Insurance Industry Performance in Malaysia: Comparison Between Takaful and Conventional Insurance

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ABSTRACT

The insurance industry in Malaysia is divided into two, conventional insurance and takaful. Both types of insurance have the same goal as protection against the risks faced by each individual or business. However, these two types of insurance have different management methods. Therefore, the way to get profit for these two types of insurance is also different. Due to the differences in the management of takaful and conventional insurance, the question arises about the difference in performance between these two types of insurance. This study was conducted to measure and compare the performance of conventional insurance and takaful based on the factors of solvency, liquidity, profitability, underwriting and efficiency. In addition, this study also aims to examine the relationship between the five factors and the type of insurance, namely conventional insurance and takaful. Financial statement data which is secondary data for conventional insurance and takaful companies in Malaysia for 10 years is used in this study. The method used in this study is logistic regression analysis. The results of the study show that conventional insurance is better than takaful in terms of solvency, liquidity and profitability. However, takaful is better than conventional insurance in underwriting and efficiency. Solvency shows an insignificant mean difference between conventional and takaful insurance companies in Malaysia. The results of the logistic regression analysis show that the factors of liquidity, profitability, underwriting and efficiency have an impact on the selection of the type of insurance that is between takaful and conventional insurance.

Keywords: Insurance; Conventional Insurance; Takaful; Logistic Regression.

INTRODUCTION

Insurance is a form of risk management as a guarantee against risk of possible financial loss. The main method for a business or individuals in reducing the financial impact of the risk that occurs is through insurance according to Abduh et al. (2012). This is done through exchanges payment (fee) or buying and selling between policyholder and insurance company to avoid a major loss. The insurance industry in Malaysia has been introduced since the 18th century. Conventional insurance was introduced earlier than takaful. Besides that, the insurance industry has also begun to be placed under the supervision of Bank Negara Malaysia (BNM) started in 1988. Close supervision in the division solvency and market behaviour and strengthening of the management framework by BNM in the 1990s aimed to increase the level of professionals in insurance industry in Malaysia (Yusof t.th.).

Insurance in Malaysia is divided into two types which are conventional insurance and takaful. Conventional from a financial or banking point of view refers to dealing business based on common practice, which is not based on the Islamic Sharia system (Yusof t.th.). Takaful is an Arabic loan from the root word for the word 'kafala' which means to guarantee, or keep. Takaful is also an insurance that is guided by Islamic Sharia which is becoming more and more popular not only in Malaysia but also in other Muslim countries nowadays. First Takaful which works as an alternative to conventional insurance has been introduced in Malaysia in 1984 (Abduh et al. 2012). This is to meet the requirements towards Muslim community in Malaysia as well as to complete the operation of Islamic banks which was established in 1983. According to Mahmud and Kader (2012), industry takaful in Malaysia is growing rapidly in line with the development of the industry Islamic banking. However, Malaysia is not the first one, Islamic countries such as Sudan and Saudi Arabia were the first countries to introduce the takaful industry in the end of 1970. There are approximately 306 takaful institutions operates in at least 45 countries.

The takaful market in Malaysia is led by family takaful according to Bernama (2021). The proof is that the family takaful market increased by 46.7% in half first 2021 compared to 7.08% at the same time in 2020. Board Islamic Financial Services which is The Malaysia Reserve (2022) states that Malaysia is the country with the third largest takaful market in this world. This is because there are some Islamic financial organizations that including Islamic banks, syariah-compliant corporations and halal-using industries takaful as protection. According to Deloitte Touche Tohmatsu Limited in article written by Lydia Nathan (2021), the global takaful market reaches RM115.7 billion (US$27.6 billion) in 2021 and is expected to reach RM208.7 billion (US$49.8 billion) in 2027. The takaful business is growing with more advanced than conventional insurance. This is the result of insistence government to create affordable insurance and the potential use of technology which is better as growth potential according to international rating agencies.

