Analysis of Demand for Family Takaful and Life Insurance: A Comparative Study in Malaysia

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Abstract

This study is aimed at investigating the key factors that influence the demand for family takaful and comparing with its conventional counterpart. This study, therefore, examines Malaysian takaful and insurance market by using relevant data obtained from Bank Negara Malaysia and Department of Statistics Malaysia for the period of 1990 – 2009. In analysing the data, this study uses multiple regressions model. The findings of this study indicate that, four variables, namely "GDP per capita", "education", "saving" and "religion" are significantly related to the demand for family takaful. On the other hand, there are three variables that significantly influence the demand for life insurance, namely "GDP per capita", "saving" and "religion". This study reveals that, there are two factors that negatively influence the demand for family takaful i.e. Customer Price Index and Saving. Meanwhile, age, saving and religion are the three factors which give negative influence on life insurance. The findings also reflect higher public receptive to takaful as compared to the conventional insurance in the Malaysian market.

1. Introduction

The essence of insurance is risk transfer. Insurance is designed to provide protection to individuals or businesses against specified contingencies. Through insurance, risk is transferred from individuals to pool of policyholders. In today's insurance industry, there is an alternative form of insurance coverage for Muslim customers, which is called takaful. Another name of takaful is Islamic insurance due to the fact that, the basis of its operational is in accordance with Islamic shari'ah. Basically, the basic idea of takaful is similar to conventional insurance, which is, to provide protection to individuals and corporate bodies from occurrence of loss and hazards.

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The last few years have witnessed rapid growth of takaful industry in many countries. With reference to Bank Negara Malaysia, the significance of takaful as an integral part of the financial system is demonstrated in the current growth rate of market penetration. The takaful market penetration rate increased from 5.7 % in 2005 to 7.5 % in 2008. Furthermore, the total amount of takaful funds was more than doubled during this same period from RM 5,878.4 million in 2005 to RM 12,445.4 million in 2009. Similarly, takaful net contributions income increased from RM 1,333.7 million in 2005 to RM 3,521.8 million in 2009. In other word, the takaful industry possesses high potential. It can be seen through a robust expansion of takaful, with average annual growth rate of total assets and contributions increased from 20 to 26 % over the period of 2004 to 2009.

Malaysia is recognized as one of the pioneer and active participate in the development of takaful industry. Currently, Malaysia is regarded as the second largest takaful market in the world with total assets of US$3.2 billion or equal to 26 % of total global takaful assets in 2009. However, the national market penetration of takaful in Malaysia was only 10.9 out of 53.5 % of the whole insurance industry in the country (Mohd Razif, 2011). Given this fact, it is important to observe the determinant factors that can influence the demand for takaful and insurance.

In addition, there are limited studies that focus on the Malaysian market. Only few of them focus on the factors that influence family takaful demand. To the best knowledge of the researcher, there is no existing study which compares the determinant factors of demand between Islamic and conventional insurance. Therefore, this study attempts to fill the gaps in the scope and coverage of the studies in similar area.

The primary purpose of this study is to provide empirical evidences regarding takaful's demand. This study attempts to investigate those key factors, such as economic and demographic variables that can influence the demand for family takaful and life insurance.

This paper is organised as follows. Section 2 outlines review of related literature. Section 3 describes the research methodology of this study followed by analysis of findings in section 4. Furthermore, section 5 concludes the paper with implication and future research.

2. Literature Review

2.1. Comparison between Takaful and Conventional Insurance

In takaful transaction, a party called "participant" or insured pays some amount of money, which is known as the "contribution" (premium). This contribution forms a pool of participants' fund thatis managed by another party who is called "takaful

operator" or insurer based on mutual agreement. The operator is under a legal responsibility to provide the participants with the financial security against unexpected losses or damages which occurred within the agreed period of the policy. It can be said that, the takaful participants contribute to takaful funds based on the concept of mutual assistance. Furthermore, the contribution is made on the basis of reciprocal or mutual donation (*tabarru'at)* instead of commercial or "sale of coverage". *Takaful* entails a unilateral or charitable contract (*tabarru'at*) based on the fact that, every participant guarantees each other.

