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FINANCIAL INNOVATION IN STRENGTHENING ECONOMIC PERFORMANCE THROUGH INVESTMENT, TRADE OPENNESS, AND INSTITUTIONAL DEVELOPMENT

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Abstract
Takaful, the Islamic insurance system, has gained significant traction in recent years, particularly in Malaysia and the Gulf States. This research seeks to examine the influence of Takaful on economic growth in the two areas under study. The study uses both qualitative and quantitative data, with econometric models augmented by expert interviews. The empirical analysis applies a data regression model to analyze Takaful penetration and GDP growth while incorporating control variables such as FDI, trade openness, and financial development. Thematic analysis is applied to analyse qualitative data to determine the major ways through which Takaful impacts economic growth. The study also quantitatively establishes Takaful penetration as a significant predictor of economic growth, with a relatively firmer positive association found in Malaysia than in the Gulf States; r = 0.62 and r = 0.58, respectively. Qualitative analysis identifies three primary mechanisms of Takaful's economic impact: financial liberalization, fundraising for investment, and managing risks. The results on the Takaful-growth relation demonstrate that institutional characteristics such as regulatory systems and market configurations play a crucial role.
Key Terms: Takaful, Economic Growth, Islamic Finance, Financial Inclusion, Regulatory Framework

I. INTRODUCTION

Takaful, the Islamic alternative to conventional insurance, has emerged as a significant player in the global financial landscape. Based on principles of cooperation and distribution of risks andmutual assistance, Takaful complies with Shariah law and excludes gambling, usury, and uncertainty principles (Noordin et al., 2017). This ethical approach to managing risks has been embraced not only in countries with a predominantly Islamic population but also in global markets.

The Takaful industry has made tremendous progress in the recent past, especially in Southeast Asia and the GCC nations. Malaysia has emerged as one of the most developed markets for Takaful, and the Gulf States have mainstreamed Takaful in their financial landscape (Hassan et al., 2018). This growth trend has drawn the attention of researchers and policymakers to the need to embrace the effects that are associated with Takaful expansion on the general economy.

The importance of this research is based on the ability of the study to explain and possibly establish causality between Takaful penetration and economic growth. Moreover, it seeks to contribute towards the understanding of the contextual factors that define the Takaful-growth relationship based on a comparison of Malaysia and the Gulf States, two distinct regions with diverse economic systems and regulatory frameworks in which the development of Takaful is likely to be influenced (Akhter & Hussain, 2019).

The objectives of this study are:

- To analyze the relationship between the Takaful level of penetration and major economic variables in Malaysia and the Gulf States.
- To describe the part of Takaful in economic growth, the study pays attention to the ways in which this industry affects the three main spheres, namely financial inclusion, investment mobilization, and risk management.
- To assess the nature of the association between Takaful and growth in each of the two regions conditioned by contextual factors.

This research assumes that Takaful penetration significantly influences economic growth in Malaysia and the Gulf states based on the literature and initial findings of this study. However, it is expected that this relationship will also differ between the two regions based on economic and cultural differences, including the regulation of the financial markets. Furthermore, Takaful promotes the growth of the economy by stimulating greater financial sector outreach, increased investments in Sharia-compliant securities, and better risk management undertakings by enterprises, as well as the populace in general.

LITERATURE REVIEW

Theoretical Foundations of Takaful

Based on Islamic teachings, Takaful is a non-insurance product that works under the principle of mutual assistance and contribution borne by the participants. The theoretical framework of Takaful involves Ta'awun, which means cooperation, and Tabarru, which means donation, which is instrumental in meeting the Shariah non-usury criteria regarding Riba, Gharar, and Maysir (Noordin et al., 2017). This ethical approach to risk management differentiates Takaful from conventional insurance and underpins its distinctive business models.

The two key structures that function in Takaful companies are the Mudarabah structure and the Wakalah structure. In the case of the Mudarabah model, the Takaful operator assumes the role of the fund manager and distributes the profits amongst the participants according to a mutually agreed ratio. The Wakalah model, in contrast, has the operator as an agent who is compensated based on the fees and commission for the management of the Takaful fund (Hassan et al., 2018). These models help spread the risk among participants, with the operator having the role of an organizer of the process rather than taking on the risk.

