

Demand for Life Insurance in Malaysia

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Abstract. The insurance sector in Malaysia has shown rapid growth in recent years. However, on comparing with other Asian countries, the penetration rate of life insurance remains low and there is still a large untapped life insurance market in Malaysia. This paper sets out to identify factors that drive the demand for life insurance in Malaysia. Using a logistic regression model on a sample of 500 respondents, the results show that socio-economic factors such as age, income, education, occupation, marital status and risk aversion play significant roles in the demand for life insurance. However, gender and number of dependents are found to have no significant influence on the demand for life insurance.

Keywords: Life Insurance, Logit Model, Risk Averse

1. Introduction

Insurance is considered as one of the oldest and well known financial products but there are still many who shy away from it and would not purchase it at free will. Perhaps this is because insurance is quite a complex product and in the Asian society, some find it a taboo to talk about unfortunate circumstances such as death, disability or ill health. However, given life uncertainties, insurance helps to cushion and minimize the loss that consumers and households incur in the event of unfortunate incidents.

Over the past decade, as the society becomes more educated and aware of the importance of insurance, the amount of per capita insurance expenditure in Malaysia has increased by 128% from RM338 in 2000 to RM771 in 2010. Further, the number of new life insurance policies has also increased by 21% from 1,174,517 policies in 2000 to 1,428,280 policies in 2010. In 1990, the number of new policies was a mere 496,338 and per capita insurance expenditure was only RM92. [1]

While the insurance industry has grown rapidly, the penetration rate of life insurance remains low at 41%, with an average sum assured of less than RM50,000 (USD16,556). Further, in 2010, the GDP for life insurance in Malaysia is low at 2.9% compared to other Asian countries such as Singapore (6.1%) and Japan (7.5%). [2] These statistics indicate that there is a large untapped life insurance market in Malaysia.

While the increased importance of life insurance is well appreciated by consumers in the developed countries, the demand for life insurance in the developing countries such as Malaysia remains low.[3] Hence, this paper sets out to identify the factors that drive the demand for life insurance in Malaysia. The findings of this paper will help to accelerate the growth of the insurance market in Malaysia. A vibrant life insurance market helps to create sustainable economic and financial development.

2. Insights from related literature

The theoretical literature on life insurance begins with the concept that emphasizes the economic value of human life.[4] The concept supports the notion that a rational person should be covered by insurance [4]. In subsequent years, the economics of risk and uncertainties were added to the studies on insurance [5],[6]. Subsequently, many empirical studies on the demand for life insurance fall back on the theoretical models for insurance by Yaari [7], Fischer[8], Lewis [9] and others.

Life insurance premium is typically used to measure the demand for life insurance [10],[11],[12],[13].[14].[15]. Factors that are typically included in the demand for life insurance are income, education, occupation, age of the head of household, number of dependents, ethnicity and risk aversion. In

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studies [14],[15],[3] that do cross country analysis using aggregate national data, factors such as expected inflation rate, average life expectancy, policy loading charge and social security benefits are added.

The selection of the variables for this study is drawn from the above mentioned studies. Apart from the socio-demographic variables, an individual's risk aversion is also added into the study. As insurance is a financial product that enables an individual to transfer risk in an environment of uncertainties, the demand for insurance may likely be influence by the general nature of risk preferences of an individual.

3. Model and Data

3.1. Model

The demand for life insurance is measured in terms of the ownership of a life insurance policy. Therefore the demand for life insurance is a binary choice variable. The logistic regression model is used and it can be expressed as follows:

$$\text{Log} \frac{P}{1-P} = \alpha + \beta_i X_i + \varepsilon \quad (1)$$

The dependent variable used in examining the determinants of the demand for life insurance is measured by a binary dummy variable with value = 1 if the respondent owns a life insurance policy and with the value =0 if the respondent does not own a life insurance policy. Hence, P refers to the probability that a respondent is a life insurance policy holder and 1-P refers to the probability that respondent is not a life insurance policy holder. $\text{Log} \frac{P}{1-P}$ is the log of odds that a respondent is a life insurance policy holder. β_i are the coefficients of the explanatory variables and X_i are the explanatory variables. Table 1 describes the explanatory variables used. ε is the stochastic disturbance term of the regression.