In contrast, the conventional insurance contracts are under a bilateral exchange contract (*mu'awadat*). As a matter of fact, a fatwa issued by The Fatwa Committee of the National Council for Islamic Religious Affairs of Malaysia stated that, life insurance provided by conventional insurance companies is void. This is because, it does not comply with the Islamic business principles. It is understandable that the conventional insurance contracts contain the elements of *gharar, maysir and riba.* As such, from the shariah point of view, life insurance is prohibited.

In 1985, The Council of Islamic Fiqh Academy issued another fatwa which mentioned that the commercial insurance contracts with a fixed periodical premium, which is commonly practiced by commercial insurance companies, contains major elements of dishonesty. It is a void contract and thus, prohibited (haram) in Islam. Therefore, it is clear that the conventional insurance is unlawful due to the fact that it is prohibited under the Islamic law.

2.2. Family Takaful: A Description

Similar to conventional composite insurance companies, takaful operators offer both general takaful and family takaful products. General takaful is an alternative for general insurance, while family takaful is alternative for life insurance. This study focuses on family takaful and life insurance which operate on a long term basis with relatively large financial funds, constituting majorly of takaful and insurance market.

Generally, in family takaful, all participants pay the contribution for two major purposes. Firstly, the contribution made is regarded as donation or tabarru' to the takaful fund to provide mutual indemnity among all participants. Secondly, the contribution is also regarded as saving and investments for them or their families' benefits (Engku Rabiah, et.al; 2008). For this reason, the contribution of family takaful participants is split into two separate accounts, namely:

1) Participants' investment accounts (PA) which is the savings and investment account.
2) Participants' special accounts (PSA). This is actually donation fund, or known as participants' risk account which is based on tabarru' concept.

The amount allocated for these two accounts are according to the agreed percentage decided upfront in the contract. The fund in both accounts will be invested in assets, such as government Islamic instrument, Islamic private debt securities and equities, fixed assets and fixed deposit accounts.

With regard to the use of the family takaful, it is treated as a protection of the participants' assets. Besides that, the family takaful is also used for saving and investment instruments like the objective of participants' accounts. In other words, a family takaful plan is long-term saving and investment instruments which also provide mutual guarantee of financial assistance in the event of death of the participants.

2.3. The Previous Studies

2.3.1. *Determinants Factor of Demand for Insurance*

Studies on the determining factors of demand for insurance industry, especially life insurance, have been conducted by Yaari (1965), Browne et al (2000), Beck and Webb (2003) and Hussels, Ward, Zurbruegg (2005), Black and Skipper (2000), and Hwang and Gao (2003). These studies observed the linkage between the economic and demographic variables and the demand for life insurance.

A study by Yaary (1965) is regarded as a pioneer in this area. He found that, the demand for life insurance industry was influenced by income stream, wealth, a vector of interest rate, factor of price (insurance premium is include) as a utility function of the customers. In addition, he discovered that the consumers' utility function for consumption and wealth which can be affected by the level of the market financial development.

Studies conducted by Browne, et al (2000), Beck and Webb (2003) and Hussels, Ward, Zurbruegg (2005) have similar results. These studies concluded that overall, the level of insurance demand within an economy can be influenced by a number of variables which can be categorized into the following (1) economic, (2) legal, (3) political and (4) social. According to them, for economic sectors, the crucial factors that affected demands for life insurance are income, inflation, price of the insurance and social welfare provisions. From legal aspects, the indicators are better accounting information, highly law enforcement, protection for good investors and more creditor's right. Political environment refers to the degree of stability of a country's socio-political environment, measured by average number of revolution and coup per year. Another political factor identified is income inequality. Social factors relate to variables such as culture, religion, dependency ratios, life expectancy and education. These studies are important since the crucial factors that affected demands for life

insurance such as income, inflation and price of insurance are also used in this research.

An interesting study which observed demand for life insurance was also conducted by other researcher. According to Truett and Truett (1990), there is a positive relationship between the national income of a country and the premium expenditure of life insurance. This research employed time series data for level of income, education and age of the two countries namely the United States and Mexico. The result shown that, there is significant correlation between independent variables (income, education level and age) and dependent variables (the determinants factors of insurance consumption). Moreover, based on the empirical findings, Truett and Truett (1990) also found that, in Mexico the income elasticity of demand for life insurance is greater than in the US. Meaning that, people in Mexico prefer to spend their money for life insurance more than in the US. This result is in line with the study conducted by Enz (2000), and Ward and Zurbruegg (2000). The later studies discovered that, income elasticity of demand for life insurance is higher in the lower income countries.