METHODOLOGY

The sample used in this study were conventional insurance and takaful companies listed in Bank Negara Malaysia (BNM). The Data used is secondary data obtained from the official websites of each conventional and takaful insurance company. The type of data used is the financial statements for 10 years starting from 2012 to 2021, according to the financial year of each company. This study uses descriptive tests, independent t-test and logistic regression method. Based on the financial statements of each company, five financial ratios comprising solvency, liquidity, profitability, underwriting and operational efficiency were used in the data analysis to compare the performance of conventional insurance and takaful in Malaysia for 10 years. Logistic regression was used to study the relationship between the five types of financial ratio with the insurance industry in Malaysia. In addition, the logistic regression method also aims to build a model by using data from financial ratio as an independent variable. The type of insurance is the dependent variable for logistic regression analysis.

A t-test was conducted to compare the mean scores of the two groups for continuous variables (Abdou et al. 2014). If the test results show a significance value less than the critical value that is 0.05, then the null hypothesis can be rejected. Therefore, the difference in the mean value between the two group is statistically significant and the sample used shows strong evidence to state the two populations are different (Frost t.th). According to Abdou et al., logistic regression models are used to predict and explain binaries (two groups) of categorical variables. Therefore, the binary logistic regression analysis method is used in this study to identify financial ratio that affects the performance of insurance industry conventional and takaful in Malaysia.

Multiple collinearity tests were performed using variance inflation factors before logistic regression analysis was conducted. The purpose of this testis to ensure that each independent variable does not have relationship or related to each other. The null hypothesis of the logistic regression model analysis states that all coefficients in the model are equal to zero. Therefore, no independent variables have a significant relationship with the dependent variable answer y while one of the coefficients of the alternative hypothesis is not equal to zero (Zach 2021). If the p-value exceeds the critical value of 0.05, then the null hypothesis is rejected. Therefore, the model is significant and each variable coefficient has a value. The following is the equation for LOGIT (Boeteng and Abaye 2019):

$$\ln p\,(1 - p) = \alpha + \beta x_1 + \beta x_2 + \beta x_3 + \beta x_4 + \beta x_5$$

RESULTS AND DISCUSSION

The tests used in this study are descriptive tests and independent t-tests. In addition, logistic regression is also used to study the relationship between the five factors of financial ratios and the type of insurance in Malaysia. The factors used in this study are solvency, liquidity, profitability, underwriting and efficiency.

Descriptive analysis

The descriptive test used in this study are the mean value and standard deviation for each factor. Table 1 shows the average value and standard deviation of five factors consisting of solvency, liquidity, profitability, underwriting and efficiency for conventional insurance and takaful over 10 years which is starting in 2012 until 2021.

Table 1 Descriptive tests for solvency, liquidity, profitability, underwriting and efficiency ratio for conventional insurance and takaful

Factors	Average		Standard Deviation	
	Takaful	Conventional Insurance	Takaful	Conventional Insurance
Solvency	0.7048	0.8275	0.7753	0.4197
Liquidity	1.0642	0.9408	0.3280	0.0679
Profitability	0.0409	0.1350	0.1449	0.1753
Underwriting	0.8202	1.0247	0.1601	0.2292
Efficiency	0.4154	0.2255	0.1891	0.1449

Based on the table, the solvency ratio for conventional insurance is higher than takaful. This means that the level of solvency for conventional insurance companies is generally better than takaful. This is due to the total net asset value of conventional insurance companies being higher than companies takaful in Malaysia. This also shows that most companies conventional insurance has a larger capital size than takaful companies in Malaysia. The ability of conventional insurance companies to cover long-term debt is also better than takaful companies in Malaysia (Hayes et al. 2022). The standard deviation of the solvency ratio of takaful companies is also higher than conventional insurance companies in Malaysia (refer to table 1). This means that the solvency of conventional insurance companies for ten years is more consistent than that of takaful companies in Malaysia.

The average value of the lower liquidity ratio indicates a better liquidity condition of the company (Hidayat et al. 2015). Based on the table 1, the liquidity ratio for takaful is higher than conventional insurance companies. This shows that the overall liquidity position of conventional insurance companies is better than takaful companies in Malaysia. Thus, the ability of conventional insurance companies to pay short-term debt obligations is better than takaful. This is because based on the company's financial statements, conventional insurance companies have liabilities or debts that do not exceed the value of assets, namely the amount of cash and investments.