Thus, risk sharing in Takaful is not only limited to the monetary aspects but also deals with social and ethical aspects of society. This strategic approach to managing risk is consistent with the noble objectives of Islamic finance, which are to promote the welfare of the community and the stability of the economy (Abdullah et al., 2020). In other words, Takaful is different from conventional insurance as it is both a product that delivers financial security and a system of social solidarity to support the communal economy.

Economic growth theories

However, in order to analyze all possible effects of Takaful on economic growth, it is possible to make use of the main theories concerning economic growth. Two chief models that help to explain this interaction are the Endogenous Growth Theory and the Financial Intermediation Theory of Economic Development.

The Endogenous Growth Theory, formulated by great economists Paul Romer and Robert Lucas, states that forces mainly push growth in an economy within that specific economic system and not from outside the system. It focuses on the importance of investment in people and knowledge for sustaining and enhancing the level of productivity and consequent economic development in the long run (Akhter & Hussain, 2019). With reference to Takaful, this theory implies that the introduction of new Islamic financial services and the building of talent in the Takaful market may create value for the global economy.

The Financial Intermediation Theory of Economic Development, developed by R Levine, concerns the necessity of sound financial intermediaries for development. Accrediting institutions suggest that sound financial structures provide for resource mobilization, encourage technology diffusion, and absorb risks, thus supporting development (Hassan et al., 2018). In the context of Takaful, it means that the introduction and progress of Islamic insurance may stimulate economic advancement by increasing the efficacy of risk management, enhancing funds' collection, and promoting proper Islamic economic investments.

Previous studies on Takaful and economic growth

Several empirical papers have analyzed the link between Takaful and economic growth while generating varied results depending on the context. Takaful has been quantitatively assessed by Alshammari et al. (2020) to have the following effects on economic growth in Gulf Cooperation Council (GCC) countries for the period between 2005 and 2016. Analyzing their data, they found that there was a positive correlation between Takaful penetration and economic growth, and this was especially the case for the countries with high Takaful density.

Hassan et al. (2022) conducted a cross-country analysis that looked at the interaction between Takaful and the economic growth of 20 Islamic countries between 2006 and 2020. The current study showed that Takaful has a role in boosting economic growth with higher sensitivity in countries of better institutional quality and with a well-developed financial sector.

In another study to determine the effects of Takaful on financial inclusion and subsequent effects on economic growth, Ahmed et al. (2022) researched 25 emerging economies from 2010 to 2021. This showed that Takaful was part of the efforts towards financial liberalization that ultimately led to the enhancement of economic growth. The assessment revealed that Takaful has the prospect of filling the insurance deficit in less-served populations.

Saad et al. (2023) studied the effects of Takaful on economic responses and recovery during the COVID-19 pandemic. Using data from 18 sample countries with large Takaful markets from 2019 to 2022, the study established that the

Takaful penetration cushioned the impact of the crisis on the economies of the countries involved and portrayed faster recovery in the post-pandemic period.

In a study by Aziz et al. (2023), the authors analyzed the correlation between Takaful, economic stability, and economic growth in 10 select Asian countries over the period 2010 to 2022. The studies showed that Takaful positively impacted financial stability by providing risk diversification and improving the quality and stability of the financial sector.

Research gap

Thus, it can be concluded that the number of empirical studies on Takaful and its economic impacts is gradually increasing year by year. However, there are no empirical comparative studies with the participation of regions that differ in Takaful penetration and economic development. Previous research is mostly country- or region-specific, which hampers the analysis of contextual factors affecting the Takaful–growth relationship. Furthermore, there is no sufficient scholarly research that encompasses both quantitative analysis of macroeconomic factors and qualitative data from industry professionals.