Furthermore, Hwang and Gao (2003) investigated the relationships between the level of life insurance consumption and the level of income, the level of education and the degree of urbanisation. In terms of the effect of inflation, Hwang and Gao (2003) assumed that life insurance premium expenditure is a function of current and past inflation rates. Moreover, after several years of the lag length, the effect of inflation on life insurance purchasing decision is exhausted. The finding of this research revealed that there were some factors which influenced customers in China in terms of purchasing the product of life insurance in the last decade. These factors are: the increasing of income level, higher education level and the changing in social structure of people in China (in this case: urbanization and size of family). On the other hand, this study did not found any evidences relating to negative effect of inflation to the demand of insurance, although China has experienced huge inflation in the middle of 1990s. Therefore, Hwang and Gao (2003) concluded that, it is reasonable for life insurance to growth up in the low income country.

Other influencing factors to the demand for life insurance were investigated by other researchers such as Ahmad Baharul-Ulum and Yaakob (2003) and Outreville (1996). These studies basically were aimed at figuring out the determinant factors that influence people to choose life insurance. Findings from Ahmad Baharul-Ulum and Yaakob (2003) confirmed that Gross Domestic Product (GDP) has played an essential role in determining the demand for life insurance, especially in Malaysia. This study was similar with another investigation made by Outreville (1996). Study by Outreville used a cross-sectional data from 48 developing countries in which gross life insurance premiums per capita were available for the year 1986. Furthermore,

Outreville (1996) employed ordinary least squares method to investigate the relationship between demand for life insurance and some factors. The findings of this study stated that there was significance and positive correlation between GDP and the demand for life insurance. Thus, this study confirmed that, the economic variables affect demand for life insurance.

2.3.2. Determinants Factor of Demand for Family Takaful

Apparently, the empirical studies on takaful is very limited. Most of researches in this area are conceptual in nature (see for example Kamaruddin, 1997; Kwon and Maysami, 1997; Bakar, 2000 and Billah, 2001). A study by Yon (2004) investigated the linkage between the profitability of Syarikat Takaful Malaysia Berhad (STMB) and the macroeconomic as well as business variables. The representatives of the macroeconomic variables are GDP (Gross Domestic Product) and inflation rate, while the business variables are the zakat contribution by STMB and employment opportunities.

Yon (2004) stated that, both business variables (employment and zakat) might potentially explain the profitability of both general takaful and family takaful. Meaning that, there is relationship between takaful's profitability and business variables. Nevertheless, it is interesting to note that, the macroeconomic variables such as GDP and inflation do not significantly affect the profitability of STMB. It means that insurance services are no longer perceived as luxury product, but rather a necessity. Although the macroeconomics variable could change, the demand for takaful industry is relatively stable.

Another empirical study was conducted by Hawariyuni (2006). She explored that determinant of takaful's demand. This study investigated the long run price and income elasticity of demand for takaful industry (in this case, Syarikat Takaful Malaysia Berhad or STMB). At the same time, this study also examined the relationship between the demand for takaful and the macroeconomic as well as demographic variables. By using non stationary time series in the co-integration test, the findings revealed that the income elasticity of demand for takaful was greater than 1. It implies that, in Malaysia, takaful is perceived as luxury goods. It also indicated that the demand for takaful tended to increase if there is a significant increment of income. In addition, the education variable as a demographic factor is not significantly related to the demand for takaful. Meaning that, despite the fact that, people are educated and aware of takaful services, they might not necessarily purchase the products of takaful.

