

CLIENT-VALUE OF MICROINSURANCE PRODUCTS: EVIDENCE FROM THE MUTUAL ASSISTANCE FUND IN VIETNAM

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ABSTRACT

This study investigates preferences of clients for microinsurance products with the case study of the Mutual Assistance Fund (MAF), the pioneer microinsurance provider in Vietnam. The study aims to contribute to improve the ability of the young microinsurance industry in Vietnam to meet the needs of its clients, which in turn, will enhance its efficiency, effectiveness and sustainability. In addition, the study examines the factors influencing microinsurance take up and identifies potential gateways for microinsurance to serve the uninsured poor population. Our results reveal that the current premium offered by MAF seems too low and that it has no significant effect to the preferences of clients over product attributes. In the same line with Tran and Yun (2004), we found that clients are willing to pay higher premium in order to receive a higher level of benefit. In addition, the main factors that significantly affecting product preferences are experiences in insurance, mathematical ability and attitude towards risk.

1. INTRODUCTION

Despite achieving rapid economic growth in the last two decades, Vietnam remains a poor developing nation with the poverty rate of some 40 per cent, with the highest levels of poverty concentrated in rural areas (General Statistical Office, 2009). With the transition of the economy towards a market mechanism and the absence of an effective safety net, the poor are most vulnerable to negative external shocks such as natural disasters; and/or death and illness of the main breadwinner. Informal coping strategies such as relatives and friends are limited

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whilst formal insurers often neglect the poor due primarily to high transaction costs. Mutual Assistance Fund (MAF), Vietnam's first microinsurance provider, was started in 1996 a single line of life-credit insurance (Tran and Yun, 2004). At the present, MAF provides a basic health insurance product with capped benefits of VND 1 million (about \$50)², which is renewable every five years, for hospital visits and medications (Centre for Women Development, 2009).

Apart from a limited number of microinsurance providers operating in Vietnam (such as MAF and initiatives from NGO such as GRET), low income households can also receive services from commercial insurance companies. For example, state-owned Bao Viet³, Petrolimex⁴ insurance, Vietnam social insurance; and foreign insurance companies such as Manulife and Prudential have provided some life and health insurance plans, which are affordable for low income households.

Since the microinsurance industry is relatively new in Vietnam, little research has been conducted on this industry. To the best of our knowledge, no previous research has examined whether current insurance products provided by MAF satisfy their client's needs. Only a few previous studies have investigated the latent demand for insurance of the uninsured poor in Vietnam. Hence, the main aim of this study is to examine the extent to which the current line of microinsurance sold by MAF, is able to satisfy their client's needs. In addition, this study aims to identify preferences of existing and potential clients regarding product attributes. The remainder of the report is unfold as follows. Section 2 presents a brief review of the literature on microinsurance; methodologies are introduced in Section 3; the next section presents the surveys and data; Section 5 presents results and discussions and concluding remarks are presented in Section 6.

² The exchange rate at the time of writing this report is US\$1≈VND20,000

³ Bao Viet is the State-owned Vietnam Insurance Company

⁴ Petrolimex is the State-owned Vietnam petroleum import-export company

2. LITERATURE REVIEW

This section presents an overview of the development of the microinsurance industry in Vietnam with special focus on the mutual assistance fund. In addition, previous research on clients' preferences and microinsurance products design Vietnam and other countries are critically reviewed.

2.1. MICROINSURANCE IN VIETNAM

Microinsurance is a relatively new industry in Vietnam. MAF was an industry pioneer as very few of the other major service providers were prepared to market their products to the poor. Apart from MAF, which provide credit-life and health insurance, other microinsurance providers include GRET and the Vietnam Bank for Agriculture and Rural Development (VBARD). GRET, a French NGO started providing livestock insurance in its project areas in the Red River Delta in 1999 (Tran and Yun, 2004). The VBARD provided insurance for agricultural production, which cover crops, livestock and flood (Asian Development Bank, 2008, Hartell and Skees, 2009).

Other mainstream firms provide affordable insurance to the rural poor (Tran and Yun, 2004). For example, Bao Viet, Petrolimex Insurance and Vietnam Social Insurance provide various health insurance products, some with premium as low as \$US2 per person per year. Additionally, Bao Viet and foreign insurance companies such as Prudential and Manulife provide life insurance products with premium options as low as \$US1 per person per year. Tran and Yun (2004) have suggested that a partnership between microfinance programs or mass organisations such as Vietnam Women's Union (VWU) and Bao Viet would be one approach to increase its share of the rural insurance market.

Although there are number of insurance providers in rural Vietnam, poor households still depend on traditional means (i.e., supports of friends and relatives) to cope with financial shocks (Tran and Yun, 2004). Our research has revealed similar findings; traditional resources still play an important role, even in households which have purchased insurance. According to Fischer and Buchenrieder (2008), there are several possible reasons for this. First, the majority of poor rural households have very little awareness

about the availability of insurance services. Secondly, households may have a poor understanding of insurance contracts, and hence do not exercise their rights. Thirdly, high transaction costs such as travel costs to contact insurance firms may prevent insured households from filing their claims.

