TAKAFUL-GROWTH NEXUS BEFORE AND AFTER THE IMPLEMENTATION OF IFSA 2013: EMPIRICAL EVIDENCE FROM MALAYSIA

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ABSTRACT

The expanding Takaful industry, together with the remarkable economic development has drawn attention to explore the impact of Takaful on economic growth, especially in Malaysia as it has been retaining its position as the leader in Islamic finance as well as maintaining its position to be in top for the Global Islamic Economy Indicator (GIEI) Score for the 9th consecutive years. Although many challenges have been faced by Takaful successfully, there are still some issues that need to be improved especially in terms of the legal, supervisory, and institutional framework, and the directions for future research by focusing on statistical analysis and economic significance, and its primary objective to serve the society. Hence, this paper examines the association between the Malaysian Takaful sector and real economic growth pre and post-IFSA 2013 for the period of 2007 – 2019. This study employs both quantitative and qualitative analysis, in which Pearson Correlation Coefficient is adopted for the quantitative analysis, while an interview session with 5 experts is employed for the qualitative analysis. The quantitative findings show that Takaful is positively linked to real economic growth significantly pre-IFSA 2013 but insignificantly post-IFSA 2013, supporting the supply-leading hypothesis. Meanwhile, the qualitative findings suggest that IFSA 2013 does assist the Takaful sector to improve the real economic growth in Malaysia via its rules and regulation, and the Takaful industry has contributed its own humble quota to economic growth by creating jobs the society and adding value to both participants and businesses.

INTRODUCTION

In the history of human civilization, the concept of insurance is not a new phenomenon because it had been existing since the era of Babylon in Mesopotamia, with the main aims of protecting real estate, private property, family affairs, and commercial activities. The concept of Islamic insurance, which is known as Takaful is also not new as it had been practiced by the people that live during the times of Prophet Muhammad (peace be upon him) based on the concept of *Aqilah* that involves mutual assistance. Islamic countries, together with the other countries that have a significant Muslim population had encouraged the financial services provision, which includes insurance, which is known as Takaful under the Islamic principles, starting from the 1970s and progressively in the 1990s. Takaful was first introduced in Sudan in 1979, which is motivated by the increasing needs of the Muslim customers for an insurance protection that obeys the Islamic law.

In Malaysia, the development of the first Takaful operator took place in 1985, where it is stimulated by the Muslims' needs for a *Shari'ah*-compliant insurance due to several prohibitions in Islam relating to the conventional insurance. According to Suharto and Fasa (2017), the Malaysian National fatwa committee has issued a fatwa that states that the conventional insurance is prohibited (*haram*) because of the existence of uncertainty (*gharar*), gambling (*maysir*), and interest (*riba*). Furthermore, the government had established a special task force in 1982 to examine the practicality of establishing an Islamic insurance company. In addition, the Takaful Act 1984 and the first Takaful operator are incorporated

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in Malaysia following the recommendations of the task force.

According to Eldaia et al. (2020), Bank Negara Malaysia has adopted a gradual approach in developing the takaful industry in Malaysia, which can be divided into three phases as shown in Figure 1. There are currently 15 Takaful operators, which are AIA Public Takaful Berhad, AmMetLife Takaful Berhad, Etiqa Family Takaful Berhad, Etiqa General Takaful Berhad, FWD Takaful Berhad, Great Eastern Takaful Berhad, Hong Leong MSIG Takaful Berhad, Prudential BSN Takaful Berhad, Sun Life Malaysia Takaful Berhad, Syarikat Takaful Malaysia Am Berhad, Syarikat Takaful Malaysia Keluarga Berhad, Takaful Ikhlas Family Berhad, Takaful Ikhlas General Berhad, Zurich General Takaful Malaysia Berhad, and Zurich Takaful Malaysia Berhad, and 4 Re-Takaful operators, which are ACR Re-Takaful Berhad, Malaysian Reinsurance Berhad, Munich Re Re-Takaful, and Swiss Re Re-Takaful (BNM, 2020). Amongst the 15 Takaful operators, 11 are local and 4 are foreign, while amongst the 4 Re-Takaful operators, 4 are foreign and 1 is local.

Re-Takaful is re-insurance that is based on Islamic principles that functions as the main tool for minimizing risks amongst the Takaful operators. Unlike in conventional re-insurance, re-Takaful is not a risk taker, but it is a risk manager. Basically, re-Takaful involves two parties; 1) Takaful operator, which aims to minimize the financial burden of the insured risk, and 2) Re-Takaful operator, which serves to take on some of the risk that the Takaful operator has transferred. Masum (2007) specified three objectives of re-Takaful; 1) To protect the operators from the issue of insolvency, 2) To provide a flexible underwriting practice amongst the operators, and 3) To forbid interest in the re-Takaful reserves.