Moreover, the study of linkage between the demand of takaful and the economic variables was also conducted by Zuriah, Rosylin, and Faizah (2008). The objective of this study was to investigate the relationship between the macroeconomics variables

and the demand for family takaful or Islamic life insurance in Malaysia. In addition, the study examined whether the establishment of takaful institution has brought about a positive social economic impact in Malaysia as measured by the economic indicators. By using correlation and regression techniques this study found that, there is relationship between demand for family takaful and economics variables for both Takaful Malaysia and Takaful Nasional. Furthermore, through multiple regressions model, all factors of macroeconomic (GDP, CPI, TBR rate and KLCI) indicated a negative relationship with the demand (measured by the new business) for family takaful of Takaful Malaysia (TM). Unexpectedly, only TBR rate and KLCI were found to be significant. This finding implies that customers tend to invest in alternative savings instruments (in money market or stock market) when the return of investment are higher. In addition, the long-term investment is more attractive than the short-term investment during the period of economic uncertainty. However, in the case of Takaful National (TN), it only GDP was found to be the significant variable. The difference in the findings could be due to the small sample bias presence in the study, as it were only two companies involved.

Another study on the demand for takaful was conducted by Hendon, et. al, (2009). Using the multiple regression models, this study attempted to test the relationship between the demand for family takaful which is the dependant variable, and the level of income, interest rate, inflation rate, savings rate and stock composite, that represent the explanatory variables. The results of the study showed that, there is a positive relationship between family takaful demand which measured by contribution per capita and contribution per worker and the explanatory variables incomes and savings. However, there is a negative relationship between the demand for family takaful and the interest rate, inflation and stock variables. Moreover, under both models (contribution per capita and contribution per worker), the coefficient of income is highly significant and robustly predictive of the demand for family takaful.

Another study which observed the family takaful in terms of determining factors of demand was undertaken by Mohamed Sherif (2010). He investigated the significance of economic and socio-demographic factors in determining the consumption of family takaful. Mohamed Sherif (2010) employed contribution variable as representative of family takaful demand. On the other hand, variables such as income, expected inflation rate, the real interest rate, financial sector development, the Islamic banking development, education, dependency ratio, average life expectancy (male), average life expectancy (female) and Muslim population are considered as explanatory variables. The result showed that income, education, dependency ratio, the Islamic banking development and Muslim population factors are positively related to takaful demand. On the other hand, inflation, real interest rate, financial development and life expectancy variables emerge to be the significant factors which adversely influence

the family takaful consumption. Regarding Muslim population, Mohamed Sherif (2010) found that there is positive association between demand for family takaful and the number of Muslim population in this country. To some extent, this finding confirmed the empirical findings by Wasaw and Hill (1986) and Browne and Kim (1993) which suggested that less insurance is purchased in Islamic nations.

3. Research Methodology

3.1 Data

This study adopts secondary data analysis to detect that the determining factors influence the demand for takaful family and life insurance in Malaysia. The main sources of data are publications and statistical bulletins produced by various departments. Using data from 1990-2009, this study employ multiple regressions method as a tool, using namely F-test and T-tests as a step of analysis and produce tables as a form for presenting of the findings.

The table below describes type and sources of data which is used in this study.

Table 3.1

Types and Sources of Data

Types of Data	Sources of Data
Contribution of Family Takaful	Takaful Annual Report, published by Bank Negara Malaysia
Premium of Life Insurance	Insurance Annual Report, published by Bank Negara Malaysia
GDP, CPI, Saving Rate	International Financial Statistics (IFS)
Labour Force, Muslim Population, Total Population, Age	Department of Statistics Malaysia
Education level	Ministry of Education Malaysia, published by Department of Statistics Malaysia

The dependent variables consist of the demand for family takaful and the demand for life insurance. The demand for family takaful is presented by contribution per capita, while the demand for life insurance is presented by premium per capita. According to Hwang and Gao (2003) and Hendon et. al (2009), the detailed description of dependent variables are as follows:

1. Contribution per capita; refers to contribution per participant in family takaful. This variable measured by total contribution to total participants.
2. Premium per capita; similar to contribution per capita, this variable refers to premium in life insurance. It can be measure by dividing total premium in life insurance to total policyholders.

Meanwhile, according to some previous studies (see for example Truett and Truett (1990); Browne and Kim (1993); Hwang and Gao (2003); Hawariyuni (2006); Zuriah, et al (2008) and Hendon, et. al (2009), there are some factors which expected influence the dependent variable. Following them, this study uses some economics and demographic factors as the independent variable namely GDP per capita, education level (quantified by the number of students in public institutions of higher learning, Malaysia; this group also categorized as the third level education institution), Customer Price Index (CPI), Age (measured by labour force to total population in Malaysia), Saving rate (measured by the rate of return to savings account in commercial banks in Malaysia) and Religion (measured by ratio of Muslim to total population in Malaysia).

