

How Do the Poor Relate Social Support to Microinsurance Demand? Evidence From Ghana

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This study examined how the poor relate social support to microinsurance demand, using probit regression model. Questionnaire was administered to 200 household heads in five deprived communities in Accra. The study found that the poor relate social support to microinsurance demand as substitute, and are less likely to demand microinsurance when they receive more social support. The poor should be educated to adopt microinsurance as complementary risk mitigating tool to social support. Microinsurance firms should partner telecommunication firms to design and sell tailor-made products at affordable premium and at vantage points where these supports are received by the poor.

Keywords: social support, microinsurance, demand, poor, Ghana

INTRODUCTION

The poor are the most vulnerable in society as they are exposed to a wide variety of risks or shocks that affect their productive decisions and livelihood outcomes such as income, food security, health, wellbeing among others (Su, Saikai & Hay, 2018; Chiwaula & Waibel, 2009; Ligon & Schechter, 2003). In sub-Saharan Africa, over 413 million people are poor, living on less than \$1.90 per day; representing 70 percent of the world's poorest people (Hamel, Tong, & Hofer, 2019). They face risks that emanates from crop failure, health, accidents, diseases, natural disasters, economic disruptions and political violence (Dercon, 2005, World Bank, 2001). While some of these risks can be avoided, others cannot be avoided, thereby impacting the lives of the poor. Risks affect the ability of the poor to maintain their assets and endowments, and transform their assets into income through economic activities for a minimum livelihood. According to Hoozevee, *et al.*, (2005) risk exposure has a direct bearing on well-being, and increases the depth of poverty. Chiwaula and Waibel (2009) also found that food consumption significantly declines when fishing

households are affected by droughts. More recently, Hallegatte, Vogr-Schilb, Bangalore and Rozenberg (2017) assert that increasing risk exposure of the poor reduces their resilience and wellbeing. The impact of risks or shocks is therefore huge and costly on the poor.

The poor has low income that makes it difficult for them to save and accumulate assets to deal with these crises when they occur. They are not able to cope well with illness, death of a bread winner, death of livestock, loss of property, droughts and crop failure and pandemic, thereby serving as a hindrance to them escaping the cycle of poverty. Protecting the poor against these life's uncertainties through appropriate risk management strategies to help them avoid, cope, transfer or mitigate their impact is essential to fight against poverty.

Microinsurance is considered an essential and a more effective tool that can help the poor to mitigate and cope with risks proactively so that they do not fall into chronic poverty and vulnerability (Akotey & Adjasi, 2015; Bakhtiari, 2013, Kishor, 2013). It is an appropriate risk-management tool that provides small scale, low premium insurance policies to low-income individuals or the poorest strata of society in developing world (Siegel, *et al.*, 2010). According to Sherman (2010), despite its limitations such as high transaction costs, moral hazards and adverse selection, microinsurance makes the poor less vulnerable to adverse shocks and property losses. The study further asserts that microinsurance enables the poor to enjoy higher level of disposable income, as they do not have to save as a "safety net" against disasters, and also increases their standards of living. Some poor people may however never be able to afford microinsurance, while others may opt for other risk management techniques at their disposal. For those at the very low levels of income, microinsurance may not be able to fully replace the need for social protection supports. Up until now, the low-income market for microinsurance has been under-served and under-researched (Cheston, *et al.*, 2018), and this requires consideration in a study such as this for appropriate policy interventions.