The expanding Takaful industry, together with the remarkable economic development has drawn the attention to explore the impact of Takaful on economic growth, especially in Malaysia as it has been retaining its position as the leader in Islamic finance. Generally, this article examines the relationship between Takaful and real economic growth in Malaysia by employing Pearson Correlation Coefficient and Interview. The interest to conduct this study stems from Islamic fundamentalists' demand for a return to Islamic rule, which is thought to have solutions to all economic and social issues, regardless of time or location. Islamic economics and finance are inextricably linked to ethics and social values. In this view, the movement for Takaful and economics, which has been gaining traction for the past years, may be understood as an attempt to integrate ethics and social justice into the core of the system. Perhaps more than any other social discipline, Islamic finance, which includes Takaful sector has produced significant new concepts and applications in the recent years. The motivation to do this study also comes from the desire to serve the community, to get intellectual joy of doing something creative as well as concern over the practical problems. The findings of this study aim to help industry players and policymakers in the area of Takaful and economics.

This article is organized into six sections. The first section, which is the Introduction, explains the background of the study. Section 2, which is the Literature Review, explains and appraises theoretical and empirical background on the mechanism of the financial sector that is influencing the economic growth. Section 3, which is the Methodology, gives details of the data and its sources and explains the model and all variables that are employed in this study. Section 4, which is the Results, discuss the results of the study on the relevance of Islamic financial sector development on real sectors of the economy, considering the implementation of IFSA 2013. Section 5, which is the discussions, provides the analyses of the findings. Lastly, Section 6, which is the Conclusion, summarizes and concludes the findings as well as explains the shortcomings and limitations of this study and suggests some advice and inputs for future research.

LITERATURE REVIEW

In the insurance area of studies, the pioneer researchers are focusing on the effect of economic development on the insurance growth. The study of Beenstock et al. (1986) was amongst the pioneer empirical research that discovered the positive impact of income on the insurance demand. By utilizing the time-series and cross-section data from ten industrialized countries for the period of 1970-1981, they found that the demand of the life insurance is directly positively dependent on income, which is measured as GDP per capita. Subsequently, a series of empirical studies on the effect of economic development on both nonlife and life insurance growth follow. According to Hussels et al. (2005) and Arena (2008), both non-life and life insurance is found to be directly dependent on the economic development by utilizing the insurance premium as the dependent variable and the GDP per capita as the independent variables.

Moreover, Outreville (1990) has also explored the link between property-liability insurance premia and economic development, across 55 developing countries, by using a cross-section data. The results showed that there is a positive relationship between the property-liability premia per capita and GDP per capita, where one percent increases in the GDP causes more than one percent increase in the insurance demand. By using the OLS method, the results also showed that there is a positive link between insurance development and financial development but the coefficient for price is not statistically significant. Finally, the results also reported that the elasticity of income is bigger than one.

Furthermore, the study from Haiss and Sumegi (2008) also discovered that the life insurance affects the GDP growth positively in Norway, Switzerland, and Iceland, which are known as the EU-15 countries. However, they found a larger impact for liability insurance in New EU Member States from Eastern and Central Europe. In addition, the results of the study also emphasized the effect of economic development level and real interest rate on the insurance-growth relationship, where it is contended that both financial sector analysis and macroeconomic policy need to focus more on the insurance sector. Besides that, Guochen and Wei (2012) found that the demand-following pattern in the insurance-growth nexus is significant only for rich states in both non-life and life insurance sectors in China, while the supply-leading pattern prevails through most areas with different developing stage, except for poor states in life insurance sector.

There are also many other studies that discover that the insurance and economic growth are positively related. For instance, Hu et al. (2009) in their study have found that there is a one-way Granger causality from insurance sector to economic growth for Zhejiang, Jiangsu, and Shandong regions in China. In addition, Alhassan and Fiador (2014) in their study have also found that there is a positive link between insurance penetration and economic growth in the long run, which

indicates that the funds that are mobilized from the insurance businesses have a long-run effect on the economic growth. Furthermore, they also discovered that there is a unidirectional causality from non-life and life insurance penetrations as well as aggregate insurance penetration to economic growth, which support the supply-leading hypothesis. Besides that, Alhassan and Biekpe (2016) also proved that there is a long-run correlation between insurance and economic growth in Kenya, Mauritius, Nigeria, South Africa, and Morocco. Moreover, Webb and Martin (2017) found that a higher level of both insurance and banking penetration cooperatively will have a bigger effect on the economic growth.

On the contrary, there are also many literatures that discover a negative link between insurance sector and economic growth, and some of them are Omoke et al. (2012), who found that the insurance sector and economic growth in Nigeria is not positively linked within the period of 1970-2008, plus it is also shown that the Nigerians have not fully embraced the insurance industry despite its importance to the economic growth as there is a very low insurance market activity in Nigeria. In addition, Hou et al. (2012) discovered that life insurance penetration and banking development do not have any impact on real outputs through the cross-country evidence. Furthermore, Lee et al. (2016) suggested that the insurance-growth nexus is negative in the regime with relatively unhealthier institutional environments, which means that a generally unhealthy institutional circumstance could deter the growth effect of the life insurance sectors, and this result might be explained by the adverse selection and moral hazard problems, the behaviour of risk-taking, as well as the macroeconomic volatility.