3.2. The Model and Analysis of Data

To test the relationship between demand for family takaful and demand for life insurance and the economic and demographic variables, this study employ multiple regressions techniques. This model is adopted from Dielman (2005) as follows:

$$D = \beta_0 + \beta_1 GDP + \beta_2 CPI + \beta_3 Edu + \beta_4 Age + \beta_5 Sav + \beta_6 Reg + \varepsilon$$

Where: D= demand for family takaful and demand for life insurance; β_0 = demand for family Takaful and life insurance when all other independent variables are zero, this is defining as the Y intercept in the regressions line model; β_i = determines the contribution of the expected independent variables; GDP=a proxy for income; CPI= Customer Price Index is the estimate of the level of inflation in Malaysia for the period of 1990-2009; Edu=level of education; Age=percentage of the population who are active to work (labor force).This group of the population probably have the greatest need to protect spouses or dependent children from declining income as a result of the death of a primary wage earner in the family; Reg, percentage of Muslim to total population in Malaysia; $\boldsymbol{\varepsilon}$ is error term.

Moreover, to analyse the data, F-test, T-test, Coefficient Determination and Multicollinearity will be run.

4. Analysis Of Findings

Summary statistics of the entire variable used in this study are presented in table 4.1 below.

Table 4.1. The Descriptive Statistics of Family Takaful and Life Insurance from 1990-2009

	N	Minimum	Maximum	Mean	Std. Deviation
Contribution per capita (RM)	20	.4640	76.9288	25.576420	24.7341660
Premium per capita (RM)	20	87.0989	700.3430	387.706205	213.9780116
GDP per capita (RM)	20	6578.1885	26639.4386	1.490091E4	5.8848900E3
Education (person)	20	124346	644737	331986.70	151849.620
CPI (%)	20	.0140	.0540	.030900	.0121824
Age (%)	20	.5938	.6361	.616950	.0140935
Labour force (in 000)	20	7000.20	11315.30	9219.8100	1380.36671
Total population (in 000)	20	18102.40	28306.70	23150.8350	3199.33552
Saving rate (%)	20	.0095	.0426	.027452	.0109003
Religion (%)	20	.60610	.62847	.6188535	.00618571
Valid N (list wise)	20				

Over the span of twenty years (1990 – 2009), GDP per capita escalated more than four times from about RM 6,500 to RM 26,600. Moreover, the demands for takaful which is represented by contribution per capita proxies, indicated a significant growth. Contribution per capita for family takaful increased from RM 0.47 to RM 76.9, which is equal to almost one hundred and sixty three times increment. Indeed, these evidences are somewhat surprising.

At the same time, demands for life insurance are also significantly enhanced. In this study, demands for life insurance are explained by premium per capita. Premium per capita for life insurance rose from RM 87.1 to RM 700.34. Since life insurance was established earlier than takaful, it makes sense that the amount of life insurance's premium is higher than the contribution of family takaful. However the increment of premium for life insurance was not as high as contribution of family takaful.

Although large untapped market remained to be explored, the Malaysian takaful industry has progressed substantially since its inception in 1985.

4.1. The Regression Equation

This part explores the regressions result of the study. Contribution per capita explains the contribution per participants in family takaful. While premium per capita reflects the premium per policyholders in life insurance. The table below describes the regressions result of the determinant factors that influence demand for family takaful (measured by contribution per capita) and demand for life insurance (measured by premium per capita).

Table 4.2. Determinants of demand for Family Takaful and Life Insurance in Malaysia during 1990 – 2009

Variable	**Dependent Variable : Contribution Per Capita Family Takaful (Islamic Insurance)**			**Dependent Variable : Premium Per Capita Life Insurance (Conventional Insurance)**		
	coefficient	**t-statistic**	**Sig.**	**coefficient**	**t-statistic**	**Sig.**
(Constant)	751.374	3.217	.007	-2875.640	-2.757	.016
CPI	-289.067	-1.737	.106	428.592	.577	.574
GDP per	38.569	.098	.024	6044.604	3.983	.002
capita	5374.356	3.645	.003	11749.692	1.784	.198
Education	486.414	1.161	.267	27.190	.015	.989
Age	-200.783	-2.998	.048	-3901.840	-2.614	.021
Saving	1214.139	3.217	.007	-4646.721	-2.757	.016
Religion						
R-Squared	0.954			0.988		
Durbin-Watson	1.822			2.270		