Over the past years, there has been series of fire and flood incidents in Ghana that resulted in devastating effects on the lives of many people including the poor. Addai. *et al.*, (2016) indicate that fire outbreaks that occurred between 2000 - 2013 affected approximately 11,000 Ghanaians, and the cost of the incident was approximately \$7 million in 2013 alone. Besides, recent floods of 2010, 2011, 2013, 2014 and 2015 had devastating effects on lives, properties, crops and animals in the country, costing over millions of cedis (Asumadu-Sarkodie, Owusu and Rufangura, 2015). In the period of crises, various forms of social supports are received by affected persons. Social support is the help received in situations when a person needs it to solve difficult situations (Řimnáčová, Ondrášek & Kajanová, 2019). Governments, social aids, philanthropists, family and friends most often come to the aid of individuals who are affected by disaster. These supports are however woefully inadequate and may sometimes not come at all, leaving the poor to scrap off all their savings, if any, and sometimes borrow to be able to cope with these risks. In the absence of adequate social support, the poorest sections of the population often find themselves trapped in chronic poverty due to recurrent damage caused by natural calamities. Given the impact of recent risks, one would have expected that the poor would have purchased microinsurance to protect them against future shocks. There appears to be low voluntary demand of microinsurance products among the poor. This study examined how the poor relate social support to demand for microinsurance. The findings will provide policy makers with a better understanding of the relationship for a more effective policy to be implemented to cushion the poor against risk when they occur.

This section is followed by four other sections: Section two presents a review of literature on microinsurance demand. This is followed by the method of analysis and discussion of results in sections three and four respectively. Section five presents conclusion and recommendation.

Empirical Literature

Studies have indicated that factors such as credit constrains, risk aversion, social network endorsement, hyperbolic preferences, household wealth, trust, marketing methods and basic risk are responsible for household engagement in microinsurance (Giné, *et al.*, 2008, Cai *et al.*, 2009, Cole, *et al.*, 2009, Giné, & Yang, 2009, Thornton *et al.*, 2009, Ito & Kono, 2010). Dasgupta, *et al.*, (2011) revealed that Bangladesh's natural disaster risk management has been based on building embankments and polders. However, some of

the spot measures have also been used in recent times. These include distributing post disaster relief such as free food, drinking water, clothing, medicine, and increasing access to post disaster agricultural credit.

Akter (2012) emphasised the importance of government through its intervention in microinsurance. The study found that without government's intervention when microinsurance is either regulated or unregulated there is the tendency to omit the consumer's rights and accountability in the arrangement and this exposes the vulnerability of the poor. Chalamwong and Meepien, (2012) also found that government's social protection mechanisms do not necessarily alleviate poverty from the society as a result of the fact that "allocated government spending per person is less than the poverty line".

Tadesse and Brans (2012) suggest that one of the significant steps a country can take to alleviate poverty is by predicting its microinsurance payouts and this affirms the assertion that the poor indeed need microinsurance. The study of Kishor (2013) in India opines that for India to reduce its poverty level, they need to incorporate microinsurance in their strategy because it complements other financial services including social security. Geetha and Viyalakshmi (2014) further accentuated that in the event that social measures are either unequally distributed or not enough in a given society, microinsurance could be used as an instrument to reduce poverty, vulnerability of the poor and inequality among citizens. Besides, for any society to develop and offer social protection to its vulnerable population, there needs to be the incorporation of microinsurance which will allow for effective partnership between government and the private sector and a mutual collaboration among voluntary, rural and urban groups (Yarumba & Kazungu, 2014).

One of the factors that necessitate the patronage of insurance in Nigeria, according to Badru *et al.* (2013) is government regulations. The authors indicated that there is the need for government intervention in order to make viable Islamic insurance. Government needs to formulate policies that will ensure that low income Muslims consumers are given the insurance opportunity (Rom & Ramhan, 2014).

There are a number of studies that seek to examine determinants of microinsurance in Ghana. Akotey, *et al.*, (2011) found a positive and significant relationship between premium, income, insurance knowledge, marital status, nodal agency and expectation and demand for microinsurance. The study also found age to be a major factor for demanding microinsurance. Ackah and Owusu (2011) outlined the importance of insurance education adjusted to the needs of different segments; for example, rural and urban, literate and illiterate. Perceptions about insurance among the low-income target group (both clients and non-clients) were found to be often based on incomplete information, indicating a lack of understanding about the way in which insurance works (Ackah & Owusu, 2011; Giesbert, *et al.*, 2011).