However, there is a lack of studies on the relationship between Islamic insurance (Takaful) and economic growth especially empirical ones. Trokic (2017) mentioned that the role of Islamic insurance or Takaful, in contributing towards the development of economic growth, namely in terms of increasing the financial inclusion, has yet to be investigated in the literature. Therefore, Trokic (2017) investigated theoretically the potential role of Takaful in economic development, particularly in poverty alleviation. It is found that Takaful can be effective in providing strategies for bettering the economic situation of poorer populations, when used in partnership with other mechanisms mainly because Takaful is similar to mutual funds and cooperatives, and despite the increased growth of the Takaful sector, there are still numerous challenges left to be faced, where many of these challenges are associated with governance, regulation, operation, capacity building and risk management. Takaful operators need to work on alleviating these obstacles and challenges to better compete on the global insurance market and contribute to the economic development. Aziz and Kassim (2020) have utilized a survey method to explore the link between Takaful demand and Malaysian economic growth, and the result shows that Takaful is able to promote economic growth via investments and savings from the increase in Takaful demand. Moreover, Belatik (2021) also suggested that Takaful should highly focus on the areas of innovation and economic growth, given the Covid-19 impact on the nation. Nafti (2022) and Muhamat et al. (2022) also found that Takaful is a good solution to poverty and misfortune events, and hence, helping the nation. In a recent study, Ullah et al. (2023) found that Bangladesh's takaful industry has difficulties such as low customer awareness, legal restrictions, knowledgeable *Shari'ah* committees, and operational inefficiencies. Moreover, Eldaia et al. (2023) discovered that knowledgeable *Shari'ah* committees improve the performance of the Takaful industry. Because there is a lack of empirical studies on the Takaful-growth nexus, especially after the implementation of IFSA 2013, which gave more authority to the *Shari'ah* committees, there is a need to explore it, as attempted in this paper.

MATERIALS AND METHODS

This section discusses the methodology, which is designed based on the three objectives of the study:

O1: To investigate the relationship between Takaful and real economic growth in Malaysia.

O2: To analyze whether there is any difference between the relationship of Takaful and real economic growth in Malaysia, prior and post implementation of IFSA 2013.

O3: To observe whether Islamic finance is fulfilling the goals of Islamic economic.

As an analytical framework, this study will use existing theory of the finance-growth relationship, where the most important researchers that contribute a lot to this theory were Schumpeter (1982), Goldsmith (1969), McKinnon (1973), Shaw (1973), and King and Levine (1993). They viewed the services provided by financial systems as very crucial to both savers and entrepreneurs. They asserted that the fundamental factor behind the successful innovation and long-run economic growth is the financial sector. However, not all economist has hypothesized that the growth of the financial organizations and markets will contribute to the growth of the economy, and this includes Robinson (1952) and Lucas (1988) for instances. Pradhan et al. (2017) mentioned that earlier studies failed to provide a conclusive or decisive evidence because there were always distinct findings and results between the researches in that particular area.

Furthermore, to get a better understanding on the role of financial systems towards the economic growth, Levine (1997) has promoted a functional method, which emphasized on the connections between the economic growth and the service quality that is delivered by the financial systems, which includes allocating capital, aiding risk trading, mobilizing savings, monitoring superiors as well as facilitating good, services, and financial contracts trading. Moreover, theory has long advocated the significance of financial institutions, instruments, and markets in justifying the impacts of information and business costs. In the nonexistence of financial institutions and markets, when the individual savers acquire substantial information and business costs, they will attempt to invest in profitable investments. Consequently, the financial institutions and markets will develop to reduce these costs as mentioned by Diamond and Dybvig (1983) and Bhattacharya and Thakor (1993). Graphically, Levine (1997) illustrated the relationship between finance and growth as the following:
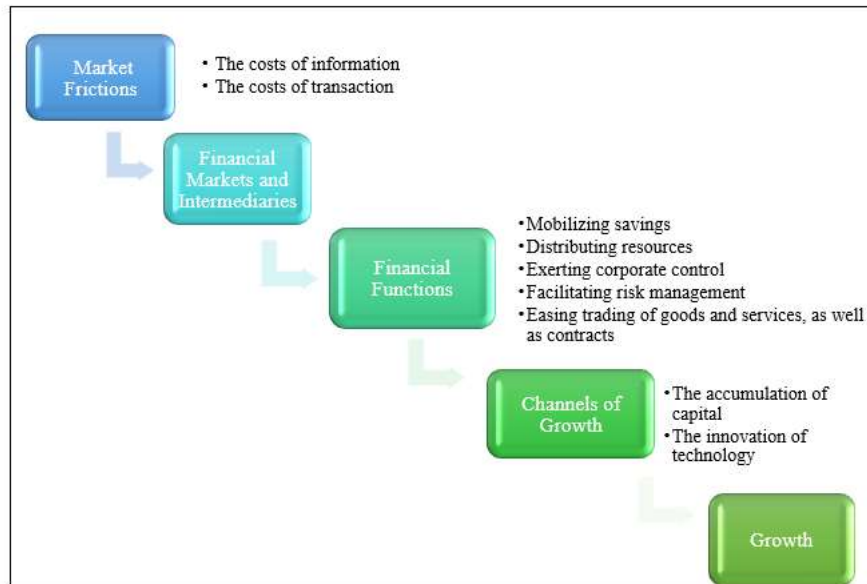
Figure 1. Finance-Growth Nexus
Source: Levine (1997)