Pertaining to the demand for family takaful, the first sub-column of second column in table 4.2 demonstrates the coefficients of each independent variable. It represents the

estimated average change in demand for changing one independent variable when others independent variables remained constant. It can be seen that, the demand for family takaful has positively increased to 751.374 units if all expected variables do not change or constant. An increasing in 1% of CPI is estimated to reduce demand for family takaful by 289.067 averagely with the assumption that other variables constant. The same interpretation is applied to GDP per capita, education, age, saving and religion.

The second sub-column describes t-stat of each independent variable. This study found out that education (t-stat =3.645) is the highest value in this test. It means that education is the most important factor that influence to demand for family takaful and followed by religion, saving, CPI, age and GDP per capita.

Third sub-column demonstrates the significance of the independent variables to demand for family takaful. From this sub-column, we can see that, there are four factors that strongly and significantly related to demand for family takaful at 5% level of significance, namely education, religion, GDP per capita and saving.

Regarding the demand for life insurance in table 4.2 above, the first sub-column of third column shows the coefficients of each independent variable to the demand for life insurance. Unlike family takaful, the demand for life insurance negatively decreased by 2875.640 units if others independent variables are constant. An increasing of 1 percent of CPI, however, is estimated to increase demand for life insurance (represented by premium per worker) by 428.592 averagely with assumption that other variables constant. The same interpretation is applied to GDP per capita, education, age, saving and religion.

The second sub-column of third column demonstrates t-stat of each independent variable. Contradict with family takaful, this study find that GDP per capita (t-stat =3.983) has the highest value. This means that GDP per capita is prime factor that influences to demand for life insurance. This is followed by saving, religion, education, CPI and age.

Third sub-column of third column illustrates significance of the independent variables to demand for life insurance. According to this sub-column, only there are three factors that strongly and significant related to demand for life insurance at 5% level of significance, namely GDP per capita, religion and saving.

For family takaful, there are four variables namely GDP per capita, education, saving and religion that is significantly related to the determinant of demand for family takaful. On the other hand, there are only three variables that significantly influence the demand for life insurance which are GDP per capita, saving and religion. In addition to that, there are both variables CPI and saving which has negative value in

the Islamic Insurance (takaful) while saving and religion in the conventional insurance has negative sign.

a. CPI

The coefficient for CPI (describing inflation rate) is negative and insignificant influence the demand for family Takaful. This result supports past findings (see for example Browne and Kim, 1993; Outville, 1996; Beck and Webb, 2003; Zuriah, et al (2008) and Hendon, et. al, 2009). This negative sign suggests that, a lower inflation in Malaysia will increase the demand for takaful. However, there is positive influence on demand for life insurance. The difference of this finding is also found in Hwang and Gao (2003) which stated that, there is no evidence which indicate that, the life insurance industry suffered an adverse impact over the period of high inflation. Consumers were less sensitive to the negative impact of inflation. For people in China, inflation did not have a harmful effect on people's living standard. This finding is also support by Cargill and Troxel (1979).

b. GDP Per Capita

The table 4.2 above also shows that GDP per capita is positive and strongly significant related to demand for both insurance (takaful and conventional) at 5% level of significance. These findings is consistent with the previous study (see for example Yaary, 1965; Campbell, 1980; Truett and Truett, 1990; Browne and Kim, 1993; Black and Skipper, 2000; Browne, et al, 2000; Beck and Webb, 2003; Ahmad Baharul-Ulum and Yaakob, 2003; Hwang and Gao, 2003; Hussels, Ward and Zurbruegg, 2005; Hawariyuni, 2006; Hendon, et. al (2009) and Mohamed Sherif, 2010). Income is significantly correlated to demand for family takaful and life insurance. In this situation, as income arises, insurance become more affordable. Its increase the demand for family takaful and life insurance enhance.