Other studies have also found a correlation between education, literacy and health insurance. Chankova, *et al.*, (2009) showed that education of the household head positively correlates with joining a health insurance scheme. Brugiavini and Pace (2011) found literacy to be a key characteristic for NHIS enrolment. Given the proven correlation of education and insurance demand, Chankova, *et al.*, (2008) suggested that insurance schemes "need to tailor their marketing strategies to cater for those with less or no education, to ensure that these segments of the population are not excluded". Some studies have also shown that female individuals, or households headed by women, are more likely to become a member of an insurance scheme. Women, rather than men, are expected to deal with the consequences of health shocks and might have a greater need for health care during their reproductive age (Jehu-Appiah, 2011b; Owusu, *et al.*, 2012). Also, married and having large household were associated with insurance demand, as married couples tend to be more risk averse and may demand insurance in order to protect their children (Nketiah-Amponsah, 2009, Chankova, *et al.*, 2008).

An individual's age also appears to affect the decision to join an insurance scheme. The older an individual is, the more likely his/her enrolment in insurance. According to Platteau, De Bock and Gelade (2017) while people's lack of understanding of insurance does seem to limit the demand for microinsurance, fundamental factors, such as price, quality, limited trust in the insurer, and liquidity constraints also seem to have an important role in explaining the low voluntary demand for microinsurance as a useful risk management tool.

Materials, Method and Sample

The study used structured questionnaire to collect primarily data from 200 household heads in five selected deprived communities in Accra: Madina, Nima, Malam, Malata and Chorkor. The choice of these areas was informed by the definition of the poor by the World Bank and the United Nations (World Bank, 2015). It is evident that these communities are among the worst communities in Accra in terms of sanitation, access to clean water, education, proper planning and streets among others. Moreover, the poor may experience risks or shocks other than fire or flood. For instance, health, accident, livestock disease, liability risk, pandemics among others, which if not well managed could drag them deeper into the poverty trap. This actually informed the choice of the areas other than where fires and floods have specifically occurred. Simple random sampling was then used to select forty (40) household heads in each of the five communities for the study. SPSS was used to analyze the data.

Analytical Technique

The probit model was used to examine how the poor relate financial support to demand for microinsurance in the study area. The probit model has the ability to resolve the problem of heteroscedasticity (Asante, *et al.*, 2011), has a believable error term distribution and realistic probabilities (Nagler, 1994). The dependent variable in this work is microinsurance demand by the poor. It is a purchase decision by the respondent. Whether or not a respondent would purchase microinsurance responses are of a zero (0) or one (1). Thus, the decision rule is:

$$y_i = \begin{cases} 0, & \text{purchase decision} < 0 \\ 1, & \text{purchase decision} \geq 0 \end{cases}$$

Where $y_i = 0$ implies respondent will not buy microinsurance, $y_i = 1$ implies respondent will buy microinsurance. When responses are of a zero or a one, the linear Probability Model in its general form could be used:

$$Y_i = X_i \beta_1 + u_i \quad (1)$$

where Y_i is the dependent variable (whether or not one will purchase microinsurance), X_i is the independent variable; β_1 is the regression coefficient and u_i is the error term. In working with (1), the range of values must be bounded since unbounded range could produce negative predictions. Although OLS (Ordinary Least Square) can fit (1), the model is likely to produce point predictions outside the unit interval. It could however be arbitrary restricted to 0 and 1 but also comes with problems, that is, the error term cannot satisfy the assumption of homoskedasticity. To overcome this problem with the linear probability model, the latent variable approach which is an *unobserved* variable could be used to rewrite equation (1) as:

$$Y_i^* = X_i \beta_1 + u_i \quad (2)$$

The model for this study is therefore specified as:

$$DD_{MIP} = \beta_0 + \beta_1 SPRCVD_i + \beta_2 PREM_i + \beta_3 INCOME_i + \beta_4 INSKN_i + \beta_5 AGE_i + \beta_6 MARITAL_i + \beta_7 NODALAG_i + \beta_8 EXPECT_i + e \quad (3)$$

where, DD_{MIP} is the dependent variable, demand for microinsurance by the poor, measured as a binary variable which takes one if the respondent is willing to buy microinsurance, and zero otherwise. It measures whether or not a respondent will buy a microinsurance product. $SPRCVD$ is social support received by the poor and measured on a five point Likert scale, where one means less influence and five means more influence. This is meant to measure the extent to which social support will affect respondent's decision to purchase microinsurance, even if it is not enough to cater for the occurred loss. The higher the ranking, the

more likely social support will influence the decision of the poor to demand microinsurance and vice versa. This variable is expected to have positive coefficient. **PREM** is premium to be paid periodically by the poor for microinsurance uptake and measured on a five point likert scale, where five means more flexibility in premium payment and one means less flexibility. This variable represents flexibility in premium collection that can urge low-income earners to access microinsurance products. The more flexible the premium collection the more likely the poor will demand microinsurance and vice versa. The coefficient of this variable is expected to be positive. **INCOME** is income of the respondent, measured on a five point likert scale, where five is higher income and one is lower income. Household head who has higher income will be able to pay premium associated with the microinsurance uptake, hence will be more likely to demand microinsurance. The coefficient of this variable is therefore expected to be positive. **INSKN** is insurance knowledge of the poor which is measured as a dummy where respondent who have knowledge of insurance is given one, otherwise zero. The more insurance knowledge the poor has, the more likely they will purchase microinsurance to insure against future shocks. This variable is expected to have a positive coefficient.

AGE is age of the respondent measured as ordinal variable. Respondents below 25 years are given a value of one, and those above 60 are given five. The age of a respondent determines the extent of aversion to risk. Younger household heads are more risk loving and less prone to diseases, compared to their older counterparts. They will therefore not be bothered about microinsurance. The younger the respondents, the less likely they will buy microinsurance and vice versa. The coefficient is expected to have positive sign. **MARITAL** is marital status of respondents and measured as a dummy. Respondents who are married are assigned one, otherwise zero. Married respondents have more responsibility to handle and will be more likely to demand microinsurance. This variable is expected to have a positive coefficient. **NODALAG** is delivery channel through which microinsurance is sold. It is measured on a likert scale from 1 to 5 and represents the availability of agents to educate and sell products to the poor. The more available agents are to provide education or sell products, the more likely the poor will purchase microinsurance. This variable is expected to have positive coefficient. **EXPECT** is expectation of the poor about insurers and measured on a five point likert scale, where five is high expectation and one is low expectation. A good perception of the poor about insurers will positively enhance microinsurance demand. It is expected to have a positive coefficient. β_s are the coefficients of the independent variables and e is the error term.

Since the dependent variable is not continuous but discrete, the ordinary least square method was not used. Instead, the Maximum Likelihood Estimation (MLE) method was used. The MLE is the standard approach for estimating a discrete choice such as the probit model which has been applied in a number of studies (Eling, Pradhan & Schmit, 2014, Akotey, et al., 2011).

RESULTS AND DISCUSSION

Descriptive Statistics of Respondents

Descriptive statistics of the respondents is presented in Table 1. Fifty-one (51) percent of the respondents are male, and 47 percent are single. The number of males in the sample confirms the role of men as bread winners in every household. Approximately 71 percent are between the ages of 18 and 35 years, and 49 percent are married. This points to the fact that the respondents are young adults. Sixty-one (61) percent earn less than GH¢50.00, which was mostly received on daily basis. This is an indication of the low level of income of the respondents and confirms their poor status. In coping with risks associated with ill health, loss of property and others, majority of the respondents use their personal saving. This suggests the need to assist the poor to cope with risk in a more sustainable manner.