As summarized in Figure 1, the economic growth according to Levine (1997) is said to be influenced by the financial system positively because it becomes the medium to channel the funds, which are deposited by the savers to run the most profitable investment projects. Nevertheless, the belief that saving is somehow suddenly transformed into a fruitful investment is very unrealistic because the financial sector has a very difficult task to mitigate information and transaction costs. On the other hand, Islamic financial system is also supposed to positively affect the growth of the economy as it is developed based on the Islamic principles, which ruled to satisfy the *Maqasid Shari'ah* that focuses on consciousness and spiritual health, as well as fair play and justice at all levels of human transactions (Dusuki & Abozaid, 2007). The consensus on Islamic finance-growth nexus remains divided, and this study will shed light on how Takaful sector impacts growth in Malaysia, and whether it is fulfilling the objectives of *Maqasid Shari'ah*.

For O1 and O2 (quantitative analysis), Pearson correlation coefficient method is utilized due to the limitation of data. The observation number or the sample size of Takaful sector is 22. Meanwhile, the observation number or the sample size of Islamic banking and Islamic capital market sectors are 156 and 52, respectively. Pearson correlation coefficient, which is also known as Pearson R statistical test, is used to measure the strength between the relationships of different variables. It calculates the correlation coefficient's value to know how strong the relationship is between the two variables. Pearson correlation coefficient produces a value between -1 and 1, where the interpretation of the correlation coefficient is illustrated in Figure 2.
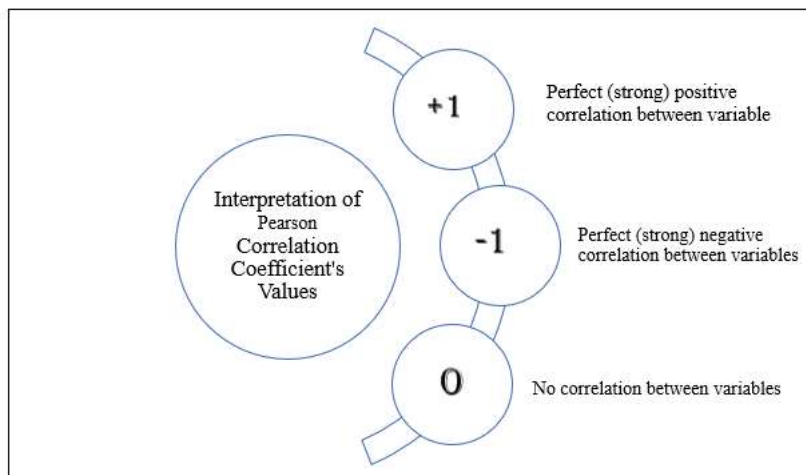

Figure 2. Interpretation of Pearson Correlation Coefficient's Values
Source: Sedgwick (2012)

A stronger relationship between variables is depicted by a higher absolute value of the correlation coefficient. For instances, a correlation coefficient of 0.36 indicates a weaker positive correlation amongst the variables as compared to a value of 0.78. Correspondingly, a correlation coefficient of -0.40 indicates a weaker negative correlation amongst the variables as compared to a correlation coefficient of -0.87. To calculate Pearson correlation coefficient, the following formula is used:

$$r = \frac{n(\sum xy) - (\sum x)(\sum y)}{\sqrt{[n\sum x^2 - (\sum x)^2][n\sum y^2 - (\sum y)^2]}} \tag{1}$$

Where,

r = Pearson correlation coefficient
n = Number of pairs of the variable
$\sum xy$ = Sum of the paired variables
$\sum x$ = Sum of the x variable
$\sum y$ = Sum of the y variable
$\sum x^2$ = Sum of the squared x variable
$\sum y^2$ = Sum of the squared y variable

To represent the Takaful industry development, two variables are used to represent Takaful penetration, and they are total assets of family Takaful funds and total assets of general Takaful funds, which are measured in RM (millions), in line with the study of Webb (2000), Curak et al. (2009), Azman and Smith (2011), Ojo (2012), Hou et al. (2012), Kjosevski (2012), Yinusa and Akinlo (2013), Alhassan (2016) in the insurance-growth nexus. The industrial production index (IPI), which is measured in percentage (%) is used as a proxy to represent the real sector of the economy and it will act as the dependent variable of the analysis. Furthermore, three major economic indicators are also included in the model to avoid the problem of biasness due to omitted variables as well as to control for the possible effects of other growth determining factors, and they are private investment (PI), trade balance (TB), and inflation (INF). Table 1 depicts the hypotheses for Takaful sector for both before and after the implementation of IFSA 2013.