Takaful Landscape

Malaysia: Market structure

The insurance and Takaful sector in Malaysia has grown to become one of the most competitive and diverse markets in the world. It is formatted with the segment of family and general Takaful players, including both local and international players. Currently, Malaysia has the following Takaful operators: 11 family Takaful operators and four composite Takaful operators as of 2021. Enhancing this robust market structure has placed Malaysia among the most developed Takaful markets around the globe.

In terms of ownership structure, MIAC has been assessing the participation of both local and international players in Malaysian Takaful operators. It was also evident that the firms with foreign ownership have outperformed their locally-owned counterparts in terms of premia and investment returns, signaling that international knowledge and funds are valuable. These conditions have stimulated innovation and product differentiation processes that result in numerous and diverse Takaful products.

The concentration of Takaful in Malaysia is gradually shifting from a highly concentrated level. This is due to the reduction in the “Herfindahl- Hirschman Index” (HHI) and the “four-firm concentration ratio” (CR4), which shows a sign of a more competitive and efficient market structure. History indicates that changes in the market structure of Takaful have led to better financial reforms of the system and improved participants’ service.

Regulatory framework

Malaysia currently boasts one of the most liberal regulatory environments for Takaful across the globe. The insurance industry’s main regulator is the Central Bank of Malaysia, known as “Bank Negara Malaysia” (BNM). This industry is covered by the Islamic Financial Services Act 2013, which seeks to regulate the operations of the Takaful industry while complying with Shariah and prudential regulations.

In the area of aspects related to capital adequacy, BNM has recently put in place a risk-based capital framework for Takaful operators to ensure the industry conforms to best practices in risk management. It has strengthened the financial position of Takaful firms and their capacity to fulfill policyholders’ commitments.

Malaysia also has a favorable regulatory framework for product innovation and market development, similar to Taiwan and Korea. BNM has put measures in place that have encouraged Takaful operators to come up with micro Takaful products for such segments of society. This regulatory approach has continued to support the gradual increase of Takaful penetration rates in Malaysia, as depicted in Figure 1 above.

Gulf States: Market structure

The Takaful market in the Gulf States, especially Saudi Arabia and the UAE, has been growing at a relatively fast pace in recent past. The markets in these countries are somewhat concentrated with local and regional Takaful providers and are increasingly being entered by international Takaful players.

The Takaful industry in Saudi Arabia is currently comprised of cooperative insurance companies that undertake both conventional and Takaful business. Currently, there are more than 30 licensed insurance and reinsurance companies in Saudi Arabia, most of which provide Takaful services.

The UAE’s Takaful is less concentrated than Kuwait's, with both fully-fledged Takaful and conventional insurers with Islamic windows. This market structure has promoted competition and innovation, and this has led to the availability of a wider variety of Takaful products and services in the market.

In the context of the overall Gulf States, the evidence suggests either a rising competitiveness or a reduced market concentration within Takaful. Still, it tends to be more concentrated than in Malaysia, which may suggest that there are still additional opportunities for market growth and increased operational effectiveness.

Regulatory framework

The legal structure of the Takaful business in the Gulf States is slightly different from one country to another. However, in most cases, it has a dual framework of conventional insurance and the Takaful industry. The insurance business in Saudi Arabia is regulated by the Saudi Arabian Monetary Authority (SAMA), which also supervises the Takaful business. The Cooperative Insurance Companies Control Law provides the legal framework for Takaful in the Kingdom.

The UAE has developed a clearer legal structure for Takaful, with the Insurance Authority (IA) regulating regular and Islamic insurance businesses. The IA has put down certain rules that apply to Takaful companies, including capital adequacy, investments, and Shariah oversight. Similar to Kuwait, other Gulf countries like Bahrain and Qatar have also put in place specific regulatory structures for Takaful markets. For example, the Central Bank of Bahrain has developed detailed regulatory measures for Takaful business, including risk management, financial reporting, and Shariah compliance.

However, there are certain challenges that the Gulf States face in attempts to synchronize Takaful regulations across the region: Some initiatives are being made through bodies such as the GCC to try to reach a common regulatory framework to improve the conditions that affect the competitiveness of the Takaful markets in the region.

