Insurable and Non-Insurable Risk Exposures and the Related Coping Strategies: A Case Study of Select Urban Households of Iluababor Zone, Oromia Regional State, Ethiopia

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Abstract
The study entitled “Insurable and non-insurable risk exposures and the related coping strategies; A case study of select urban households of Iluababor Zone, Oromia Regional State, Ethiopia” was conducted with the general objective of identifying the insurable and non-insurable risk exposures facing the households in the study area and finding the coping strategies applied. In order to achieve this objective, the study was conducted using descriptive research design since identification can better be achieved using survey. The population of the study was urban households in Mettu and Bedelle Towns of Iluababor Zone. A proportionate area sampling method was applied in selecting samples because it reduces the sampling error and provides greater or better precision. Random sampling technique has been applied at household level selection. The list of heads of households was obtained from administrative authorities. From the total population of 901, about 384 (42.6%) were randomly selected by using table of random numbers. The study has utilized both primary and secondary data. The investigation reveals that the most important risk exposures facing the study area relates to food expenses, house construction expenses, medical expenses, theft and education expenses. Death related costs, flood and fire risk seems to be remote in occurrences. However, food expenses, education expenses and house construction expenses cannot be taken as risks from the insurance point of view since they are predictable, not accidental. As coping strategies, using money of self out of one’s savings, receiving help from friends and relatives in cash or in kind, selling of valuable assets, ‘ikub’ (traditional saving and credit groups) and ‘iddir’ (traditional funeral societies) have been identified as cultural coping mechanisms.

Keywords: insurable risk, non-insurable risk, coping strategies, insurance

Introduction
The study makes a distinction between insurable and non-insurable risks to translate the information into a business proposition for general insurance products. To qualify for economically feasible protection from private insurance, the criteria for the “ideal risk” should be met as far as possible. Firstly, insurance is based on the statistical laws of large numbers which imply that, for a pool of uncorrelated observations, the variance of the pool decreases with the number of observations (Priest, 1996). However, if insured units face highly covariate risks, the variance reduction that can be obtained by pooling is greatly reduced (Skees and Barnett, 1999; Bals, et al. 2006). Spatially correlated catastrophic losses can then exceed the reserves of the insurer leaving unsuspecting policyholders unprotected. The presence of highly covariate risk is a major cause of insurance market failure in many low income countries.
Secondly, the principal-agent literature identifies two primary types of asymmetric information problems: adverse selection (or hidden information) and moral hazard (or hidden action). In insurance markets, adverse selection occurs when potential policyholders have proprietary knowledge about their risk exposure that is not available to the insurer (Rothschild and Stiglitz, 1976). Insurance underwriters assign potential policyholders into risk rating classes. Because underwriters do not have access to all the relevant information, many potential policyholders are misclassified. Those who are misclassified to their benefit are more inclined to purchase and those who are misclassified to their detriment are less inclined to purchase. As a result, the insurance program is likely to experience losses that exceed the projections used to establish premium rates. In response, the insurer may increase premium rates for all classes. But this only compounds the problem and leads to an even more adversely selected group of insurance purchasers (Beenstock, et al. 1986). Unless the underlying information asymmetry can be addressed, adverse selection will cause insurance markets to fail. Moral hazard, the second common asymmetric information problem, occurs when, as a result of purchasing insurance, policymakers engage in hidden activities that increase their exposure to risk. This behavioral response leaves the insurer exposed to higher levels of risk than had been anticipated when premium rates were established. Unless the insurer can effectively monitor policyholder behavior so as to enforce policy provisions, moral hazard will also cause insurance markets to fail. Indeed, using Siegel and Alwang’s (2001) framework for an ideal risk to insure, the research has identified risk related to: medical expenses, death, theft, house construction expenses, flood and fire, and education expenses are insurable. These risks are measured on the percentage of household income spent to cover risk and the financial impacts they cause to them.

Statement of the Problem: A risk is the uncertainty of loss. The uncertainty of loss ranges over loss of life, fire damage, theft of property and the like. Uncertainty of loss implies two distinct features - uncertainty as to when the loss will occur and also uncertainty as to how severe the loss will be. Using Rahman and Hossain (1995) risk framework, three major risk categories were identified: - The first category of risk is lifecycle risks which stem from events such as marriage and birth, old age, and death, but also involve regular expenditures for food, housing, education and healthcare. These risks are generally predictable, which makes planning and managing them more feasible. However, they become crises if they are not adequately planned for, if insufficient savings have been accumulated to manage them, or if they occur concurrently with another risk.