The development of a legal framework has lagged behind the growth of microinsurance in Vietnam. The main legislation governing the microinsurance sector in Vietnam is Decree 18/2005/ND-CP, which regulates the establishment, organisation and operation of mutual assistance insurance (MAI). This legislation defines MAIs as legal entities established to conduct insurance business. Their purpose is to promote self-reliance among its members. Typically, the membership is comprised of organisations or individuals who share similar occupation or geographical location. MAI members are both policyholders and owners of the organization, and have a right to participate in its management.

The current legislation also subjects MAIs to operate like standard insurance business while clients of mainstream insurance companies and MAIs are different. As a result, some requirements of the regulation do not well fit the current microinsurance operations in the country. For example, the minimum capital requirement of VND 10 billion (\$US500,000) set by the current legislation is too high for most microinsurance providers, including the MAF. Although the capital requirement was designed with the objective of preventing default, it may have prevented genuine microinsurance providers from legally registering their operations.

In summary, microinsurance is the new industry in Vietnam, pioneered by MAF and currently operates by NGOs and microfinance programs. Recently, other players such as banks and commercial insurance companies have provided life and health insurance services with premiums affordable to low income households. However, the main mechanism to cope with risks among the poor in Vietnam is still through informal channels such as friends and relatives (Alip and David-Casis, 2008). In addition, capital requirement of the current regulation is too high for most existing microinsurance service providers.

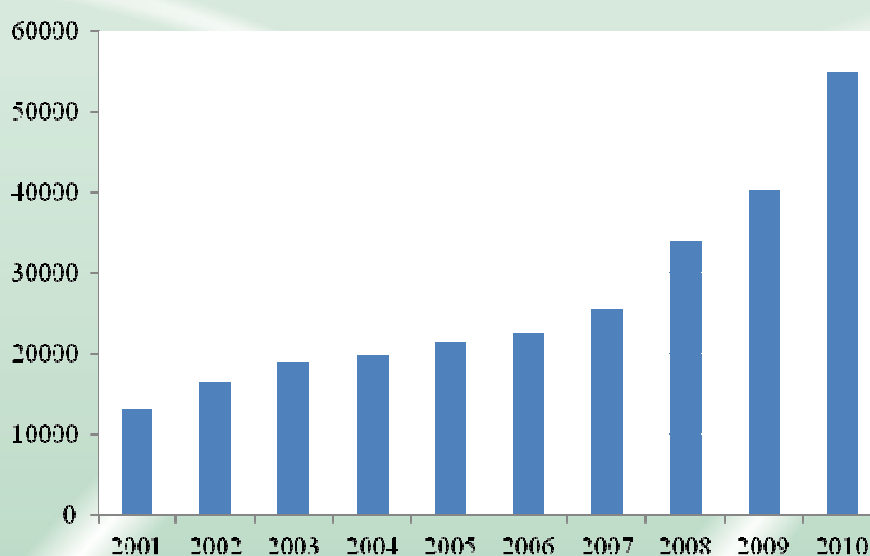
2.2. TYM AND MAF

In 1989, Vietnam Women's Union (VWU), a mass-based national organisation designed to promote the welfare of Vietnamese women, took an interest in the Grameen approach to poverty-focused lending. Recently they sent a delegation to Bangladesh to observe the operation of the Grameen Bank. They were supportive of the VWU's plan to replicate the Grameen bank model in Vietnam. A pilot model was launched in 1993 with a \$55,000 seeding grant from the Grameen Trust and the Asian and Pacific Development Centre. The microfinance model was named TYM, which is the abbreviation of a colloquial Vietnamese phrase "Tao Yeu May" for "I love you". The TYM model expanded rapidly and has attracted funding from other donors such as CIDSE, Catholic Relief Services, World Relief, Nissan Lorenze, and Oxfam (Tran and Yun, 2004). In June 1996, with permission of VWU and TYM, the MAF was established, with the aim of reducing the vulnerability of the poor against misfortunes in life such as death or sickness of its members. Each member contributed VND 200 (about 1 US cent) per week as a form of insurance premium. When the member was hospitalised, the policyholder would receive a once-off payout of VND 200,000 (\$US10) towards the cost of hospitalisation. If a member's husband, wife or child

passed away, they would receive a payment of VND 200,000 for funeral costs, and the families would receive a payment of VND 500,000 (\$US25) and their outstanding loan written off (Centre for Women Development, 2009). At the present, the weekly premium has been increased to VND 1,000; the hospitalisation benefit has been adjusted to VND 1 million renewed every five years; and the funeral benefits increased to VND 3 million and VND 1 million for member and their family member, respectively (Centre for Women Development, 2011).

