

Participation in Microfinancial Markets: The Use of Insurance, Savings, and Credit in Rural Ghana

Susan Steiner

co-authors: Mirko Bendig and Lena Giesbert

1. Research Question

- What determines households' participation in the microinsurance market? What drives households' purchase of microinsurance?
- Consider insurance AND savings products AND credit
 - Households' choices for insurance, savings products, and loans are assumed to be interconnected
 - Empirical studies on determinants of use of financial services in developing countries concentrate on one of insurance, savings, or loans and do not relate to each other

2. Summary of the Literature

- 1) Variables which have been tested for the use of insurance, savings products, and loans
 - Socio-demographic variables
 - Asset ownership
 - Education
 - Proximity to financial institution
- 2) Variables which have been tested for the use of only one or two of these services
 - Risk-related factors (insurance)
 - Remittances (savings)
 - Type of economic activity (loans, savings)
 - Trust (insurance)
 - Supply side factors (loans)
 - Gender (loans)

3. Source of Data

- Household survey among 350 households in Brakwa and Benin villages (total population: approx. 2,000 households)
- Listing of all households, then stratified random sampling
- Providers of financial services: Brakwa Rural Bank, Ghana Commercial Bank, Donewell Insurance, MFI, cooperative
- Brakwa Rural Bank is distribution channel for Gemini Life Insurance Company's Anidaso microinsurance policy
- Anidaso offers term life insurance up to age 60, accident benefits, hospitalisation benefits, and voluntary savings scheme





4. Use of Financial Services

	No. of households in sample	Proportion (%) in survey area
No service	164	62.4
Savings	49	17.6
Credit	1	0.4
Insurance	9	0.7
Savings and credit	37	12.0
Savings and ins.	44	3.3
Credit and ins.	1	0.1
All three services	45	3.5

5. Estimation Strategy

Alternative choices are represented by three latent variables

$$S^* = X' \beta_S + \varepsilon_S$$

$$L^* = X' \beta_L + \varepsilon_L$$

$$I^* = X' \beta_I + \varepsilon_I$$

These can be expressed as three binary variables

$$Y_j = 1(X' \beta_j + \varepsilon_j > 0) \quad j = S, L, I$$

Their joint estimation (multivariate probit model) is based on a joint trivariate probability

$$\ln L = \sum_{i=1}^N \ln \Phi_3(\mu_i; \Omega)$$

6. Explanatory Variables

- Demographic variables: household size, gender of household head, age (and age squared) of household head, schooling years of household head
- Asset endowment: asset index (captures ownership of assets owned five years ago), land size, remittances receipt
- Economic activities of head: not employed, self employed, or employed/employee
- Subjective risk assessment: risk index (captures exposure to different risks compared with neighbors)
- Actual shock experience: death, illness, other shock during past five years
- Location: residence in Brakwa or Benin

7. Estimation Results

	Insurance	Savings	Loans
HH size	-	+	+
Female head	+	-	-
Age	+	+	+
Age squared	-	-	-
Schooling	+	+	+
Assets	+	+	+
Land size	+	+	+

7. Estimation Results

	Insurance	Savings	Loans
Self-empl.	-	-	-
Not empl.	-	-	-
Remittances	-	+	+
Risk assess.	-	-	-
Death	-	+	+
Illness	+	+	+
Other shock	-	+	+
Brakwa	-	-	+

8. Summary

- Our results confirm findings of the literature
 - Education level, asset endowment, and regular employment status enhance financial service uptake
 - Supports the common finding that poorer households are more likely to be excluded from the formal financial sector
- But our results also go beyond:
 - Life cycle effect for loans and insurance
 - Remittances increase the available financial resources for savings but act as substitutes for insurance
 - Households which feel more exposed to risks are less likely to use financial services
 - Past experience of shocks and more land holdings strongly increase use of loans
 - Trust in the financial institution and its staff seems to be of utmost importance

Thank you for your attention!