TABLE 1
DESCRIPTIVE STATISTICS OF RESPONDENTS

Variables	Frequency	Percentages
Gender		
Male	102	51
Female	98	49
Total	200	100
Age		
18-25	60	30.5
26-35	80	40
36-45	39	19.5
46-55	17	8.5
Above 55	4	2
Total	200	100
Marital status		
Single	95	47.5
Married	99	49
Divorced	5	2.5
Widowed	1	0.5
Total	200	100
Income		
Less than 10.00	37	18.5
10.00 – 49.00	84	42
50.00 – 99.00	24	12
100.00 – 499.00	49	24.5
GH¢500.00 and above	6	3
Total	200	100
Social Support Received		
Yes	151	76
No	49	24
Total	200	100
Willing to Buy Microinsurance		
Yes	136	68
No	64	32
Total	200	100

Source: Survey Data (2015)

Insurance knowledge among the respondents was 80%, suggesting that respondents know about insurance. The study also found that 76% of respondents received support and 68% answered yes to willingness to buy micro insurance, an opportunity for microinsurance firms to take advantage of to design and sell tailor-made products to meet the needs of the poor.

TABLE 2
DESCRIPTIVE STATISTICS

Variable	Obs	Mean	Std.Dev.	Min	Max
Social Support Received	200	2.49	1.35	1	5
Premiums	200	3.23	1.15	1	5
Income	200	2.52	1.14	1	5
Nodal agency	200	3.31	1.22	1	5
Expectations	200	3.49	1.23	1	5
Insurance knowledge	200	3.20	1.21	1	5

Source: Survey Data (2015)

The correlation matrix in Table 3 shows that with the exception of age and marital status that has a correlation coefficient of more than 0.5, the rest have a correlation coefficient less than 0.5. This suggests a low correlation among the variables used in the study.

TABLE 3
CORRELATION MATRIX OF VARIABLES USED IN THE STUDY

	Demand	Sprcvd	Premium	Income	Nodalag	Expect	Inskn	Age	Marital
Demand	1								
Sprcvd	-0.137	1							
Premium	0.113	0.158	1						
Income	-0.276	0.032	0.101	1					
Nodalag	0.054	0.153	0.493	-0.037	1				
Expect	-0.127	0.083	0.497	0.077	0.566	1			
Inskn	0.159	0.120	0.308	0.003	0.319	0.305	1		
Age	0.027	0.007	-0.010	0.035	-0.039	0.001	0.140	1	
Marital	-0.005	-0.122	-0.061	-0.012	-0.218	-0.051	-0.045	0.564	1

Source: Survey Data (2015)

How the Poor Relate Financial Support to Micro-Insurance Demand

The result of the probit regression model is presented in Table 4. The value of the Log Likelihood ratio indicates that the model is significant at 5 percent. This implies that independent variables in the probit model jointly explain the demand for microinsurance by the poor. The chi-square statistic is 44.2 and significant at 1 percent level, while the Pseudo R² is 0.178, implying a good fit of the regression model. According to Pindyck and Rubinfeld (1981), the upper bound Pseudo R² should be 0.33. In general, the model fit the data well. The variables that significantly affect demand for microinsurance are social support received, premium, income, expectations and knowledge of insurance. The study found that support received variable is significant and negatively related with demand for microinsurance. The poor therefore relate social support to microinsurance demand as substitute. The more support the poor receive during crises, the less likely they will purchase microinsurance products. The support the poor receive may be seen as a sort of insurance to depend on during crises. They are therefore not likely to buy microinsurance as they will depend on the social support they receive from friends and families to mitigate the impact of the risk on their lives.