With technical supports from various international agencies such as the Ford Foundation and the Citi Foundation, MAF gradually improved its capacity and professionalism. MAF technical officers have been able to design and test new products, conduct actuarial analyses, and develop business plans. For example, in 2009 MAF introduced a new credit insurance called "loan mutuality". The additional attributes are that apart from writing-off any outstanding loans, any repayments made by the deceased are returned to the family. Owing to these continual improvements, MAF operations have expanded rapidly during the past decade. For example, the total number of clients increased from 13,000 in 2001 to 55,000 in 2010 (see Figure 1).

Figure 1. Membership of MAF in 2001-2010



Source: own illustration using MIX data (www.mixmarket.org)

MAF assertions reports that their claim procedure is simple, is debatedable. For example, with sickness claims, clients submit the claim form with supporting documents to the centre,⁵ where it was signed by the head of the centre plus verification and certification by the commune-level president of the Women's Union (WU). The supporting documents for sickness claim include medical report from hospitals and related receipts for medical and hospitalisation expenses. After receiving approval from by technical officers at centre level, the application then needs to be approved by the branch manager before benefits are paid. The timeframe from submission to receiving benefits varies from one to four weeks with the average rejection rate of 2 per cent, which sounds very impressive. However, household interviews revealed frequent complaints from members who resented the requirement that hospital heads of departments verify treatment as this requirement was not explicitly stated in MAF documentation. It was also revealed the health insurance contracts were not transparent. This would result in the MAF rejecting claims for non-urgent treatment without adequate forewarning or explanation.

2.3 MICROINSURANCE RESEARCH

This section focuses on reviewing the microinsurance literature of consumer preferences in Vietnam and other countries, especially those with similar characteristics to Vietnam.

Vietnam

Since microinsurance is a relatively new industry in Vietnam, there has been little research on this industry. To the best of our knowledge, there are only four previous studies, which examine microinsurance in Vietnam. Vandevier (2001), who pioneered research on rural insurance in Vietnam, has investigated the demand for insurance among litchi producers. This study interviewed 100 litchi growers in Luc Ngan province regarding their production, and stated preferences for hypothetical crop insurance. The author found that high income farmers were more willing to purchase crop insurance. In addition, since

⁵ Similar to the Grameen bank style microfinance operations, MAF organise the activities into "centre", which consists of about 10-20 members in the same neighbourhood.

the premium was relatively low compared with expected crop revenue, the study revealed that these farmers were not responsive to changes in premiums. The author therefore recommended that additional education for farmers which explained the benefits of insurance was needed to ensure the success of this financial service.

Tran and Yun (2004) was the first to research the operation of a microinsurance institution in Vietnam. The authors assessed the performance of MAF, which is one of series studies analysing the positive and negative aspects of microinsurance, supported by the Consultative Group to Assist the Poorest (CGAP). The authors recommended that MAF should periodically adjust premiums and benefits to reflect the changing needs of their clients. As reported by this study, Tran and Yun (2004) found that clients were willing to pay higher premium for additional benefits.

Another important study published by Fischer and Buchenrieder (2008), analysed the demand for livestock insurance using an adaptive conjoint analysis. The authors surveyed 155 households in two northern mountainous provinces, Son La and Bac Kan and found that rural households expressed a strong desire to purchase livestock, especially for water buffalo. In addition, most households surveyed revealed a preference for products which combined insurance with credit and savings. The marketing of these hybrid financial products is currently practiced by MAF.

Alip and David-Casis (2008) investigated the operational environment of microinsurance in Vietnam and advocate that the MAF should transform into a sustainable microinsurance service provider. The authors suggested that microinsurance providers such as MAF should focus on improving information dissemination and education to increase the population's awareness and acceptance of insurance. Additionally, they suggest that the MAF should consult with international insurance experts to improve their operational capacity. Furthermore, they recommend the Vietnamese government reviews its current legislation to facilitate access to insurance by lower income groups.

In short, there are only a few previous studies study consumer preference and products design of microinsurance in Vietnam. The two studies of MAF (Tran & Yun, 2004; Alip & David-Casis, 2008) are

mainly desk review and strategic planning. The remaining two studies (Vandevier, 2001; Fischer & Buchenrieder, 2008) focused on exploration of interests for potential insurance programs. This study combines both the examination of existing programs and analysing preferences of clients to design future products.

Other countries

Despite the literature on microinsurance the number of studies on product design and clients' preferences of products are limited. Thus, we only focus on reviewing a few studies that most relevant to the current research.