Table 1. Hypotheses for Takaful Sector

RO	Variables	Null Hypothesis (H_0)	Alternative Hypothesis (H_1)
RO_1	Assets of General Takaful Funds (AGT)	AGT not significantly affect IPI	AGT significantly affect IPI
	Assets of Family Takaful Funds (AFT)	AFT not significantly affect IPI	AFT significantly affect IPI
RO_2	Assets of General Takaful Funds (AGT)	AGT not significantly affect IPI after the implementation of IFSA 2013	AGT significantly affect IPI after the implementation of IFSA 2013
	Assets of Family Takaful Funds (AFT)	AFT not significantly affect IPI after the implementation of IFSA 2013	AFT significantly affect IPI after the implementation of IFSA 2013

Moving forward, Statistical Package for the Social Science (SPSS) is used to analyse the model, which permits the management of the statistical data in the absence of calculation formulas. Moreover, it also combines the potentials of statistical processing facilities that are given by the spreadsheet programs. Pearson correlation coefficient helps to describe how strong the correlation between the two variables is and it also discovers the exact extent to which those variables are linked. Besides Pearson correlation coefficient, an interview session with several experts in Takaful industry will also be held to support the finding for the Takaful sector.

On the other hand, for O3 (qualitative analysis), an interview session is adopted. In selecting the respondents that are suitable for the interview, the study adopts a judgemental sampling method. Those who possess exposure, knowledge, and expertise in the related field are chosen. This study, therefore, chooses 5 experts in various fields of academics and industries. Table 2 records the experts who participated in the interview session.

Table 2. Interviewees' Description

Interviewee	Background of Interviewee
Interviewee 1 **Dr. Zaharuddin Abd Rahman**	Managing Director of Elzar Shari'ah Solution Sdn. Bhd. Area of expertise; Islamic Finance Islamic Capital Markets Risk Management Economics Islamic Studies Financial Institutions
Interviewee 2 **Associate Professor Dr. Umar Oseni**	Chief Executive Officer (CEO) of International Islamic Liquidity Management Corporation. Area of expertise; Islamic Banking and Finance Law and Legal Studies Human Rights and Democracy Conflict Resolution Legal Theory and Analysis
Interviewee 3 **Muhammad Affiq Annuar**	Business Development Director at Great Eastern Takaful Berhad. Area of expertise; Takaful

		Risk Management
		Business Development
Interviewee 4 **Ahmad Shaifuldin Mahamad Shahrudi**		Head of Corporate Planning & Strategy at Etiqa Family Takaful Berhad. Area of Expertise; Takaful Strategic Planning General Management Banking Finance
Interviewee 5 **Mohd Aizzudin Hares**		Assistant Vice President (AVP), Strategy Department at Etiqa Family Takaful Berhad. Area of Expertise; - Takaful - Strategic Planning - General Management - Banking - Finance

RESULTS

Before the Implementation of IFSA 2013

Descriptive Analysis

Table 3 as shown below depicts the descriptive analysis of the Takaful industry before the implementation of IFSA 2013, which covers the period of 2009 – 2013 (half-yearly). It consists of information on observations number, mean, standard error of mean, median, mode, standard deviation, variance, skewness, standard error of skewness, kurtosis, standard error of kurtosis, range, minimum, maximum and sum. The variables include industrial production index (IPI), the combination of assets of general Takaful funds (AGT) and assets of family takaful funds (AFT), trade balance (TB), private investment (PI), and inflation (INF).

Moreover, the mean is ranging from 1.76 – 10.37, the standard error of mean is ranging from 0.015 – 4.26, the median, mode, standard deviation, and variance are ranging from 1.7 – 13.15, -16.1 – 9.35, 0.049 – 13.46, and 0.002 – 181.3 respectively. Furthermore, the skewness of all variables is ranging from -0.3 – 0.4, the standard error of skewness is around 0.687, the kurtosis is ranging from -1.14 – 2.596, and the standard error of kurtosis is around 1.334. In addition, the range for all variables is ranging from 0.16 – 42.9, the minimum value is ranging from -16.1 – 9.35, the maximum value is ranging from 3.5 – 26.8, and lastly, the sum is ranging from 17.6 – 103.7. The observations number is 10, which covers the period of 2009 – 2013 (half-yearly).