Secondly, structural risks that are caused by long-term or permanent changes in the national or international economy, as well as by disasters caused by seasonal or weather-related effects. The third category of risks is crisis risks, which are unexpected shocks to the household that may increase costs, drain resources, and/or disrupt its ability to generate income. These crises may have a sharp single impact (for example, business theft, fire); they may be recurring (i.e. on-going health problems); or they may be permanent (i.e., a disabling injury, unexpected death of a wage earner).

Therefore, it is very important to identify the type of risks the households in the study area were facing and the related coping strategies.

Objectives of the Study: The general objective of this study was to identify insurable and non insurable risk exposures and the related coping strategies to suggest modern mitigation methods like general insurance where necessary. The specific objectives of this study are:

- To explain the difference between insurable and non insurable risks.
- To identify insurable and non insurable risk exposures facing the households in the study area.
- To analyze the existing coping strategies applied by the households traditionally.
- To suggest coping strategies for both types of risk exposures depending on the household survey.
Significance of the study: The current study seeks to identify the insurable and non insurable risk exposures facing the urban households of Ituababor Zone, Oromiya Regional State, Ethiopia. In this particular case, it was believed that the study would have the following specific significances.

- It distinguishes between insurable and non insurable risk exposures and their coping strategies which are different in nature.
- It helps the policy makers to treat insurable and non insurable risks differently since they are different in their nature of occurrence from each other.
- It may help the households to understand the nature of risk they were facing and to see more reliable coping strategies.
- It contributes to the knowledge of households about risk and its coping technique.

Literature Review

Risk exposures are of first-order importance, particularly when its occurrence causes poverty or disrupts household’s wellbeing. Riskier individuals are more likely to purchase the insurance given a premium and benefits (Rothschild and Stiglitz, 1976). The comprehensive review of development literature provides empirical and theoretical descriptions of risk exposure and its consequences to household’s wellbeing. Indeed, Azariadis and Stachurski (2004) argued that the poverty traps hypothesis carries important implications for the study and management of risk exposures. The hypothesis increasingly draws attention as an explanation for persistent underdevelopment of households. It indicates that households below a certain income or wealth threshold may remain trapped in a low-level equilibrium. Thus, if this sort of poverty trap exists, the households may not recover quickly, or at all, from risk exposures. The empirical research finds considerable persistence in the effects of risk exposures, especially among the poor, (see for example, Alderman, et al. 2006; Carter, et al. 2007; Dercon, et al. 2006; Jalan and Ravallion, 2005; Dercon, 2005). These studies indicate that recovery from major risk exposures is commonly slow or non-existent. They argued that health risk exposures appear to have especially important effects; they are overwhelmingly the most frequent cause of risks into long-term poverty. Risk exposures and their effects create demand for general insurance techniques to reduce poverty especially among low income earning households.

The distinction between idiosyncratic and covariate risk is important because general insurance techniques can handle idiosyncratic risk while covariate risk makes a case for social protection measures. As Alderman and Paxson (1994) demonstrate with a full insurance model, covariate risk exposures cannot be insured by risk-sharing, as all members of the insurance pool would require payouts at the same time. Thus, the relative magnitude of covariate risk exposures is important to the design of appropriate social protection policy interventions. However, there is increasing evidence regarding the importance of idiosyncratic risk. Empirical studies have found that the idiosyncratic income risk is relatively large (see for example, Deaton, 2005; Dercon and Krishnan, 2000). These studies indicate that many risks have both idiosyncratic and covariate components but idiosyncratic risk dominates covariate asset risk among the households. The evidence on the importance of idiosyncratic risk for households underscores the need for a continuing discussion on the efficacy of the strategies available for mitigating the impact of random risk exposures. Therefore, demand for insurance needs to take into account the household’s nature of risks; the household has multiple sources of risks each with its own distribution of losses and the ability to manage and insure differs greatly. This study is enriched by identifying insurable and non-insurable risk exposures with their coping strategies. These separations enlighten the individual ability to manage risks, possibly via informal or formal mechanisms.

