Tropentag 2015, Berlin, Germany
September 16-18, 2015
Conference on International Research on Food Security, Natural Resource Management and Rural Development
organised by the Humboldt-Universität zu Berlin and the Leibniz Centre for Agricultural Landscape Research (ZALF)

Factors Affecting Trust and Risk Attitudes of Ethiopian Households

Bereket Issack[1], Ling Yee Khor, Tim Loos, Khalid Siddig and Anupong Wongchai

University of Hohenheim, Institute of Agricultural Economics and Social Sciences in the Tropics and Subtropics, Stuttgart, Germany.

1. Introduction

A growing literatures underline trust and risk attitudes are important features of human elements that significantly influence our economic and social decisions (e.g. technology adoption and crop diversity). Subsequently, many studies are carried out to find out the determining factors of trust and risk attitudes of the rural farm households (Dohmen *et al.*, 2011; Akay *et al.*, 2011; Gloede *et al.*, 2011; Yesuf and Bluffstone, 2007). However, many governments in developing countries do not pay close attention on trust and risk attitudes of their productive individuals (Picazo-Tadeo and Wall, 2010). Consequently, it undermines individuals' decision making choices on activities and investments that have considerable outcomes on economic, social, and environmental well-being of their community.

Ethiopia, one of the least developing countries, has experienced a promising economic growth over the past decade. The growth accounts for agricultural productivity, service expansion and women participation in economic enterprises. However, the country still has a profound structural weakness that needs to be addressed and fixed to maintain sustainable growth. Ethiopian economy depends mainly on rain-fed agriculture and primary commodities supply.

[1] Corresponding author: address Fruwirthstr 13, 70599 Stuttgart, Germany: E-Mail: bereketissack@gmail.com

A couple of years ago the country suffered from extreme drought and adverse terms of trade (Mwanakatwe and Barrow, 2010). An experimental study in the northern part of Ethiopia found out that more than 50 percent of the households exhibit, sever to extreme risk aversion behavior (Yesuf and Bluffstone, 2007). However, the study did not represent the larger part of Ethiopia including our study area (Hawassa region) where similar shocks are experienced but less prevalent. The region is also well known for its livestock production, particularly cattle unlike the northern region (Gertel and Heron, 2012).

Therefore our objective is to investigate and determine the factors that affect the trust and risk attitudes of the Ethiopian households.

2. Description of the study site and Methods

2.1 Study site

The study was conducted in the southern part of the Ethiopian highlands around the Hawassa city. The altitude ranges from 1,500 to 3,500 meters above sea level. Data collection process covers an area with a radius of 200 kilometers from the main city, Hawassa. A total of 258,808 people live in this zone and 61% of them reside in the city and the rest of the population lives around the rural administrative areas (Kebeles). Five major ethnic groups inhabit in this zone; namely, Sidama, Amhara, Welayta, Oromo, and Gurage. The majority of them are subsistence farmers (Gibson *et al*., 2009). They grow several crops. Coffee is a popular agricultural product in the area and cattle are considered as a measure of wealth among the people. Coffee and livestock products are the main sources of income in the region, besides off-farm activities, while remittances are additional source of incomes. This study selected representative communities based on its geographic features and socioeconomic condition, as well as farming practices of the people.

2.2 Data collection

Formal survey questionnaires were used to collect data. The questions were prepared based on the socio-economic performance of the households and the agro-ecological features of the area so that the subjects would give consistent answers that reflect the existing activities. A sample of 404 household heads was selected from the 2012 ATA Baseline Survey conducted by the

International Food Policy Research (IFPRI) for the Ethiopian Agricultural Transformation Agency (ATA).

The independent and dummy variables were regressed against the willingness to take risk on farm management (planting date, choice of crops, amount of fertilizer, etc.) by employing the Ordinary Least Square model (OLS), which displays the solutions in continuous form.

3. Results and Discussion

The results of the general risk attitude question illustrate a range of heterogeneity among household heads. The predictors are exogenous variables that represent the personal characteristics of each respondent and their socio-economic activities. A total of 16 explanatory variables are used to determine the risk attitude. However, our study mainly focuses on the most significant variables; such as the number of shocks experienced, gender, mobile phone ownership, total non-farm income, whether the respondents took formal education or not, as well as the trust on their relatives. Apparently, these variables have stronger explanatory power in economic and social decision making process.