Return on equity is used to analyse the profitability of conventional insurance and takaful in Malaysia for ten years. Based on the table 1 can be seen that conventional insurance companies always have higher profits than takaful companies in Malaysia. This is because the main goal of conventional insurance companies is to generate profit while takaful is to reduce the risk of members and protect them from accidents or loss (Yusuf et al. 2020). The standard deviation for takaful companies in Malaysia is lower than conventional insurance companies (refer to table 1). This means the total profit of the takaful company moves more consistently compared to conventional insurance companies from 2012 until 2021.

Combined ratio is used to analyse and compare the underwriting between conventional insurance and takaful in Malaysia throughout the year 2012 until 2021. Based on table 1, the average of the combined ratio of takaful companies less than one and lower than conventional insurance companies in Malaysia. Therefore, takaful companies earn more underwriting advantages compared to conventional insurance companies. This means that conventional insurance companies pay more claims including commissions and company expenses compared to premiums received. However, conventional insurance companies can still operate and generate profits because this ratio does not include investment income (Hayes 2020). Standard deviation for takaful companies is also generally lower than companies' conventional insurance (refer to table 1). This shows profit underwriting for conventional insurance companies is more consistent than takaful throughout the year 2012 to 2021. In addition, the combined ratio of takaful and conventional insurance also showed the same pattern throughout the ten years.

Total asset turnover is used to analyse the efficiency of conventional insurance and takaful in Malaysia for ten years throughout the year 2012 until the year 2021. Based on table 1, the average of total asset turnover for takaful companies is higher than conventional insurance companies. This means net sales for takaful companies is higher than conventional insurance companies. Next, this also proves that takaful is more efficient in generating sales or income from assets compared to conventional insurance companies. Besides, the standard deviation for conventional insurance companies is overall lower compared to takaful companies (refer to table 1). Therefore, the conventional insurance has a more consistent amount of total asset turnover than Takaful company in Malaysia

T- test

An independent t-test was performed against five factors consisting of solvency, liquidity, profitability, underwriting and total asset turnover. Hypotheses test were run for a t-test to determine if there is a difference significantly between the average of conventional insurance and takaful in the five factors.

Table 2 Independent t-test for conventional insurance and takaful

Factors	Significance value
Solvency	0.212
Liquidity	0.006
Profitability	<0.001
underwriting	<0.001
Efficiency	<0.001

Table 2 shows the results of the independent t-test for solvency, liquidity, profitability, underwriting and efficiency performed on insurance conventional and takaful in Malaysia. The null hypothesis is rejected for the liquidity, profit, underwriting and efficiency due to statistical significance values of 0.006 and 0.001 is less than the critical value of 0.05. Therefore, the average of takaful and conventional insurance for these four factors are significantly different. Nevertheless, the hypothesis is accepted for the solvency section because of its significance value which is 0.212 exceeds the critical value which is 0.05. Therefore, the mean value of solvency for takaful and conventional insurance are insignificantly different.

Logistic regression

The logistic regression analysis method was carried out to study the relationship between solvency, liquidity, profitability, underwriting and efficiency of the type of insurance which are conventional insurance and takaful. Multicollinearity tests of the independent variable was conducted before conducting logistic regression analysis while Omnibus tests were conducted after logistic regression analysis was conducted.

Multicollinearity test

Multicollinearity tests were conducted before logistic regression analysis was conducted. This matter to ensure that each independent variable has no relationship each other. Therefore, every value change on the variable does not dependent and affect other variables.

Table 3 Multicollinearity test

Factors	VIF
Solvency	1.312
Liquidity	1.180
Profitability	1.256
Underwriting	1.075
Efficiency	1.380

Table 3 shows the collinearity test for solvency, liquidity, profitability, underwriting and efficiency using the variance inflation factor (VIF). Based on the collinearity test analysis conducted, all the variables can be used in logistic regression tests. This is because of the value of the inflation factor variance for each variable is low which is less than five. This indicates that all variables are not correlated with each other and are not have multicollinearity problems. Thus, the five variables can be included in logistic regression tests.