Research methodology

Research Design: Research Design is a process of steps used to gather and evaluate information in order to increase understanding on an essential topic. It consists of three steps, namely posing a question, collecting data to the answer of the question, and presenting an answer to the question (Creswell, 2009). The research design for the current study refers to a qualitative form. This research concentrates on the identification of insurable and non insurable risks and uses descriptive research design. The study has employed descriptive research design so
as to describe the difference between idiosyncratic and covariate risks and their related coping strategies. The study was conducted in Mettu and Bedelle Towns of Iluababor Zone, Oromia Regional State, Ethiopia.

**Study Population and Sampling Technique:** The population of the study was urban household leaders in Mettu and Bedelle Towns of Iluababor Zone. The main reason for selecting these towns is that they were the only towns with city administration unit and also at least one insurance company is available in these towns while there are no any insurance company branches in all other small towns in the zone; and the reason for selecting household leaders is the availability of their sampling frame or list of population from governmental offices. The second reason is economy and time. As explained by C.R. Kothari (1985) in his research methodology, during sampling procedure, a researcher should consider the time and budget available for the study. It would be better if all urban areas were included in the survey but it would not be manageable within the time and the budget allotted for the study. Furthermore, there is no research done on urban household risk management in general insurance, and the towns were assumed to be representative of all the 22 ‘towns’ in the zone.

**Sample Size and Sampling Technique:** A proportionate area sampling method was applied in selecting samples because it reduces the sampling error and provides greater or better precision (Sapsford and Jupp, 1996). Random sampling technique has been applied at household level selection. By doing with administrative authorities, the list of heads of households was obtained. 384 of the total population were selected randomly by using table of random numbers. This number was decided by the following sample size determination formula.

\[
S = \frac{Z^2 \times (p) \times (1-p)}{c^2}
\]

Where:

- \( S \) = Sample size
- \( Z \) = Z value (e.g., 1.96 for 95% confidence level)
- \( p \) = percentage picking a choice, expressed as decimal (.5 used for sample size needed)
- \( c \) = confidence interval, expressed as decimal (e.g., .04 = ±4)


That is, at 95% confidence level,

\[
S = \frac{(1.96)^2 \times (0.5) \times (1-0.5)}{(0.05)^2}
\]

\[
S = 384.16
\]

Therefore, the sample size was determined to be 384 and this number was assigned to the two towns under study based on proportional sampling method to give equal chance to the household heads in the two towns.

The results of the population and the sample size were filled in the following table before initial execution of pilot test and actual data collection.
Sources of Data: The study has utilized both primary and secondary data. First hand data was gathered and used for the study as a main source of information since there were no studies conducted on general insurance on the study area. These primary data was collected from select urban households through questionnaires (schedules), prepared by the researcher and filled by the researcher and his enumerators and also focus group discussion was conducted with some voluntary respondents among the sample. In addition, as secondary data, books, journals, magazines and the internet, etc. were used to obtain background information and theoretical concepts on the subject of general insurance.

Results and discussion

Table No. 2 Risk exposures of households measured by household spending

<table>
<thead>
<tr>
<th>Type of risks exposure</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>food expenses</td>
<td>153</td>
<td>40</td>
</tr>
<tr>
<td>Building a house expenses</td>
<td>80</td>
<td>21</td>
</tr>
<tr>
<td>Illness (medical expenses)</td>
<td>71</td>
<td>18.5</td>
</tr>
<tr>
<td>theft</td>
<td>31</td>
<td>8</td>
</tr>
<tr>
<td>Education Fee</td>
<td>19</td>
<td>5</td>
</tr>
<tr>
<td>child birth</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>electricity bills</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>forced contribution and tax</td>
<td>6</td>
<td>1.5</td>
</tr>
<tr>
<td>other (flood, wind, fire, etc)</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Death of family member</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Divorce</td>
<td>2</td>
<td>0.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>384</strong></td>
<td>100</td>
</tr>
</tbody>
</table>


As it can be observed from table No. 2, for 153 (40%) of the households, their major income was spent on food expenses and the second largest portion of the household’s income was spent on risk exposure related to the cost of constructing houses as 80 (21%) rated it first. Similarly, for 71 (18.5%) of them illness (medical expenses) takes the biggest share of their income and income lost through theft was the highest for 31 (8%) of them. In addition, cost of education represents the household spending for 19 (5%) of them and child birth takes for around 8 (2%) of the households. Secondly, other exposures that increase financial needs reported include flood, fire, divorce, electric bills, forced contribution or tax and death of family member but these were relatively less widespread.