Almazan et al. (2007) designed a suitable programs for trade union members in Cambodia using survey interviews and group discussions. The authors explored in depth the socio-characteristics of worker union members sampled in Siem Reap and Phnom Penh. Regarding financial protection against shocks, Cambodian respondents are very similar to those in Vietnam with supports from family members and own savings are the primary sources. They also found that union members were willing to pay US\$1.15 per month in order for their families to receive a once-off cash payment of \$25 funeral payment. Finally, most respondents wanted to purchase other insurance products for health, education, loan and retirement. The authors also revealed that main factors contributing for the success of a microinsurance program include: supportive regulations, affordable and relevant products, simple product designs and easy to access.

Sricharoen and Buchenrieder (2008) analysed options for redesigns of rural health insurance programs in Thailand. The authors selected a sample of 200 rural households in nine villages. Choice-based conjoint analysis was conducted to examine the preference of clients on premiums and types of cover. They found that coverage was the most important factor determining choice of clients for products, follow by the freedom of selecting hospitals. Premium was only ranked the third most important determinant in clients' preference.

In short, studies in Cambodia and Thailand reveal that limited or no access to insurance is still the problem faced by many poor households. In addition, affordability to premium is not the primary factor that

caused poor households unable to access to insurance services.

3. METHODOLOGY

The conceptual framework of this study is based on the agricultural household model of Singh et al. (1986), and Taylor and Adelman (2003), in which the household's objective is to maximise their expected lifetime utility, subject to the time and budget constraints. Base on the attitude of households toward risk, this framework suggests that poor households would purchase microinsurance products if they are available and affordable in order to maximise their expected lifetime utility (e.g., total wealth over a lifetime of a person). Theoretically, the amount of insurance purchase will be decided by taking the first derivatives of the utility function with regards to insurance premium and set it to zero. In addition to maximising expected lifetime utility, households would be willing to purchase suitable microinsurance products because they prefer a stable as opposed to variable levels of utility over time. Empirically, households will decide to buy insurance if they believe that it will help to keep their income stable, and hence their cumulative wealth will increase overtime.

Empirically we develop different products with combinations of attributes modified from the current products of MAF. Since each individual can best asses their willingness to bear risk attitude and consumption preferences, it is expected that they will choose the products that maximise their utility. By using regression analysis we will be able to determine the main determinants of product choices, including product attributes and characteristics of individuals and households.

After discussions with MAF staff, we decided to focus on four product attributes: premium, hospitalisation payout, death payout, and other payout. To keep the number of combinations of attributes manageable, we choose arbitrarily two options of premium and other benefits, and three options for sickness and death benefits. The existing attributes of MAF at the time of the study include a weekly premium contribution of VND1000, and benefits included a sickness claims of VND one million, renewable every five years, death claims of VND three million for the deceased client

plus the written-off of outstanding loan, and VND one million for the funeral costs when a member of their family pass away.

The new proposal will include some variation from the current characteristics. The premium has been fixed at VND 1000 for a long period. With increasing inflation it is suggested that the premium should increase. In this study, we propose to double the premium. While this may sound significant increase, it only represents a 10 US cent increase in absolute terms. Regarding the sickness payout, the proposal is to shorten the time frame for claim limits. The present time frame of five

years for sickness claim was too long, and hence we propose to new choices: VND 500 thousand for every two years, and VND 300 thousand each year. Also to reflect the increase inflation, the funeral support is also proposed to double to VND 2 million. Apart from existing claims, we have included two levels of insurance for sudden financial hardship such as lost of business, fire or burglary with two choices: VND 200 thousand per year or VND 500 thousand for two years (see Table 1).

Table 1. Attributes and Value for Conjoint Analysis

Attributes	Value	Coding
Premium	*VND 1000 (about 5 US cents)	1
	VND 2000	2
Sickness benefits	*VND 1 million for 5 years	1
	VND 0.5 million for 2 years	2
	VND 0.3 million every year	3
Death benefits**	*VND 1 million	1
	VND 2 million	2
Other benefits	*Nil	0
	VND 0.2 million every year	1
	VND 0.5 million for 2 years	2

*These values are applied to the existing product of MAF. **benefits paid to member of client's family. The level of benefits paid to clients' own funeral remains unchanged.

From these attributes, we can form a total of 36 combinations. However surveys with more than the threshold of 18 combinations, are associated with boredom for the interviewees, which may result in poor quality of data (Malhotra and Birks, 2000). Therefore, we randomly selected 16 combinations,

organised in 8 pairs, using the Federov's algorithm (Wheeler, 2004) to make it manageable for both interviewees and interviewers. The interviewees are asked to choose one product or none from each pair, uniformly coded as A and B (see Table 2).

