SD	N
<i>Full Sample</i>			
Insurance units purchased	3.99	7.49	7923
Insurance share of budget	0.057	0.077	7923
Goats held	11.86	41.93	7923
Cash held (KSh)	19160.87	52685.31	7923
Sent child to school (%)	61.15	48.74	7923
Net worth (KSh)	45501.61	131087.85	7923
<i>Women</i>			
Insurance units purchased	4.00	7.19	3988
Insurance share of budget	0.055	0.077	3988
Goats held	12.93	51.42	3988
Cash held (KSh)	21021.34	61212.31	3988
Sent child to school (%)	60.31	48.93	3988
Net worth (KSh)	49494.45	158173.69	3988
<i>Men</i>			
Insurance units purchased	3.98	7.78	3935
Insurance share of budget	0.059	0.076	3935
Goats held	10.77	29.30	3935
Cash held (KSh)	17275.34	42250.37	3935
Sent child to school (%)	62.01	48.54	3935
Net worth (KSh)	41454.99	95996.91	3935
<i>Livestock Framing</i>			
Insurance units purchased	4.27	9.03	3897
Insurance share of budget	0.051	0.068	3897
Goats held	14.46	55.67	3897
Cash held (KSh)	21929.14	64094.38	3897
Sent child to school (%)	62.69	48.37	3897
Net worth (KSh)	53604.99	170307.66	3897
<i>Family Framing</i>			
Insurance units purchased	3.72	5.60	4026
Insurance share of budget	0.063	0.083	4026
Goats held	9.34	21.15	4026
Cash held (KSh)	16481.30	38369.05	4026
Sent child to school (%)	59.66	49.06	4026
Net worth (KSh)	37657.87	74975.68	4026

Notes: Statistics computed over player-round observations after dropping observations with net worth below 2,000 KSh (5.0% of all observations). Insurance units are the number of livestock insured in a given round. Insurance share is the value of insurance purchased divided by net worth. Goats held is the number of goats in the player's herd at the start of the round.

Table 22: Clustering Robustness: Pooled Effect

	Session	Player	Household	Session+Player
Family Framing	0.012** (0.006)	0.012*** (0.004)	0.012** (0.005)	0.012** (0.006)
Livestock (TLU)	-0.006 (0.004)	-0.006** (0.003)	-0.006 (0.004)	-0.006 (0.004)
Household Size	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)	0.001 (0.001)
R^2	0.092	0.092	0.092	0.092
N	7888	7888	7888	7888
Round Effects	X	X	X	X
Enumerator Effects	X	X	X	X

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

Dependent variable: share of budget allocated to insurance.
 All specifications include round and enumerator fixed effects
 and controls for TLU and household size.
 Columns differ only in the level of clustering for standard er-
 rors.

Table 23: Clustering Robustness: Empowerment Interaction

	Session	Player	Household	Session+Player
Family Framing	0.020** (0.008)	0.020*** (0.006)	0.020** (0.008)	0.020** (0.008)
High Empowerment	0.005 (0.008)	0.005 (0.006)	0.005 (0.008)	0.005 (0.008)
High Emp. x Framing	-0.017 (0.011)	-0.017** (0.008)	-0.017 (0.011)	-0.017 (0.011)
Livestock (TLU)	-0.006* (0.004)	-0.006** (0.003)	-0.006* (0.004)	-0.006* (0.004)
Household Size	0.001 (0.001)	0.001* (0.001)	0.001 (0.001)	0.001 (0.001)
R^2	0.095	0.095	0.095	0.095
N	7888	7888	7888	7888
Round Effects	X	X	X	X
Enumerator Effects	X	X	X	X

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

Dependent variable: share of budget allocated to insurance.

All specifications include round and enumerator fixed effects and controls for TLU and household size.

Columns differ only in the level of clustering for standard errors.

Table 24: Learning Effects: Early vs. Late Rounds

	Full Sample		Low Empowerment		High Empowerment	
	Early	Late	Early	Late	Early	Late
Family Framing	0.008 (0.006)	0.019*** (0.007)	0.023*** (0.008)	0.027** (0.012)	-0.006 (0.007)	0.004 (0.007)
Livestock (TLU)	-0.004 (0.003)	-0.009* (0.005)	-0.000 (0.004)	-0.008 (0.007)	-0.011*** (0.004)	-0.012* (0.006)
Household Size	0.000 (0.001)	0.003* (0.001)	0.001 (0.002)	0.003 (0.002)	-0.001 (0.002)	0.001 (0.002)
R^2	0.077	0.142	0.094	0.165	0.134	0.198
N	4997	2891	2746	1587	2251	1304
Round Effects	X	X	X	X	X	X
Enumerator Effects	X	X	X	X	X	X

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

Dependent variable: share of budget allocated to insurance.

Early rounds: 0–4. Late rounds: 5–10.

All specifications include round and enumerator fixed effects and controls for TLU and household size.

Standard errors clustered at the session level.