Table 3. Takaful's Descriptive Analysis (Before the Implementation of IFSA 2013)

		Industrial Production Index	**LN Asset of Takaful Funds (General + Family)**	**Trade Balance**	**Private Investment**	**Inflation**
N	Valid	10	10	10	10	10
	Missing	0	0	0	0	0
Mean		4.6554415	9.6841819	9.0266517	10.370	1.760
Std. Error of Mean		.01550174	.06512878	.09368416	4.2580	.4408
Median		4.6534585	9.7116678	9.1043492	13.150	1.700
Mode		4.69684	9.35154[a]	8.34901[a]	-16.1[a]	1.6
Std. Deviation		.04902082	.20595529	.29625532	13.4650	1.3938
Variance		.002	.042	.088	181.307	1.943
Skewness		.403	-.323	-1.474	-.833	-1.121
Std. Error of Skewness		.687	.687	.687	.687	.687
Kurtosis		.034	-1.145	2.596	.419	2.360
Std. Error of Kurtosis		1.334	1.334	1.334	1.334	1.334
Range		.16564	.59759	1.06149	42.9	4.9
Minimum		4.58190	9.35154	8.34901	-16.1	-1.4
Maximum		4.74754	9.94913	9.41050	26.8	3.5
Sum		46.55442	96.84182	90.26652	103.7	17.6
a. Multiple modes exist. The smallest value is shown						

Correlation Analysis

In Table 4 below, the Pearson correlation results for Takaful sector before the implementation of IFSA 2013 are presented. Pearson correlation analysis is adopted instead of regression analysis due to the data scarcity. Before the implementation of IFSA, there is no segregation of the Takaful funds, in other words, AGT and AFT are combined. The results below show that the combination of AGT and AFT (AGT + AFT) has a significant positive correlation with the real economic growth at 1% significance level, as the value is less than 1 (0.885). In addition, trade balance, private investment, and inflation have no significant relationship with the real economic growth. The results depict that Takaful industry contributes significantly to the growth of the economy during the period of pre-implementation of IFSA 2013.

Table 4. Takaful's Pearson Correlation Analysis (Before the Implementation of IFSA 2013)

		Industrial Production Index	LN Asset of Takaful Funds (General + Family)	Trade Balance	Private Investment	Inflation
Industrial Production Index	Pearson Correlation	1	.885**	-.105	.065	.524
	Sig. (2-tailed)		.001	.773	.859	.120
	N	10	10	10	10	10
LN Asset of Takaful Funds (General + Family)	Pearson Correlation	.885**	1	-.366	-.043	.608
	Sig. (2-tailed)	.001		.299	.905	.062
	N	10	10	10	10	10
Trade Balance	Pearson Correlation	-.105	-.366	1	.313	-.078
	Sig. (2-tailed)	.773	.299		.378	.830
	N	10	10	10	10	10
Private Investment	Pearson Correlation	.065	-.043	.313	1	.526
	Sig. (2-tailed)	.859	.905	.378		.118
	N	10	10	10	10	10
Inflation	Pearson Correlation	.524	.608	-.078	.526	1
	Sig. (2-tailed)	.120	.062	.830	.118	
	N	10	10	10	10	10

**. Correlation is significant at the 1% level (2-tailed).

After the Implementation of IFSA 2013

Descriptive Analysis

Table 5 as shown below depicts the descriptive analysis of the Takaful industry after the implementation of IFSA 2013, which covers the period of 2013 – 2019 (half-yearly). It consists of information on number of observations, mean, standard error of mean, median, mode, standard deviation, variance, skewness, standard error of skewness, kurtosis, standard error of kurtosis, range, minimum, maximum and sum. Generally, for all variables, which include industrial production index (IPI), assets of general Takaful funds (AGT), assets of family takaful funds (AFT), trade balance (TB), private investment (PI), and inflation (INF), have 12 number of observations with no missing values.

Moreover, the mean is ranging from -0.058 – 10.09, the standard error of mean is ranging from 0.0167 – 5.39, the median, mode, standard deviation, and variance are ranging from -4.0 – 10.076, -24.7 – 9.848, 0.058 – 18.68, and 0.003 – 349.06 respectively. Furthermore, the skewness of all variables is ranging from -0.809 – 0.293, the standard error of skewness is around 0.637, the kurtosis is ranging from -1.17 – 0.372, and the standard error of kurtosis is around 1.232. In addition, the range for all variables is ranging from 0.20 – 58.8, the minimum value is ranging from -24.7– 9.848, the maximum value is ranging from 3.5 – 34.1, and lastly, the sum is ranging from -0.7 – 121.08.