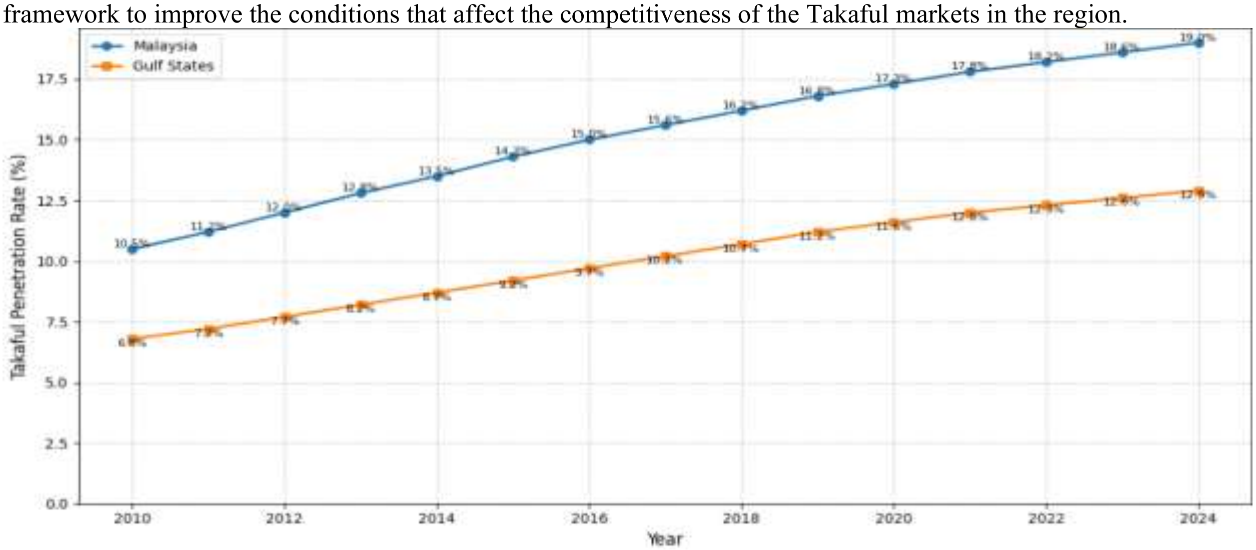

Figure 1. Takaful penetration rates in Malaysia and Gulf States (2010-2024)

The Malaysia-Gulf States Takaful study demonstrated that the two markets have different structures and regulatory environments. While the Takaful market in Malaysia has already progressed to a more diverse and sophisticated level backed up by a good set of rules and regulations, the Gulf States are yet in the process of developing a Takaful market of their own, and the sophistication of the regulations differs. These two regions show the possibility of further expansion and improvements in the global Takaful market.

METHODOLOGY

Research design

This research blends quantitative and qualitative research methodologies to analyze the effect of Takaful on economic growth in Malaysia and the Gulf States. This paper employs a comparative analysis methodology, which enables comparisons between the Takaful-growth connections in these two regions. This approach facilitates an understanding of the factors at play concerning the interconnectivity of Takaful and economic growth.

Data collection

Quantitative data sources

The quantitative analysis is carried out using cross-sectional survey data and secondary data, mainly from government reports, to reduce biases and increase accuracy. Macroeconomic projections, such as GDP growth rates, are derived from the WDI, which is a collection of information from the World Bank. Data more related to Takaful, such as gross written contributions and Takaful market penetration, are obtained from IFSB annual reports and national bodies regulating insurance. Other macroeconomic variables, such as inflation rates and trade openness, are downloaded from the "International Monetary Fund's World Economic Outlook".

Qualitative data collection methods

The qualitative data is collected to support the quantitative research findings through structured interviews with key informants in the Islamic finance and Takaful sectors, policymakers, and academic scholars in the relevant fields.

These interviews offer useful information on the processing of Takaful in terms of economic growth and moderating factors. The interview schedule is aimed at identifying themes, including regulatory issues, market conditions, and the socio-economic effects of Takaful in Malaysia and the Gulf States.