These account for very small portions of household income. For example, electric bills 1.5%, forced contribution or tax are almost the same, 1.5%, and other infrequent but severe risks like fire and flood account...
for the loss of 1% of household income. In the same token, death of a family member and divorce which are also infrequent but severe risks account for 1% and 0.5% respectively. The main risks identified can be classified into a more general typology that addresses the statistical probability of the risk occurring and provides a basis on which schemes and services can be developed and tailored to the community. Note the difference between covariate risks and idiosyncratic risks. Covariate risks are risks that randomly occur but affect many individual households at a time. These are repeated shocks which put entire communities at risk and may prove very difficult to insure. However, other social protection mechanisms like labor market interventions, relief works, transfers, or development assistance may be more effective as risk-management tools in these circumstances. This distinction is important because a general insurance technique applies for idiosyncratic risks while covariate risk calls for social protection measures.

The findings presented in table No.1 have led to the construction of insurable and non-insurable risk exposures. The study makes a distinction between insurable and non-insurable risks to translate the information into a business proposition for general insurance products. To qualify for economically feasible protection from private insurance, the criteria for the "ideal risk" should be met as far as possible. Firstly, insurance is based on the statistical laws of large numbers which imply that, for a pool of uncorrelated observations, the variance of the pool decreases with the number of observations (Priest, 1996). However, if insured units face highly covariate risks, the variance reduction that can be obtained by pooling is greatly reduced (Skees and Barnett, 1999; Bals, et al. 2006). Spatially correlated catastrophic losses can then exceed the reserves of the insurer leaving unsuspecting policyholders unprotected. The presence of highly covariate risk is a major cause of insurance market failure in many low income countries.

Indeed, using Siegel and Alwang’s (2001) framework for an ideal risk to insure, the research has identified risk related to: medical expenses, theft, death, and fire are insurable. These risks are measured on the percentage of household income spent to cover risk and the financial impacts they cause to them. On the other hand, flood, wind, fire (when happens to large number), drought, etc are non insurable risks. From insurance perspectives, food expenses, house construction expenses, child birth expenses and education expenses cannot be associated with risk, as risk is an unexpected event causing financial loss. These are predictable and expected. However, their analysis is important to find out their frequency and the related coping strategy of the households.

Table No. 3 Coping Strategies Applied by the Households

<table>
<thead>
<tr>
<th>S. No.</th>
<th>Coping Strategy</th>
<th>Applied frequency</th>
<th>Applied Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Using money of self from saving</td>
<td>385</td>
<td>99.7%</td>
</tr>
<tr>
<td>2</td>
<td>Receiving help from families and relatives</td>
<td>279</td>
<td>73%</td>
</tr>
<tr>
<td>3</td>
<td>Selling of fixed assets</td>
<td>222</td>
<td>57.8%</td>
</tr>
<tr>
<td>4</td>
<td>Borrowing with interest</td>
<td>59</td>
<td>15.4%</td>
</tr>
<tr>
<td>5</td>
<td>Voluntary insurance</td>
<td>28</td>
<td>7.3%</td>
</tr>
</tbody>
</table>


Table No. 3 reveals that almost all of the households surveyed, 383 (99.7%) have used their own money for coping with risks, whereas 279 (73%) of them have received some kind of help from their families or relatives to pass bad days. Similarly, 222 (57.8%) of them have sold their fixed asset, whereas 59 (15.4%) of them have borrowed money with interest from financial institutions and/or moneylenders. However, 28 (7.3%) of them said they were using insurance as a strategy of risk coping voluntarily. Other coping mechanisms found by this study include ‘ikub’ which stands for an informal finance group which collects sum amount of money from all group members and gives all the money to a group member up to all members receive. This has both saving and lending element in it. The other traditional coping method applied was ‘iddir’ which stands for funeral societies.
We can see from table No. 4 that only 218 (56.8%) of the household heads had the awareness of insurance whereas 165 (43%) of them answered that they did not have any information about insurance. This shows that the awareness of the public regarding insurance in Ethiopia was very much minimal. It becomes the worst when the education status of a household is null or very low as shown in the following table.