Table 2. Example of a pairwise comparison question for conjoint analysis

	Product A	Product B
Premium	VND 2000	VND 1000
Sickness benefits	VND 0.3 million per year	VND 0.5 million per 2 years
Funeral benefits	VND 1 million	VND 2 million
Other benefits	VND 0.5 million per 2 years	VND 0.5 million per 2 years

The relative importance of each attribute is measured by regression analysis. In particular, each choice is treated as a separate observation, and hence the data was stacked with 8 observations per respondent. The equation to be estimated is

$$\Delta U_i = \sum_{i=1}^N \beta_i X_i + \mu_i + \varepsilon_i \quad (1)$$

where ΔU refers to changes in utility when moving from product A to product B, X_i ($i=1,2,3,4$) are the attributes of the insurance products; ε is a random error representing within individual variation, and μ is a random error term representing between individual variations. Coefficients β_1 , β_2 , β_3 and β_4 represent the importance premium, and the level of payouts for sickness, death and other benefits. The ratio of β_i/β_1 ($i=2, 3, 4$) represents how much premium the clients are willing to sacrifice in order to increase their level of benefit. It is assumed that the within individual effect represent a purely random noise from the data (e.g., measurement errors) whilst the between individual effects represent unobserved individual effects (e.g., risk attitudes). Therefore, unobserved individual effects in this specification can be mitigated using suitable econometric methods such as a random effect estimator.

4. SURVEY DESIGN AND DATA

A household level survey was conducted to examine the preference for insurance for both existing clients and non-clients of MAF. The sample frame of the existing clients includes members of microfinance programs provided by TYM, who automatically become members of MAF. Based on the report of Tran and Yun (2004), we suspect that most microfinance members will purchase life credit insurance but their participation rate in the voluntary health insurance may not be 100 per cent. In addition, health insurance is also offered by other service providers such as Baoviet and Prudential, and hence it is of interest to examine the extent to which MAF occupy the market.

The sample frame for non-clients includes those who live outside the coverage areas of TYM microfinance programs. To mitigate the issue of self-selection we select non-villages with similar characteristics as that of member villages (i.e., geographical proximity, similar

level of wealth, which is proxied by the proportion of poor households in the village). In order to improve the efficiency of sampling, a two-stage cluster sampling process was applied. The sample size is determined using quota sampling principle, where the numbers of sample villages and households are determined ex-ante, based on time and budget constraint. In the first stage, two member villages and one non-member village were selected randomly from their respective sampling frames. In the second stage, we aim to sample 100 household per village for the main group (clients and low-income households in the non-client village) and 20 households per village for the group of richer households. The target sample size for non-participating members of MAF will be decided upon their availability but limit to 100 households per village. Since the sizes of villages are likely to differ, the sampling weight (i.e., the inverse ratio at which households are selected) are applied in all analyses to produce consistent results.

In addition to the insurance preferences ranking, the survey also collected data on demographics, household characteristics, income, consumption and financial practices to examine determinants of demand for insurances. Socio-economic characteristics of the survey areas (e.g., population, income per capita, infrastructure conditions) were provided by village heads and collected from the statistical yearbook of Soc Son District to control for environmental factors in the analyses.

Table 3. Descriptive statistics of main variables (means)

Variables	All	Clients	Non-clients	p-val. ^a
Age of respondents (years)	45.14	45.89	44.23	0.16
Gender of respondents (1=male)	0.58	0.47	0.72	0.00
Marital status (1=married)	0.82	0.80	0.85	0.27
Years of schooling (years)	8.42	8.38	8.47	0.76
Occupation (1=farmer)	0.76	0.76	0.76	0.97
Household size (persons)	4.25	4.32	4.18	0.31
Risk type ^b (1=risk adverse)	0.50	0.51	0.48	0.53
High math score ^c (1=yes)	0.15	0.15	0.14	0.79
Adverse incidenced (1=yes)	0.27	0.33	0.20	0.00
Have insurance (1=yes)	0.86	1.00	0.68	0.00
Life insurance (1=yes)	0.60	1.00	0.12	0.00
Credit insurance (1=yes)	0.54	1.00	0.00	0.00
Health insurance (1=yes)	0.62	0.64	0.60	0.52
Other insurance (1=yes)	0.13	0.06	0.22	0.00
MAF fund (1=yes)	0.55	1.00	0.00	0.00
Bao Viet (1=yes)	0.26	0.28	0.23	0.28
National social insurance (1=yes)	0.33	0.26	0.41	0.00
Prudential (1=yes)	0.07	0.06	0.08	0.35
Access to credit (1=yes)	0.60	0.81	0.35	0.00
Outstanding loan (VND 1000)	17,783	23,299	11,053	0.04
Total income (VND1000)	84,778	100,884	65,105	0.00
Production expense (VND 1000)	21,855	32,327	9,927	0.00
Living expense (VND 1000)	53,266	54,279	52,030	0.51
Total expense (VND 1000)	75,506	87,745	61,564	0.01

Note:

^at-test for the difference between TYM and non-TYM, only p-value is reported for brevity.

^bthis is based on the response of clients on a simple risk game. The results are coded as a dummy variable: those who take the safe option are coded as one and zero otherwise.

^cthis is based on a simple mathematical quiz of five questions. Those who answer at least four corrected answers are coded as one.