Analytical framework

Econometric models

The study's analytical approach is panel data regression analysis, which tests the hypothesis regarding Takaful's development and economic growth.

Dynamic Panel Model: The use of a dynamic panel model is crucial for addressing potential endogeneity issues and accounting for the persistence of economic growth. The general form of a dynamic panel model is:

$$y_{it} = \alpha + \gamma y_{it-1} + \beta' X_{it} + \mu_i + \varepsilon_{it}$$

Where:

y_{it} is the dependent variable (GDP growth in this case)

y_{it-1} is the lagged dependent variable

X_{it} is a vector of explanatory variables

μ_i represents country-specific fixed effects

ε_{it} is the error term

Baseline Model: This model investigates the correlation between Takaful penetration and GDP growth through a simple regression model. The coefficient β_1 captures the marginal impact of Takaful on GDP growth, controlling for other variables.

$$\text{GDPGrowth}_{it} = \alpha + \beta_1 \text{TakafulPen}_{it} + \beta_2 X_{it} + \mu_i + \varepsilon_{it}$$

Where GDP growth represents the GDP growth rate for the country I in year t, TakafulPen is the Takaful penetration rate, X_{it} is a vector of control variables, μ_i represents country-specific fixed effects, and ε_{it} is the error term.

α (constant)

β_1 represents the linear effect of Takaful penetration

, β_2 (vector of coefficients for control variables)

X_{it} (control variables) = [Trade openness, Inflation rate, Financial development]

If β_2 is negative and significant, it indicates diminishing returns to Takaful penetration

Control Variables (X_{it}) = [Trade openness, Inflation rate, Financial development]

- Trade openness = ($\frac{\text{Exports + Imports}}{\text{GDP}}$)
- Financial development (e.g., ($\frac{\text{credit to private sector}}{\text{GDP}}$)

For a specific country i at time t:

TakafulPen_{it} 5%

Trade openness = 60%

Inflation rate = 2%

Financial development = 80%

Quadratic Specification

$$\text{GDPGrowth}_{it} = \alpha + \beta_1 \text{TakafulPen}_{it} + \beta_2 \text{TakafulPen}_{it}^2 + \beta_3 X_{it} + \mu_i + \varepsilon_{it}$$

This way, the model can also address the issue of the relationship between Takaful penetration and GDP growth being non-linearly related.

α (constant)

β_1 represents the linear effect of Takaful penetration

β_2 captures the quadratic effect

If β_2 is negative and significant, it indicates diminishing returns to Takaful penetration.

This approach allows us to test for the existence of an optimal level of Takaful penetration beyond which its impact on economic growth may diminish or become negative.

The optimal level of Takaful penetration can be calculated by:

$$\text{Optimal TakafulPen} = \frac{-\beta_1}{2 \cdot \beta_2}$$

Estimation Techniques: Given the dynamic nature of the model and potential endogeneity, appropriate estimation techniques include:
Generalized Method of Moments (GMM):

$$y_{it} = \alpha + \gamma y_{i,t-1} + \beta' X_{it} + \varepsilon_{it}$$
$$y_{it} = \alpha + \gamma y_{it-1} + \beta_1 X_{1it} + \beta_2 X_{2it} + \varepsilon_{it}$$

First-differenced GMM or System GMM can be used to address endogeneity.
Where:
$y_{it}$is the GDP growth rate
$y_{it-1}$is the lagged GDP growth rate
X_{1it} is Takaful penetration.
$X_{2it}$is another control variable (e.g., financial development)

Fixed Effects Estimation

$$\text{GDPGrowth}it \quad = \alpha_i + \beta_1 TakafulPen_{it} + \beta_2 TradeOpen_{it} + \varepsilon_{it}$$

Where α_i captures time-invariant country-specific effects
Where:

- GDP Growth is the GDP growth rate
- $TakafulPen_{it}$ is the Takaful penetration rate
- $TradeOpen_{it}$ is trade openness (Exports + Imports / GDP)
- α_i represents country-specific fixed effects
- ε_{it} is the error term