Table 5. Takaful's Descriptive Analysis (After the Implementation of IFSA 2013)

		Industrial Production Index	Assets of General Takaful Funds	Assets of Family Takaful Funds	Trade Balance	Private Investment	Inflation
N	Valid	12	12	12	12	12	12
	Missing	0	0	0	0	0	0
Mean		4.7159826	8.1673934	10.0902468	9.0027907	-.058	2.075
Std. Error of Mean		.01679876	.02719910	.04902529	.09346288	5.3934	.3167
Median		4.7180514	8.1706862	10.0766215	9.0626188	-4.000	2.100
Mode		4.61413ᵃ	8.01734ᵃ	9.84827ᵃ	8.31434ᵃ	-24.7ᵃ	2.7
Std. Deviation		.05819261	.09422044	.16982859	.32376491	18.6833	1.0972
Variance		.003	.009	.029	.105	349.064	1.204
Skewness		-.132	.260	.293	-.809	.399	-.218
Std. Error of Skewness		.637	.637	.637	.637	.637	.637
Kurtosis		-.295	.099	-.820	.372	-1.013	-1.172
Std. Error of Kurtosis		1.232	1.232	1.232	1.232	1.232	1.232
Range		.20454	.33446	.53407	1.12361	58.8	3.3
Minimum		4.61413	8.01734	9.84827	8.31434	-24.7	.2
Maximum		4.81867	8.35180	10.38234	9.43795	34.1	3.5
Sum		56.59179	98.00872	121.08296	108.03349	-.7	24.9

a. Multiple modes exist. The smallest value is shown

Correlation Analysis

In Table 6 below, the Pearson correlation results for Takaful sector after the implementation of IFSA 2013 are presented. Pearson correlation analysis is adopted instead of regression analysis due to the data scarcity. During the period of post-implementation of IFSA 2013, there is a segregation of the Takaful funds, in other words, AGT and AFT are separated. The results below show that both AGT and AFT do not have a significant positive correlation with the real economic growth. In addition, trade balance, private investment, and inflation also have no significant relationship with the real economic growth. The results depict that Takaful industry and the real economic growth have a positive correlation but not significant during the post-IFSA period.

Table 6. Takaful's Pearson Correlation Analysis (After the Implementation of IFSA 2013)

		Industrial Production Index	Assets of General Takaful Funds	Assets of Family Takaful Funds	Trade Balance	Private Investment	Inflation
Industrial Production Index	Pearson Correlation	1	.128	.215	.153	.036	-.139
	Sig. (2-tailed)		.692	.502	.636	.913	.667
	N	12	12	12	12	12	12
Assets of General Takaful Funds	Pearson Correlation	.128	1	.966**	.683*	-.218	-.575
	Sig. (2-tailed)	.692		.000	.014	.496	.050
	N	12	12	12	12	12	12
Assets of Family Takaful Funds	Pearson Correlation	.215	.966**	1	.634*	-.219	-.602*
	Sig. (2-tailed)	.502	.000		.027	.494	.038
	N	12	12	12	12	12	12
Trade Balance	Pearson Correlation	.153	.683*	.634*	1	-.642*	-.339
	Sig. (2-tailed)	.636	.014	.027		.024	.281
	N	12	12	12	12	12	12
Private Investment	Pearson Correlation	.036	-.218	-.219	-.642*	1	.295
	Sig. (2-tailed)	.913	.496	.494	.024		.352
	N	12	12	12	12	12	12
Inflation	Pearson Correlation	-.139	-.575	-.602*	-.339	.295	1
	Sig. (2-tailed)	.667	.050	.038	.281	.352	
	N	12	12	12	12	12	12
**. Correlation is significant at the 1% level (2-tailed).							
*. Correlation is significant at the 5% level (2-tailed).							

Interview on Takaful-Growth Nexus

The interview questions explore generally on whether or not Takaful industry is contributing to the economic growth, and how IFSA 2013 impacts the nexus. There are 5 questions for this part; 1) in what way do you think has the Takaful industry contributed to the economic growth of the country? 2) Do you think IFSA 2013 has enabled the Takaful sector to contribute more to economic growth and development? 3) Does Takaful sector have any significant impact on environmental, social and governance (ESG) objectives? and 4) Do you believe the Takaful sector is now changing to include more social narratives? Five experts in the industry, which include CEO of IILM, Managing Director of Elzar Shariah Solution Sdn. Bhd., Head of Corporate Planning & Strategy and Assistant Vice President of Etiqa, and Business Development Director of Great Eastern Takaful Berhad are interviewed for this part. Meanwhile, Partner of Raja, Darryl & Loh has given his opinion on the first question only.