The first regression was run without the ‘‘trust on relatives variable’’. The results indicate that gender is one of the significant factors on risk attitudes where male heads exhibit higher risk loving behaviour than their counterpart females. The difference could be due to the culture that favours male on decision makings among many of the Ethiopian households (Yesuf and Bluffstone, 2007). Similarly, the number of shocks the households experienced before five years are highly significant for both genders that makes them to show risk averse behaviour. A similar study by Yesuf and Bluffstone (2007) reported farmers who are subjected to higher rates of livestock mortality and erratic rainfall exhibit a strong risk averse behavior. Interestingly, enough respondents who took formal schooling have a positive correlation with the willingness to take risk on farm management. It is also a very strong influencing factor in the risk loving behaviour of the households. In contrary, the level of education that the respondents reach has no significance on their risk behaviours. The households who assemble information from and share to their families, friends and cultural associations (Baito) about the market price and market value of their products, social and political developments, as well as innovations technologies

exhibit strong risk averse behavior than those who manage to receive information from the government or local administrative offices. Hence, it can be plausibly argued that the household's affinity, trust on credible sources and strong beliefs on formal schooling as supposed to provide accountable information is eminent, especially on issues that matter the community most. Some studies (e.g. Gefen *et al.,* 2003*;* Gefen and Pavlou, 2004) argued that such beliefs and feelings create trust that gradually leads to a strong risk loving behaviour of the individuals in unknown circumstances.

Table 1: Regression results of the general risk question

Dependent Variable: *Willingness to take risk on management (planting date, choice of crops, amount of fertilizer, etc.)*

	Coefficients.	Standard Error.
Household head	0.84***	0.30
Informal schooling	-1.12**	0.45
Education level	0.03	0.03
Informal information	-0.99***	0.20
Gender	0.88**	0.01
Number of shocks (past 5yrs)	-0.52***	0.20
Mobile phone	0.72***	0.20
Total off-farm incomes	0.38**	0.14

Note: *, **, *** depict the significant levels at 10, 5, and 1 percent, respectively.

Mobile phones improve access to market information and reduce the cost of communication. Naturally mobile technologies are expected to increase farm household income by promoting agricultural commercialization and nonfarm job opportunities. As expected, our regression results show positive signs on mobile phone as an asset and the total income (non-farm) coefficients indicating risk loving behaviour as a response to risk items. Table 2 displays similar results using trust on relatives as an independent variable. The objective is to observe its effects on the general risk attitude level and the other significant predictors. Apparently the trust on relatives gives the respondents a certain level of confidence on decision makings in unknown domains. As expected, our results show the variable to be significant with a positive sign coefficient. However there is no considerable shift on the other predictors. The signs remain the same but a small change is observed in the coefficients of the each predictor.

Table 2: Regression results of the general risk question including trust in relatives

Dependent Variable: *Willingness to take risk on management (planting date, choice of crops, amount of fertilizer, etc.)*

	Coefficients.	Standard Error.
Household head	0.84***	0.30
Informal schooling	-1.12**	0.45
Education level	0.03	0.03
Informal information	-0.99***	0.20
Gender	0.88**	0.01
Number of Shocks (past 5yrs)	-0.52***	0.20
Mobile phone	0.72***	0.20
Total non-farm incomes	0.38**	0.14
Trust in relatives	0.36***	0.13

Note: *, **, *** depict the significant levels at 10, 5, and 1 percent, respectively.

4. Conclusions and Outlook

This study objectively identified the determining factors of the risk attitudes of the Ethiopian households. Based on the survey questionnaire and the regression models, we are able to interpret the empirical results and their correlations with the general willingness of the household heads to take risks on farm management. The results indicate that gender and education are two of the main factors that affect the risk preference of the households. Gender difference is a major determining factor in risk attitude behaviour, because policy makers and development projects should regard the role of women on agriculture, poverty alleviation, and birth rate control where everyone is concerned. Similarly, the education is one of the basics in society development. It is an investment that increases the return in the labour market. Besides the mobile technology, shock experience, and off-farm incomes are significant factors, even though they have different values of coefficients in both regression results.

This study tried to answer the questions at hand, further studies are necessary to support and validate the conclusions that the study draw. Furthermore, more experiments (e.g. lottery, real money at stake) might be necessary to ensure the robustness of such results.

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