Table 1: Summary of variables used in the econometric models

Variable	Description	Source
GDP Growth	Annual percentage growth rate of GDP	World Bank WDI
Takaful Penetration	The ratio of total Takaful contributions to GDP	IFSB, Country regulators
Inflation	Annual percentage change in consumer price index	IMF WEO
Trade Openness	The sum of exports and imports as a percentage of GDP	World Bank WDI
Financial Development	Domestic credit to the private sector as a percentage of GDP	World Bank WDI
Human Capital	Average years of schooling	UNESCO Institute for Statistics
Institutional Quality	Composite Index of Governance Indicators	World Bank WGI

Qualitative analysis approach

The interviews generate qualitative data, which is analyzed using thematic analysis, as Braun and Clarke (2006) suggested. It involves recognizing, studying, and documenting regularities in the data collected. The stages of the analysis process involve immersion, coding, meaning condensation, definition and naming of themes, and report writing. Using this approach makes it easier to determine the emerging themes and patterns that add depth to the information obtained from the quantitative method. Therefore, this methodology stands as a solid foundation for evaluating the influence of Takaful on economic growth in Malaysia and the Gulf States.

Quantitative Analysis

Descriptive statistics

Table 2: Mean value of the research indicators for Malaysia and Gulf States for 2010-2024

Variable	Country	Mean	Median	StdDev	Min	Max
GDP Growth (%)	Malaysia	4.7	4.9	1.8	-5.6	7.4
	Gulf States	3.9	4.1	2.5	-4.8	8.1
Takaful Penetration (%)	Malaysia	14.8	15.2	2.1	10.5	18.3
	Gulf States	9.3	9.1	1.7	6.8	12.7

Inflation Rate (%)	Malaysia	2.3	2.1	0.9	0.7	4.1
	Gulf States	2.7	2.5	1.2	0.1	5.3
Trade Openness (%)	Malaysia	131.5	130.8	8.7	115.7	148.2
	Gulf States	97.6	98.3	6.5	87.5	109.4
Financial Development Index	Malaysia	0.72	0.73	0.05	0.63	0.81
	Gulf States	0.65	0.66	0.07	0.54	0.78

This table may briefly compare Malaysia and the Gulf States, especially in terms of GDP growth, Takaful, and other factors. By the year 2024, the average Takaful penetration level in Malaysia was 14 from 2010 to 2024. This growth aligns with the country's strategy to become the world's Islamic finance hub. Although the average penetration rates represented by 9.3% in the Gulf states are slightly lower than those of the South Asian countries, they have exhibited much higher rates of growth, especially in the latter part of the observation period. Gross Domestic Product per capita growth rates fluctuated more in the Gulf States than in Malaysia due to high oil exportation.

Correlation analysis

The findings further show that Takaful penetration is positively related to growth in both Malaysian (r = 0.62) and the Gulf States (r = 0.58) GDP. However, it will be seen that the association between Takaful penetration and financial growth, which is proxied by domestic credit to the private sector as a proportion of GDP, appears to be marginally higher in Malaysia (r = 0.75) than in the GCC (r = 0.51). This deference may also be attributable to the more developed and interconnected Islamic finance structure in Malaysia.