^dthis is the response the question "did your family face any adverse incidence such as fire, severe sickness, death or thief in the past 12 months?"

Despite various attempts to control for the selection biases due to unobserved individual effects (e.g., differences in risk attitudes) in this study such as selection criteria and using a rich set of covariates, we believe that differences may remain between members and non-members. If these differences are not controlled for, results of the analyses may be biased. Therefore, we also apply to control for individual unobserved heterogeneity econometrically by using the random effects.

The descriptive statistics of the data in Table 3 revealed that most of household and individual characteristics (e.g., years of schooling, occupation, household size, risk type and level of mathematical competence) of clients and non-clients of MAF are similar. However, there are some noticeable differences. Most respondents from the non-client group are male whilst more female are responded at interviews of client households. This reflects the fact that MAF was developed from a microfinance program which target women while majority of households in the survey area are headed by men.

An interesting observation is that the proportion of household that reported having adverse incidence in the past 12 months is significantly higher among client households (33 per cent) compared with that of non-clients (20 per cent). This may due to the fact that all client households are covered by some insurance products from MAF whilst only 68 per cent of non-client households purchase insurance. The presence of adverse-selection and/or moral hazard is one possible reason for the significant association between coverage and claimable events.

Regarding the market share, MAF policyholders appear to dominate the dataset. This may be due to the over-representation of client households in the sample. The national social insurance program, which offers basic health insurance cover and voluntary contribution to a pension fund was the second most popular among households surveyed. It is not surprising to see that this alternative insurance product is significantly more popular among households who are non-client of MAF. The two most popular remaining insurance providers in the survey site were Bao Viet and Prudential. There was no statistically significant difference between clients and non-clients of MAF in purchasing this type of insurance.

The descriptive statistics also reveal that client households have significantly more chance to access to credit and have more outstanding loan volume as a result. In addition, client households have significantly higher income and consumption levels. For example, the average household income of clients and non-client households are VND 100 million and VND 65 million respectively. Based on the average household size in the sample (4 persons) and the exchange rate at the time of this survey (\$1US≈VND20,000), the average annual income per person is \$US1250 and \$US813 for client and non-client households, respectively. This level of income is in-line with the average national income of \$US1168 in 2010 (Department of States, 2011). Observations from the survey reveal that the main reason for client households to have higher income than non-clients households, on average, is the recent development of commercial bonsai activities in member villages, which generate much higher income than traditional cash crops practiced in non-member villages. As it is well-known that the distribution of income can be highly skewed, we mitigate this issue by using taking the natural logarithm (see for example, Singh and Maddala, 1976).

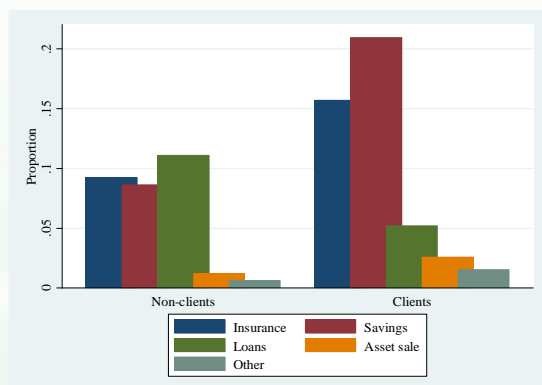
One interesting observation from income and consumption is that, there is no significant difference in the level of living consumption between client and non-client households. The main source of significant difference in total consumption was due to production expenses.

5. RESULTS AND DISCUSSIONS

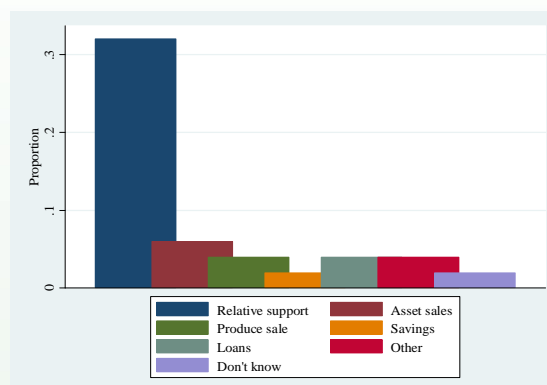
5.1 CLIENTS PERCEPTION OF MAF

Although most households surveyed (86 per cent) purchase insurance, the most important source of finance to cope with adverse incidence is savings and loans for clients and non-client group, respectively. Nevertheless, insurance payout is the second most of importance finance source in both groups. For those who do not purchase insurance, support from relatives is the most popular approach to overcome difficult times, followed by sale of assets, loans and sale of produce (see Figure 2)