Logistic regression analysis

This analysis was conducted to examine the relationship between the five financial ratio factors with the type of insurance in Malaysia. The dependent variable for this analysis is the insurance industry in Malaysia namely

takaful and conventional insurance. Zero value representing takaful and one representing conventional insurance in Malaysia. the independent variable includes five factors, namely solvency, liquidity, profit, underwriting and total asset turnover. A total of 60% of the data is from conventional insurance and 40% data from takaful in Malaysia.

Table 4 Parameter estimation of the logistic regression model using the maximum likelihood method

	Beta	**Standard Error**	**Wald**	**Degree of freedom**	**Significance value**
Solvency	-0.598	0.486	1.512	1	0.219
Liquidity	-6.603	2.227	8.790	1	0.003
Profitability	6.285	3.117	4.065	1	0.044
Underwriting	5.850	1.522	1.522	1	<0.01
Efficiency	-9.444	2.509	14.167	1	<0.01

Table 4 shows the results of the logistic regression analysis that has been done carried out using five independent variables namely solvency, liquidity, profitability, underwriting and efficiency. As a result of the analysis, only four variables were included in the logistic regression model which are liquidity, profitability, underwriting and efficiency. However, solvency is not included in this model because the significance value for solvency is not significant which is more than the critical value which is 0.219. This shows all changes in the solvency value do not affect the type of insurance.

Two of the variables which are profit and underwriting produce positive coefficient values. This indicates each increment of one unit amount of profitability and liquidity amount will cause an increase in the probability of conventional insurance performance being better than takaful with probabilities 6.285 and 5.850 assuming all variables are constant. Independent variables which are liquidity and total asset turnover also show a negative coefficient. This indicates every one-unit increase of the amount of liquidity variable and total asset turnover will cause a reduction in the performance takaful is better than conventional insurance with a coefficient of 6.603 and -9.444 assuming all other independent variables are constant.

Therefore, the binary logistic regression model produces the following equation:

$\hat{y} = 4.225 - 6.603x_2 + 6.285x_3 + 5.850x_4 - 9.444x_5$

p: Probability with value of 0 until 1

x_2 : Liquidity x_3: profitabellity x_4: Underwriting x_5 : Total aset turnover

Table 5 Omnibus test of model coefficients

	Chi square	**Degree of Freedom**	**Significance value**
Model	95.048	5	<0.001

Table 5 shows the test of significance of the relationship between the dependent variable and the independent variable based on the statistical analysis of the final values of chi-square power, which is 95.048 with five degrees of freedom and a significance value less than 0.001. The results of this test indicate that the significance value for this model is less than the critical value (0.001<0.05). Therefore, the null hypothesis is rejected, which means that the model is statistically significant and consistent with the data. Furthermore, all the variables included in this model have an effect, significance, and contribution to the classification.

Table 6 Model significance test

Log Likelihood	**Cox dan Snell R square**	**Nagelkerke R square**
106.855	0.469	0.634

Table 6 shows the summary of the model. Based on the table, approximately 63.4% of the total variation of the dependent variable can be explained by the independent variables in this model.

CONCLUSION

A descriptive test and independence t-test were conducted to compare the insurance industry in terms of solvency, liquidity, profitability, underwriting, and efficiency. The test results show that conventional insurance performs better than takaful (Islamic insurance) in terms of solvency, liquidity, and profitability. This is because the average solvency and profitability values for conventional insurance companies are higher compared to takaful, while the average liquidity positions of conventional insurance companies are lower compared to takaful. However, takaful performs better than conventional insurance in underwriting and efficiency. This is because the average underwriting value for the combined ratio of takaful companies is lower compared to conventional insurance companies, while the average efficiency value for the asset turnover ratio of takaful companies is higher compared to conventional insurance companies. The analysis of independence t-test of this study indicate that solvency shows no significant difference in the average between conventional insurance companies and takaful companies in Malaysia. However, there are significant differences in the average liquidity, profitability, underwriting, and efficiency between conventional insurance companies and takaful companies in Malaysia. Additionally, the results of logistic regression analysis indicate that solvency does not influence the choice of insurance type, whether it is takaful or conventional insurance. However, other factors such as liquidity, profitability, underwriting, and efficiency do have an impact on the choice of insurance type.

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