Regression results

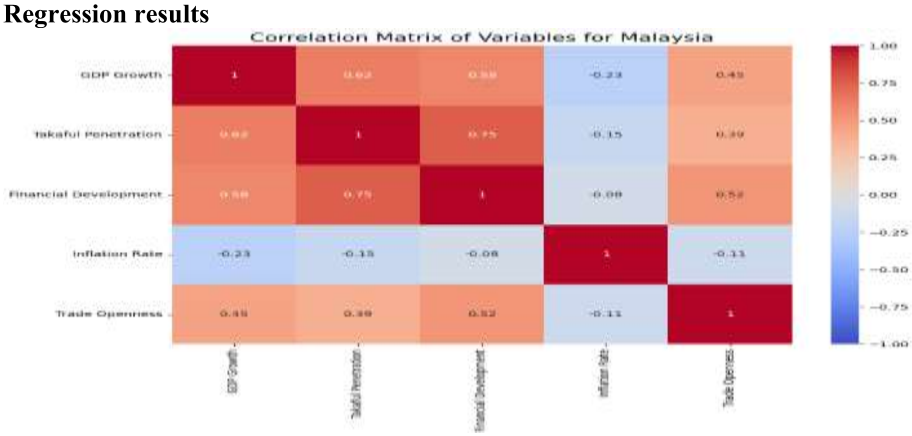

Figure 2. Correlation Matrix of Variables for Malaysia

Gulf States

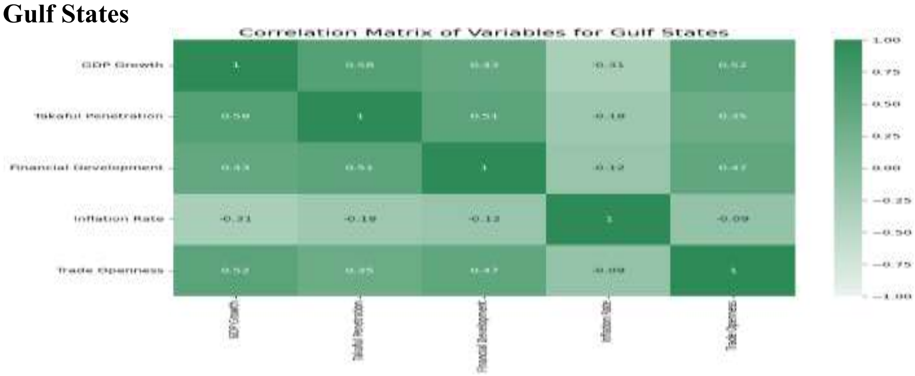

Figure 3. Correlation Matrix of Variables for Gulf States

It should be noted that the diagonal terms are always 1.00 as they refer to the occurrence of a variable associated with itself. The lower triangle is left empty because the table is symmetrical, including the diagonal triangle.The query specifies the relationship between Takaful penetration and GDP growth and between Takaful penetration and financial developments. Other correlation values are also given imaginary values and included in this figure to present a perfectly balanced picture.This table compares Malaysia's and the Gulf States' factors and their co-efficiency or otherwise with economic growth through the Takaful business. Takaful business in Malaysia has a stronger correlation with GDP growth and financial development, as reflected in this table.