Figure 2. Means to cope with adverse events



a) With insurance

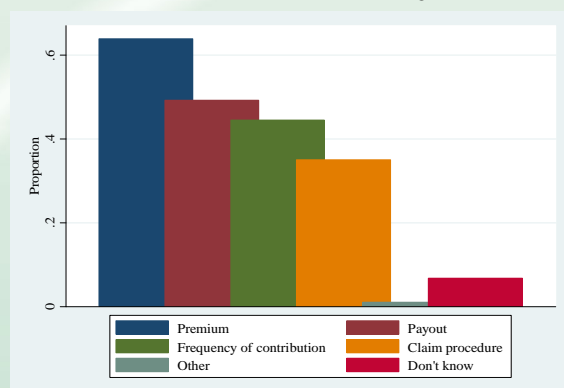


b) Without insurance

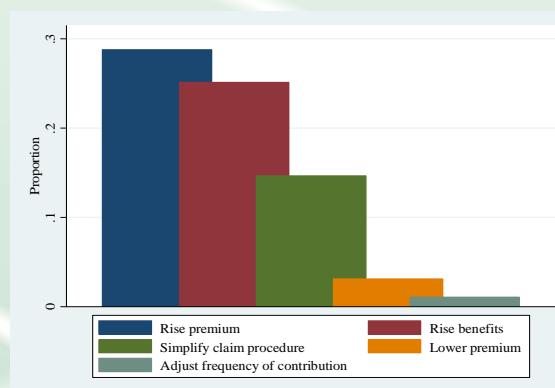
The study also explores the household perceptions about the advantages and limitations of MAF. A majority of client households (64 per cent) suggested that low premium (VND 1000 per week) is the biggest advantage of MAF. However, only 35 per cent of the households were happy with the current claim procedure. The main criticism of the current procedure

was that it required an official seal of the treatment hospitals, which requires considerable time and efforts. While most clients value the current low premium setting, the most popular response to the improvement of MAF was an increase in the premium and payout plus a simplification of the claiming procedure (see Figure 3).

Figure 3. Clients' evaluation of MAF



a) Advantages



b) Suggestions for improvement

As we expected, most non-clients were unaware of MAF activities. However, majority of client households gave MAF high rankings (very good and good) for quality of services and trustworthiness (see Figure 4).

We were surprised, however, to find that about one fifth of clients did not express an opinion about service quality and approximately about one sixth did not express an opinion about the trustworthiness of MAF.

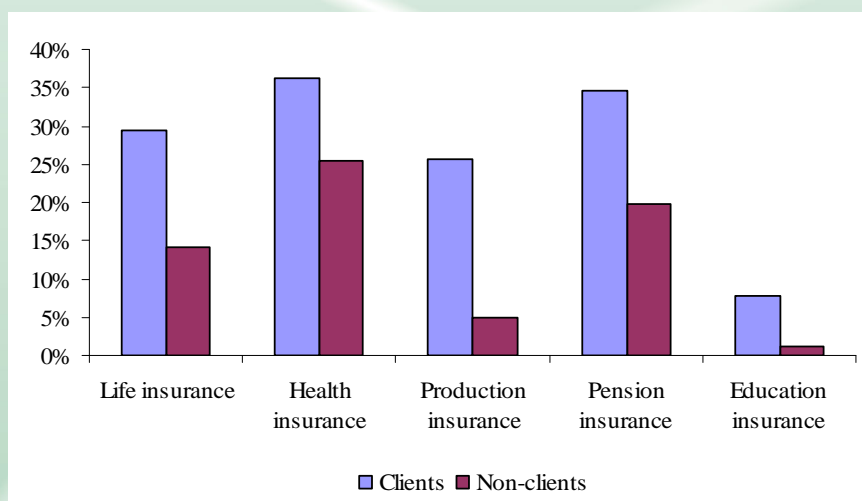
Figure 4. Clients' evaluation of MAF services



The MAF plans to introduce a range of new insurance products including insurance for pension, production and education. In essence, pension insurance is similar to the “compulsory savings” component offered by the “Grameen Bank” microfinance institutions. In particular, clients will contribute a weekly amount to the “pension fund” and receive principal plus interests when they retire. The production insurance will cover risk associates with the production of households (e.g.,

crops failure, diseases of animals). The propose education insurance will cover financial difficulties associated with schooling fees. As can be seen from Figure 5, client households show higher proportion of supports for the both existing products (life-credit and health insurance) and proposed products (pension insurance, production insurance and education insurance).