Table No. 5 demonstrates that as educational status of households increase, their knowledge of insurance also increases and vice versa. The table indicates that only 20 (40%) of the illiterate household heads answered that they had awareness of insurance. On the contrary, all of the degree holders said that they had knowledge of insurance. This shows that education is a key factor for fostering the insurance knowledge of the people of Ethiopia. Insurable risks are prevalent in the study area and therefore, they can be controlled by insurance whereas non insurable risks can only be reduced through social protection schemes which call for the action of the government since insurance by the private sector is a failure for them.

**Table No. 4** Insurance awareness of household heads

<table>
<thead>
<tr>
<th>Valid</th>
<th>Frequency</th>
<th>Percent</th>
<th>Valid Percent</th>
<th>Cumulative Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>yes</td>
<td>218</td>
<td>56.8</td>
<td>56.9</td>
<td>56.9</td>
</tr>
<tr>
<td>no</td>
<td>165</td>
<td>43.0</td>
<td>43.1</td>
<td>100.0</td>
</tr>
<tr>
<td>Total</td>
<td>383</td>
<td>99.7</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>missing</td>
<td>1</td>
<td>.3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>384</td>
<td>100.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Source: Household survey, 2016*

**Table No. 5 The Distribution of Education Qualification of Respondents over their Insurance Knowledge**

<table>
<thead>
<tr>
<th>Count</th>
<th>Insurance knowledge</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yes</td>
<td>no</td>
</tr>
<tr>
<td>Education qualification of respondents</td>
<td></td>
<td></td>
</tr>
<tr>
<td>illiterate</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>less than grade 10</td>
<td>35</td>
<td>83</td>
</tr>
<tr>
<td>grade 10 complete</td>
<td>91</td>
<td>40</td>
</tr>
<tr>
<td>diploma</td>
<td>60</td>
<td>12</td>
</tr>
<tr>
<td>degree</td>
<td>12</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>218</td>
<td>165</td>
</tr>
</tbody>
</table>

Conclusion

In this study, we have explored the financial consequences brought about by the risk exposures up on the households in the study area, by describing characteristics and their impacts to the households’ earned income. The results indicate that the households face a variety of risks that provide unique challenges to their incomes. The household incomes were interrupted occasionally by unforeseen events like increases in food prices and medical expenses resulting from illness and injuries.

The results from the data reveal three important outcomes. Firstly, the most important risk exposure relate to food expenses, house building expenses, medical expenses, theft and education expenses. Death related costs, flood and fire risk seem to be remote in occurrences.
Secondly, it appears from the data that there were great variations on impacts of risk among households depending on the family background, economic status and the groups they belong to. More significant impact on risk exposure relates to major health problems which require hospitalizations and proper diagnosis.

Thirdly, there is evidence of collective and group responsibilities on handling risk exposure. Significantly, findings show that death related risks are taken care of largely by families and friends networks.

Fourthly, the study found that the awareness of the public about insurance was very much limited and it has got worse for the households with low education level.

As coping strategies, using money of self out of one’s savings, receiving help from friends and relatives in cash or in kind, selling of valuable assets, ‘ikub’ and ‘iddir’ have been identified as traditional coping mechanisms. On the other hand, very few of the households were found using modern risk coping strategies like borrowing with interest and voluntary insurance.

**Suggestions**

Based on the findings of the study, the researchers forwarded the following suggestions.

1. The study found that the awareness of the public on insurance was very low. Therefore, the government and the NGOs shall cooperate to boost the awareness of the public on insurance.

2. The study found that there were different traditional risk coping mechanisms in the public which originally existed as part of the culture of the society. Therefore, insurance companies shall come up with safer and easier insurance packages that can substitute the traditional schemes for insurable risks.

3. Covariate risks cannot be insured and in fact it was found that they were not prevalent in the study area. However, future is always uncertain and therefore coping strategy is needed for them also. Consequently, the government shall organize social protection schemes from which all the members of the public could be benefited.

**References**


http://www.surveysystem.com/sample-size-formula.htm