TABLE 4
REGRESSION RESULT OF HOW SUPPORT RECEIVED RELATES TO
MICROINSURANCE DEMAND

DEPENDENT VARIABLE: DEMAND FOR MICROINSURANCE				
	Coefficients	Std. Err.	z	P> z
Constant	1.2435	0.5548	2.24	0.025
SPRCVD	-0.1978**	0.0763	-2.59	0.010
PREMIUMS	0.3518***	0.1120	3.14	0.002
INCOME	-0.3915***	0.0938	-4.17	0.000
NOGALAG	0.0898	0.1086	0.83	0.409
EXPECT	-0.3930***	0.1126	-3.49	0.000
INSKN	0.2435***	0.0922	2.64	0.008
AGE	0.0570	0.1293	0.44	0.660
MARITAL	-0.0992	0.2152	-0.46	0.645
LR χ^2 (8)	44.2			
Prob > χ^2	0.0000			
Pseudo R2	0.1784			
Log likelihood	-101.74772			
Number of Observation	198			

Source: Survey Data (2015)

The premium variable in the model is positive and significant at 5 percent. The variable represents how flexible premium payment is to meet cash flows of the poor. Since income receive are not on a regular basis, the more flexible premium payment is to suit their cash flows, the more likely it is that the poor would purchase microinsurance. This finding is consistent with Akotey, *et al.*, (2011) who found premium flexibility to positively affect demand for microinsurance in their study.

Income variable negatively and significantly relates to microinsurance demand at 1 percent level. This is not consistent with literature as an increase in income level should be a motivation to purchase microinsurance. It may be said that when there is an increase in the income of the poor, they might have other needs that they may want to take care of and will not actually consider buying microinsurance. Akotey, *et al.*, (2011) however found income to be significant and positively related to demand for microinsurance.

The expectations variable was also significant at 1 percent level and negatively related to the demand for microinsurance. Perception about a product can either make one buy it or not. The more a product is perceived as bad and hence expected to bring a negative outcome, the less likely it would be bought. It is therefore important for insurance companies offering microinsurance to be prompt in their claims payment when a risk occurs because once people's expectations are not met, it would definitely affect the demand for such products.

Insurance knowledge variable was found to be significant at 1 percent and positively related to demand for microinsurance. The study found that about 80% of respondents knew about insurance and this is good for microinsurance uptake. The more the poor get to know about the concept of insurance, the more likely they are to purchase microinsurance products and vice versa. Recent fires and flood situations have brought insurance to public view and therefore more people are beginning to understand what insurance is all about.

CONCLUSION AND POLICY RECOMMENDATIONS

The poor suffer greatly from losses that emanate from risks that attract support from various sources to cushion them. Several efforts such as promoting insurance have been made to cushion the low income people against the effect of risks they are exposed to since they do not have any social security cover. Serving low-income people who can pay premium certainly makes a sound commercial sense to insurance providers. However, it is becoming increasingly clear that microinsurance needs a further push and guidance from the regulator as well as the government. The study sought to examine how the poor relate support received to microinsurance demand in Ghana. The study found that most of the poor save with susu collectors and Rural Banks, so selling microinsurance through this channel will ensure larger groups of the poor are reached. The results also show that 68 percent of the respondents expressed the desire to purchase microinsurance, and 76 percent have received support from families and friends in various forms such as cash and relief items. This suggests that there is demand for microinsurance which microinsurance companies could take advantage of to introduce and sell products at points where these supports are received by the poor. This may include money transfer outlets such as mobile Money and the Rural Banks.

Support received was found to have a negative relationship with demand for microinsurance. This means that support received by the poor from relatives and friends is seen as a sort of insurance against crises, and therefore make them reluctant to buy microinsurance products. The poor should be educated to consider these supports as complementary risk mitigating tools to microinsurance. Therefore, linking support with microinsurance would make a lot of business sense. The poor could be encouraged to buy microinsurance with the support they receive. Insurance companies who want to seize this opportunity should develop products to suit the people in the lower income bracket. Moreover, telecommunication firms should collaborate with micro insurers to design tailor-made products for the poor to help mitigate the impact of crises on their lives. Premium payment should be made flexible to enable the poor pay according to their cash flow. By so doing microinsurance demand will be enhanced to help effectively mitigate the impact of risk on the livelihood of the poor when they occur.

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