3.2. Data

The data used in the study was obtained from a survey conducted from mid March 2011 to mid April 2011 in Penang, Malaysia. Penang is a northern state in Peninsular Malaysia. The respondent must be at least 21 years of age and resides in Penang. A total of 500 respondents participated in the survey. Self-administered questionnaires were randomly distributed to respondents in shopping malls and commercial areas and offices.

The questionnaire is divided into two main sections. The first section pertains to socio-demographic characteristics such as the age, gender, education level, occupation type, marital status and number of dependents. In the second section, questions about the respondent's insurance purchase decision and perception towards insurance were included. Table 1 details the definitions and sample statistics of variables in the statistical model.

3.3. Characteristics of survey respondents

Of the total sample of 500 respondents, 69% (347) of the respondents have life insurance policy and 21% (153) of the respondents do not have a life insurance policy. Among the 347 respondents who have life insurance policy, the majority (27.1%) hold three life insurance policies, followed by 79 respondents (22.8%) who hold two life insurance policies and 49 respondents (14.1%) who hold more than 6 life insurance policies.

On average, life insurance policy holders have slightly higher number of dependents (1.72) compared to those without any life insurance policies (1.52). The majority of those who have life insurance policies (40%) are from the older age group (between 30 to 39 years old) compared to the majority of those who do not have life insurance policies (46%) who are in the 20s. There appears to be ethnic differences among those who have and those who do not have life insurance policies. 47% of those who have life insurance policies are Chinese while 60% of those who do not have life insurance policies are Malay. Among those who have life insurance policies, the majority, 63% of them are from the professional and white collar group. Those who are married are more likely to have insurance policies (65%) compared to the singles who are more likely not to have any insurance policies (50%). 50% of those who have life insurance policies are married while 50% of those who do not have life insurance policies are single. The low income group stands out as the majority

(61%) among those who do not own a life insurance policy. It is interesting to note that the majority of the respondents (72%) in this sample are classified as risk averse. The risk attitude of the respondents is inferred from the range of investment fluctuations that they are at ease with. Those who are comfortable with a general fluctuation between +/- 5% to +/- 10% to their value of investment are considered as risk averse.

Table 1 Variable definitions and summary statistics

<i>Variables</i>	<i>Definition</i>	<i>Mean</i>		
		<i>Life insurance holders</i>	<i>Non-life insurance holders</i>	<i>Full sample</i>
Continuous variables				
Dependents	Number of dependents	1.76 (0.38)	1.52 (0.31)	1.77 (1.69)
Binary explanatory variables (yes = 1; no = 0)				
Age20	Age is 20 to 29 years old	0.28	0.46	0.34
Age30 ⁺	Age is 30 to 39 years old	0.40	0.24	0.35
Age40	Age is 40 to 49 years old	0.21	0.12	0.19
Age50	Age is 50 to 59 years old	0.11	0.18	0.13
Male	Gender is male	0.50	0.47	0.49
Malay ⁺	Ethnicity is Malay	0.33	0.60	0.41
Chinese	Ethnicity is Chinese	0.47	0.28	0.41
Indian	Ethnicity is Indian/others	0.20	0.11	0.17
Jobless	Unemployed/student/retired/homemaker	0.10	0.27	0.15
White ⁺	Professional/White collar	0.63	0.33	0.54
Blue	Blue collar	0.12	0.35	0.19
Self	Self employed	0.14	0.06	0.12
Single	Marital status is single	0.32	0.50	0.37
Married ⁺	Marital status is married	0.65	0.42	0.58
Widow	Marital status is widow/separated/divorced	0.04	0.08	0.58
Lowinc	Household income is <RM2000	0.21	0.61	0.33
Lowmid ⁺	Household income is RM2000- RM4000	0.39	0.30	0.37
Highmid	Household income is RM4001-RM6000	0.18	0.08	0.15
High	Household income is >RM6000	0.22	0.01	0.16
Tertiary	Tertiary as highest level of education	0.41	0.70	0.50
Riskaverse	Risk preferences is risk averse	0.63	0.93	0.72
Sample size		347	153	500

Notes: Standard deviations in parentheses. ⁺denotes reference category.