c. Education Level

In relation to education variable, this study found the highest coefficient of independent variable. It indicates that, this variable is strongly significant for both. The coefficient for education is positive and significantly influence on demand for family takaful. However, although the result of conventional insurance shows similar outcomes with family takaful, the association of demand for life insurance to education is not significant. The rational reason for the difference of this finding might be due to the increment of participants' knowledge and potential customer of takaful industry. This finding is consistent to past studies (see Burner and Palmer, 1984; Browne and Kim, 1993; Outville, 1996; Hwang and Gao, 2003; Hawariyuni, 2006). This result suggest that it's important to make progress in improving the level of education since it can lead to greater awareness and understanding of the role of life insurance and family takaful.

d. Age

The coefficient of age is positively and insignificantly determines the demand for both family takaful and life insurance. It implies that, this variable impact the demand for family takaful and life insurance positively. According to Department of Statistics Malaysia, Labour force refers to those who are in the 15 to 64 years age group. This means that economically, if the percentages of this group increase, it also increases the demand for family takaful and life insurance even though it's not significant. This result is consistent with Truett and Truett (1990), Browne and Kim (1993) and Outville (1996) who indicated that people in this group probably have the greatest need to protect spouse and dependent children from declining incomes as a result of the death of a primary wage earner in the family.

e. Saving Rate

This study reveals that saving rate is negative and significantly determines demand for both family takaful and life insurance. This finding is also similar with the previous findings like Rose and Mehr (1980) and Zuriah, et al (2008). The negative value indicate that higher saving rate will reduce demand for both takaful and conventional insurance since the decision to purchase insurance can be affected by the decision to make other financial investment, such as saving and stocks. Consumers would have more tendencies to save in the bank rather than to buy insurance and takaful products when the saving rate increases. In other words, investment return is quite related to the people's decision to purchase insurance and takaful.

f. Religion

The coefficient of this factor is positive and significantly related to the demand for family takaful. However, life insurance experience negative associated. This finding is not surprising since the previous studies also found the same result. The positive relationship which is exhibited by factor of religion confirms the empirical findings of Wasaw and Hill (1986), Browne and Kim (1993), Outville (1996), and Mohamed Sherif (2010) which suggests that less insurance is purchased in Islamic nations. As family takaful provides an alternative to life insurance, it is argued that takaful would be more demanded in Islamic countries as compared to non-Islamic ones. In this case, since Malaysia is an Islamic nation, this finding indicates that large Muslim population in the country stimulates the demand for takaful.

4.2. Coefficient Determination, F-Test and Multicollinearity Test Analysis

Coefficient of determination reflects the proportion of variation in the dependent variable (in this case demand for family takaful and demand for life insurance) that

can be explained by the independent variable. Statistically, this study found out that, the coefficient of determination is (R^2) = 0.954. This result reveals that more than 95.40% of variation on demand for family takaful in the Islamic insurance can be explained by the variation of the six independent variables in the regression model under study. In addition, this study also finds that, the coefficient of determination for conventional insurance is 0.988. Meaning that, more than 98.8% of variation on demand for life insurance in the conventional insurance can be explained by the variation of the six independent variables under study. Hence, this fact concludes that, the R squared in this model is relatively a very high value that means strong correlation between demand for family takaful and life insurance as dependent variable and the explanatory (independent) variables.

This study also employs F-test for testing whether the regression model explains a linear relationship between the demand for family takaful and demand for life insurance (as dependent variable) and any of the independent variables X_i. How the multiple regressions equation fits the data is also measured by F-test.

Table 4.3. ANOVA of Contribution Per Capita and Premium Per Capita

	Contribution Per Capita			**Premium Per Capita**		
	Means Square	**F**	**Sig**	**Means Square**	**F**	**Sig**
Regression	1848.191	44.938	.000	143213.483	174.580	.000
Residual	41.127			820.331		

a. Predictors: (Constant), religion, gdp, cpi, sav, age, edu

b. Dependent Variable: contribution per capita and premium per capita

The numerator is D_1=k=6 and denominator D_2 = n-k-1= 13

The null and alternative hypotheses are:

- ✓ H_o:$\beta_1=\beta_2=\ldots=\beta_k=0$ (no linear relationship)
- ✓ H_a: at least one $\beta i \neq 0$ (at least one independent variable affects dependent variable)
- ✓ $\alpha = 0.05$

F critical value for given alpha level $\alpha = 0.05$ and k=6 and n-k-1=13 degrees of freedom, using the F table, is $F_{0.05, 6, 17} = 3.03$.