The results show that Takaful industry has contributed its own humble quota to economic growth by creating jobs to the society and adding values to both participants and businesses. Besides, IFSA 2013 has enabled the Takaful sector to contribute more to economic growth as it facilitates BNM to monitor the safety and soundness of IFIs via its enhanced regulatory framework. It also facilitates people to distribute wealth more efficiently, and hence generating more economic impact. Head of Corporate Planning & Strategy and Assistant Vice President of Etiqa reveal that the Takaful industry has grown 10-13% annually as in 2022 since the implementation of IFSA 2013. In addition, all interviewees also agree that Takaful sector have a significant impact on ESG objectives via the implementation of VBI, ESG ratings, sustainable business practices and values within the takaful businesses, and rigorous efforts to incorporate ethical and environmentally conscious practices as part of their corporate social responsibility while developing disastrous risk management products like climate risk related insurance. They believe that Takaful sector is now changing to include more social narratives via the application of *tabarru'* and *ta'awun*, more socially-adapted products, education and awareness campaigns to the public, and a financial safety net. The outputs' summary of the interviews is outlined in Table 7.

Table 7. Summary of the Output

Topic	Summary of the Outputs
Information on the Takaful-Growth Nexus	This theme discusses on Takaful-growth nexus.
	5 experts in the industry have shared their answers.
	All experts agree that Takaful industry has contributed its own humble quota to economic growth by creating jobs to the society and adding values to both participants and businesses.
	All experts agree that IFSA 2013 has enabled the Takaful sector to contribute more to economic growth.
	All experts agree that Takaful sector have a significant impact on ESG objectives.
	All experts agree that Takaful sector is now changing to include more social narratives.

DISCUSSIONS

Pre-implementation of IFSA 2013, the results depict that Takaful industry contributes significantly to the growth of the economy. The results are consistent with the studies of Muye and Hassan (2016), Rawat et al. (2017) and Aziz and Kassim (2020), which examined the Takaful-growth nexus without the IFSA effect and found that Takaful contributes to economic growth positively. Muye and Hassan (2016) found a significant impact from the Islamic insurance operations on economic growth by employing the GMM estimate technique for a dynamic panel data model for a collection of 22 nations across the

Association of Southeast Asian Nations (ASEAN) and GCC markets, from 2004 to 2012. Meanwhile, Rawat et al. (2017) found that the growth of the economy in Pakistan is significantly influenced by the total deposits of Islamic banks and the total contributions of takaful companies by using the fixed effect model. Similarly, Aziz and Kassim (2020) also found the positive relationship between Takaful and economic growth in Malaysia via the method of survey.

On the other hand, the results for post-implementation of IFSA 2013 depict that Takaful industry contributes insignificantly to the growth of the economy. IFSA came into effect on 31 June 2013, which resulted in the separation of AGT and AFT. Section 286 of IFSA has stated that a 5-year transition period from the time that IFSA comes into effect is allowed. Hence, it is rather limited from data perspective, especially for the analysis that is related to post-IFSA period. Due to this limitation, the result for Takaful-growth nexus post-IFSA period is positive but not significant. Moreover, according to Jamil and Jamal (2016), the strict IFSA standards will undoubtedly have an impact on operating expenses in Takaful as a whole and will unquestionably put Takaful and Retakaful operators at a disadvantage as compared to their conventional competitors, and it is yet to be seen if IFSA 2013 does promote economic growth. Hence, studies on this area need to be continued to track the progress of Takaful-growth nexus especially after the implementation of IFSA 2013. Furthermore, the results of the qualitative analysis also support the findings of the quantitative studies, where according to the experts, Takaful industry has contributed its own humble quota to economic growth.

CONCLUSIONS

The quantitative and qualitative results of this supply-leading association between Takaful and real economic growth confirm that Malaysia is on the right path to develop the Malaysian Islamic financial system. Several recommendations need to be considered to further develop Takaful sector and economic growth especially for post IFSA 2013. Firstly, due to the limitation of data, studies on this area need to be continued to track the progress of Takaful-growth nexus. Secondly, rigorous efforts and more studies need to be conducted on issues regarding the actual implementation of IFSA 2013 on Takaful sector to offer rooms for improvement as according to Ali et al. (2015), the strict IFSA standards will undoubtedly have an impact on operating expenses in Takaful as a whole and will unquestionably put Takaful operators at a disadvantage as compared to their conventional competitors, which must not be an excuse for Takaful sector to move forward. Thirdly, more efforts need to be done to develop more socially-adapted Takaful products as well as to ensure the transactions are compliant to ESG objectives to support SDG as Jamil and Jamal (2016) stated that it is still unclear if IFSA 2013 would inspire Takaful operators to carry on and assume greater social and religious obligations despite the increased operating costs brought on by IFSA 2013.Fourthly, there is a need for a systematic effort on both conceptual and empirical analyses on Takaful. Last but not least, for the vital contribution of IFSA 2013 to the Malaysian Takaful system, it is recommended for policymakers to focus on implementing policies that can further develop the Takaful's abilities to enhance the economic growth. However, this study is confined to Takaful practice in Malaysia, and hence, further research with a larger sample size, which includes other countries, should be done in order for the results to be generalized to the whole system.

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