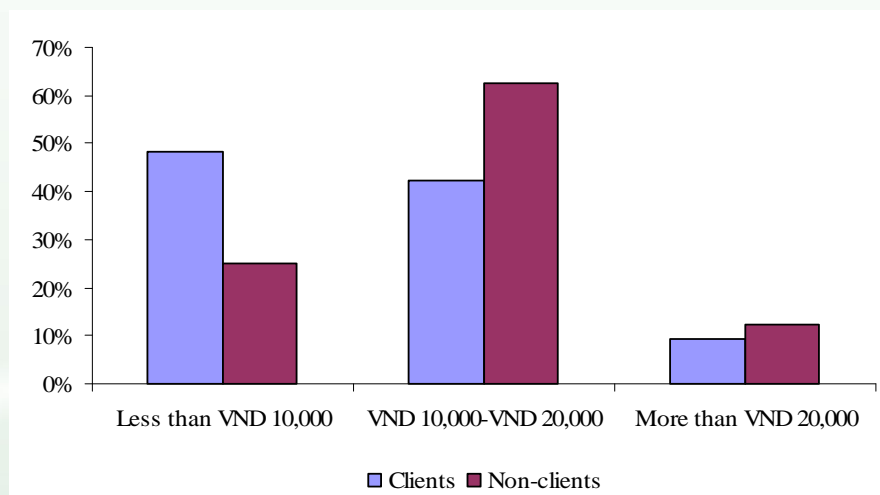
Figure 5. Supports for MAF insurance products



Regarding the pension fund, MAF propose three possible levels of weekly contribution: (i) less than VND 10,000; (ii) between VND 10,000-20,000 and (iii) more than VND 20,000. The results revealed that the last option was the least favourable for both client and non-client groups. The option of less than VND

10,000 per week was most popular among client households whilst non-client households preferred a contribution level of between VND 10,000 and VND 20,000 per week. This was surprising because, on average, client households have both higher level of income and consumption.

Figure 6. Willingness to contribute for the pension fund



5.2 PRODUCT PREFERENCES

In this section we examine the contribution of product attributes to the selection of final products by clients by estimating equation (1) using random effect ordered logit. The choice of this estimator is to be able to separate the two error terms in Equation 1 (within and between individual variations). The results in Table 3 suggested that premium is not a significant determinant of the preference for products of MAF. This is as expected because the current level of

premium is very low, hence an increase in premium would not raise too much concern. However, raise in level of benefits payout significantly determine the preference for insurance products (see Table 3). The ratio of β_2/β_1 is 5 (i.e., 0.15/0.03) suggesting that clients are willing to increase the premium by 5000 VND in order to increase their sickness payout by VND one million. The sacrifice ratio for funeral and other payout are VND 2700 and VND 4000, respectively.

Table 3. The importance of product attributes

Attributes	Coef.	Std. err	t-val.
Premium	-0.03	0.03	-0.90
Sickness benefit	***0.15	0.02	9.28
Funeral benefit	***0.08	0.02	3.60
Other benefit	***0.12	0.01	8.69

Note: 2669 observations are available for 346 valid individuals. *** represent a significant level of 1 per cent.

We could not directly examine individual and household characteristics collected in the survey in the random ordered logit regression as the regression was not determined (i.e., no variation within individual). Instead, we determine the significance of these covariates by interacting them with the product attributes and conduct a likelihood ratio test for the nesting of the regression with interaction term and the original regression in Table 3. The results in Table 4 reveal that attitude towards risk, mathematical ability, the level of prone to risk, level of seniority in MAF and education level. It is expected that people with risk adverse attitude and high mathematical ability will be able to select products that provide more utility.

Likewise, we also expect that people with education level of at least year 10 are more likely to be able to calculate a better contract, compared with those who only have primary school education. The significant association between insurance purchase and the level of prone to risk (i.e., have higher probability of having adverse events like severe sickness, business failure and burglary) is popularly referred to economics as adverse selection. This is confirmed in this study although it is only significant at 10 per cent. The significant association of time in MAF with product preferences may due to their experience in the insurance sector.

Table 4. Factors affecting consumer preferences

Variables	Test-statistics- $\chi^2(4)$	p-value
Attitude towards risk (1=risk adverse)	*8.71	0.07
High math scores (1=yes)	**10.10	0.04
Adverse events (1=yes)	**9.85	0.04
MAF client households (1=yes)	**11.93	0.02
Times in MAF (years)	*9.19	0.06
Education (1=finished years 10-12)	**9.91	0.04
Education (1=finished years 7-9)	0.51	0.97
Log of household incomes	7.48	0.11
Age (years)	5.77	0.22
Occupation (1=farmers)	0.53	0.97
Age of spouse (years)	3.85	0.43
Spouse's education (years at school)	0.84	0.93
Spouse's occupation (1=farmer)	6.66	0.15

Note: Significant levels: ***=1%, **=5% and *=10%

6. CONCLUSIONS

This study has examined preferences of client and non-client households of the Mutual Assistance Fund (MAF), the pioneer microinsurance provider in Vietnam. We interviewed 353 households in three villages (two client villages and one non-client village) using two-stage sampling process. Our results reveal that clients are willing to pay higher premium in order to receive higher levels of payouts with simpler claim procedure. In particular, clients are willing to raise the premium five folds from the current level in order to receive the relevant level of increase in benefit

payouts increase. In addition, clients express a preference for a simpler claim procedure such as using standard receipts from hospital instead of those with stamps from heads of departments at treatment hospitals to accompany the claim paper.

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