1. F-test for contribution per capita

We can see from table 4.3 above, that the result of F-test = 44.938.
Since F- test= 44.938 > 3.03, this study Reject Ho at α=0.05. It implies that there is evidence that at least one independent variables affects to demand for family takaful (measured by contribution per capita).

2. F-test for premium per capita

According to table 4.3 above, this study find that F-test = 174.580.
Since F- test= 174.580 > 3.03, this study Reject Ho at α=0.05. It implies that there is evidence that at least one independent variables affects to demand for life insurance. (measured by premium per capita).

Therefore, we can conclude that the regression model explain the significant variation of the independent variable to demand for family takaful and life insurance since all findings of F-test give the same result, that is, Reject Ho at α=0.05. This implies that the overall model is statistically significant and confirms that this multiple regressions equation fits the data.
In order to detect multicollinearity, this study used a measurement known as Variance Inflation Factor (VIFs). Table 4.4 present the result of multicollinearity test.

Table 4.4. The Multicollinearity Test Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
CPI	.5270	1.899
GDP per capita	.2573	3.887
Education	.010	10.00
Age	.0101	9.89
Saving	.1630	6.131
Religion	.3970	2.517

a. Dependent Variable: Contribution per Capita, Contribution per Worker, Premium per Capita, Premium per Worker

Generally, if the findings show that the VIFs < or = 10 for a particular independent variable, multicollinearity is not considered a problem for that variable. From the values of VIFs above, it can be concluded that, there are no multicollinearity issues among the independent variables since the result of VIFs values are less than 10 (Dielman, 2005). This fact implies that each of variables does not contribute redundant information to the model. Hence, this model fulfils the goodness of fit criteria.

5. Recommendations And Conclusion

Based on the finding, there are two major outcomes that need to be highlighted in this study. Firstly, this study found that, the determinant factor that influence demand for family takaful and life insurance is different. Regarding family takaful, the findings show that, there are four variables namely GDP per capita, education, saving and religion that are significantly related to the determinant of demand for family takaful. On the other hand, there are only three variables that significantly influence the demand for life insurance which are GDP per capita, saving and religion.

Secondly, the evidence shows that, the Islamic insurance possesses higher influence compared to the conventional insurance in the Malaysian market. It is found that the significant variables which are tested for Islamic insurance (takaful) are more than the conventional counterpart. It reflects the higher influence on takaful compared to conventional insurance. In other words, this result implies that the existence of higher public receptive to takaful as compared to the conventional insurance in the Malaysian market. There are some rational reasons for this conclusion such as the percentage of Muslim population in Malaysia is higher compared to other religion, a mindset that conventional insurance was unacceptable on religious and cultural grounds had more impact on family takaful, the products of takaful are as good as conventional insurance in term of benefits and pricing. Moreover, the system of takaful is ethical in term of investments, channelling funds to assets and businesses that are good for society and the environment and the products are transparent and built on mutual help and cooperative spirit.

The result comes up with the following implication for the stakeholders:

Firstly, for the takaful operators; having realized the strong public receptive and demand for takaful, they should be more active in enhancing public awareness and knowledge about takaful product in order to attain good customers, retention, loyalty and support. The operators should also build more efficient distribution and delivery channel to reach the prospective customers. In return, takaful operators will receive competitive reward and should able to give better education and understanding to their customer so that participants and potential customers are aware of their protection and saving.

Secondly, the findings of this study also give implication to the governments as policy maker and regulators. They should be more committed in supporting the development of takaful industry. As we know, the government also create specific takaful regulations. In term of takaful space, they should focus to protect participants' interest and to ensure market confidence through prudential regulations. The support of regulator for takaful business is essential in ensuring the necessary confidence to the customers. Hence, it can compress the penetration of takaful market in inviting other companies to joint in this industry.

Thirdly, this study also gives implication to the public in general in the sense that they will get better education and understanding in takaful. They will also be aware of the benefits that takaful offers in managing their risks. Its can give more spirit to them to work harder and improve their income and have preference to protect and improve their live through mutual help and cooperative spirit.

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