4. Empirical Findings

The estimated Logit coefficients (column 1), the odds ratio (column 2), the standard error (column 3) and the associated z-statistics (column 4) are reported in Table 2. The goodness of fit tests for the model indicated that the Likelihood ratio (LR) statistics is 202.24 which has a probability value of 0.0000. Thus, the null hypothesis is rejected and this concludes that the model fits the data well. This is supported by the Hosmer-Lemeshow statistics, which has a value of 8.21 and a probability value of 0.4137. This indicates that the null hypothesis is accepted and that the model is good fit. Further, on evaluating the prediction power of the model, it is found that 78% of the prediction of this model is correct. Hence, it can be concluded that the model developed here is a good fit model.

Among the 17 explanatory variables, 9 variables are found to be significant in explaining the demand for life insurance. Contrary to the existing studies on the significance of dependents on demand for life insurance, number of dependents is not found to play a significant role in the demand for life insurance. Perhaps this is because the measurement for the demand for life insurance in this study is based on whether a policy is purchased or otherwise and is not based on the value of premium or coverage of life insurance purchased whereby in such case, number of dependents play a significant role.

Table 2 Summary statistics for logit analysis for the demand of life insurance

Explanatory variables	Log of odds, β (1)	Odds ratio, e^β (2)	Std. Error (3)	Z-statistics (4)
Dependents	-0.007	0.993	0.093	-0.07
Age 20	-0.703*	0.495	0.197	-1.77
Age 40	-0.007	0.993	0.427	-0.02
Age 50	-0.616	0.540	0.254	-1.31
Male	0.073	1.076	0.291	0.27
Chinese	1.162***	3.193	0.932	3.98
Indian	1.620***	5.052	1.907	4.29
Jobless	-1.126***	0.324	0.126	-3.37
Blue collar	-1.218***	0.296	0.107	-1.37
Self Employed	-0.768	0.464	0.259	-2.91
Single	-1.057**	0.347	0.150	-2.45
Widow	-0.179	0.836	0.478	-0.31
Low income	-0.463	0.629	0.201	-1.45
High mid income	0.441	1.554	0.700	0.93
High income	1.864**	6.454	5.288	2.28
Tertiary	-0.926***	0.396	0.126	-2.91
Risk averse	-1.613***	0.199	0.079	-4.08
Log Likelihood	-206.809			

Notes: ***, ** and * indicate significance at the 1%, 5%, and 10% level respectively.

For age, only those in the 20s are found to be less likely to have purchased a life insurance policy compared to those in the 30s. However, no significant differences are noted between those in the 30s with those in the older age groups. Ethnicity is found to have significant influence on the demand for life insurance. Both the Indians and the Chinese are found to be more likely to purchase a life insurance policy compared to the Malays. In terms of occupation, it is found that those unemployed, blue collar workers are significantly less likely to have purchase a life insurance policy compared to the professional and white collar workers. However, no significant differences are noted between the self employed and the professional and white collar workers in terms of the demand for life insurance. While number of dependents is found to have no significant influence on the demand for life insurance, a respondent's marital status is found to play a significant role in the demand for life insurance. A respondent who is single is less likely to have purchased a life insurance policy compared to a married respondent. A respondent who earns high income (income above RM6000) is more likely to purchase a life insurance policy compared to a respondent in the lower middle income category (income between RM2000 to RM4000). It is surprising to note that those with tertiary education and those who are classified as risk averse are found to be less likely to demand for life insurance compared to those without tertiary education and those who are not classified as risk averse.

5. Conclusion

In light of the low penetration rate of life insurance and the untapped insurance market in Malaysia, this paper sets out to investigate the socio-economic factors that determine the demand for life insurance in Malaysia. It is found that age, ethnicity, income, education, marital status and occupation are significant determinants for the demand of life insurance.

This paper draws out two important findings in the demand for life insurance in Malaysia. *Firstly*, the findings indicate that insurance appear to be affordable only for those who are economically more capable as those in the high income bracket, professional and white collar workers and those in the 30s compared to those in the 20s are more likely to demand life insurance. These groups of individuals are most likely to find it hard to cope with their various financial commitments and purchasing insurance may be the least of their priority. *Secondly*, higher education is not a driver in the demand for life insurance. Although the higher educated individuals may understand and appreciate insurance more than the lower educated individuals, they may be more interested in wealth management and wealth creation products than life insurance. The

higher educated individuals may view the new wealth management products as a more appealing way of managing their finances and leaving bequests for their dependents than life insurance.

6. Note

Opinion expressed are those of the authors and do not represent the opinion of the respective affiliated institutions.

7. References

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