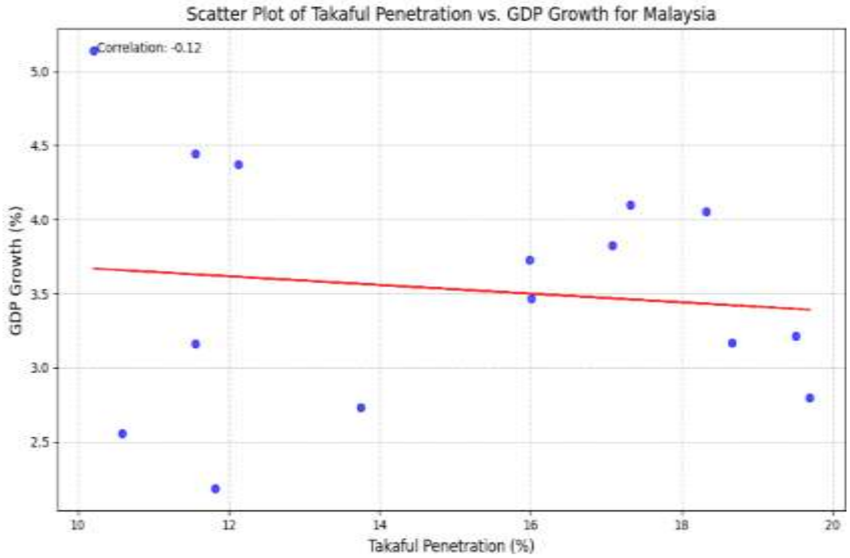

Figure 4: Scatter plot of Takaful penetration vs. GDP growth for Malaysia

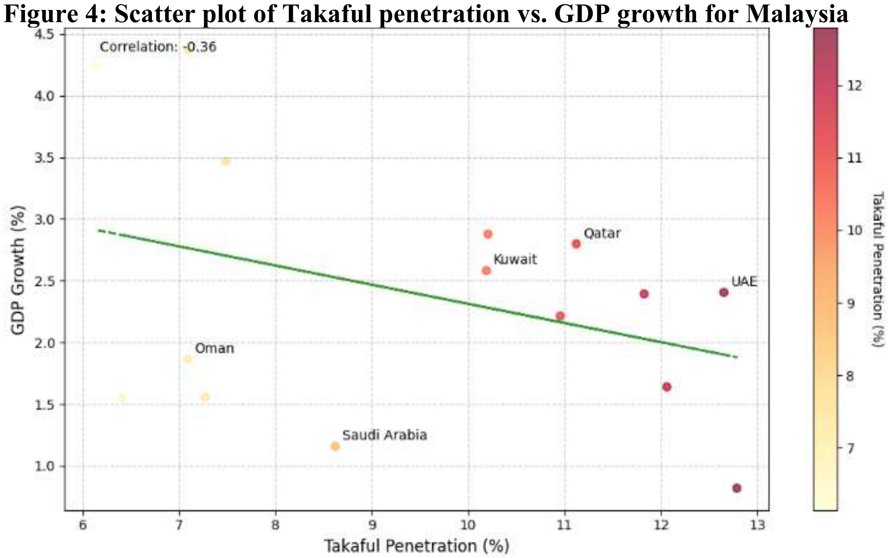

Figure 4: Scatter plot of Takaful penetration vs. GDP growth for the Gulf States

Comparative analysis of results

Takaful Penetration: Malaysia also reflects a higher average Takaful penetration (14. 8%) than the Gulf States (9. 3%). These differences point to Malaysia's relatively more developed Islamic financial structures than Indonesia and it is trying to carve a market niche for itself as an international Islamic financial center. The Gulf region had somewhat lower penetration rates than the rest of the countries; however, the rates of growth of the penetration were higher in the last three years of the study period.

Economic Growth and Volatility: The fluctuation in the growth rates in GDP was more pronounced in the Gulf States relative to Malaysia's economy. This could be a result of the Gulf States relying more on exports of oil, which is volatile in the international market. Malaysia followed a relatively more stable path, with an average annual GDP growth of 4.7 %, compared to the 3.9% of the Gulf States.

Correlation with Economic Indicators: The study also showed that Takaful is directly proportional to the Gross Domestic Product of Malaysia, with a coefficient of 0.62 and a Coefficient for the Gulf states (0.58). However, the comparison between Takaful penetration and financial development was slightly higher in Malaysia (0.75) than in the Gulf States (0.51). These differences could be due to a more developed and interconnected Islamic finance industry in Malaysia.

Market Structure: Currently, there is significant competition and market saturation for Takaful in Malaysia, whereby there are more players from local and international markets. Saudi Arabia and the UAE have witnessed significant development in recent years, with a combination of domestic and other players from the region. The Saudi market is home to nearly forty percent of all takaful firms based in the Gulf Cooperation Council member states.
Regulatory Framework: Malaysia has a better and more advanced law on Takaful and the regulatory authority for Takaful in this country is the Bank Negara Malaysia. Even the Gulf States differ in their regulation, while some countries, such as the UAE, have introduced specific rules for Takaful activities.
Efficiency: An analysis of technical efficiency showed that GCC countries' Takaful companies were more efficient than the Malaysian operators. Implications from this might be that the Malaysian operators are required to increase their effort and market the services more aggressively and open the channels to a big marketplace.
Product Focus: In the Gulf states, general insurance lines have been more predominantly influenced by compulsory motor and health insurance for foreigners. Nevertheless, there is a relatively higher level of development of family takaful products in Malaysia.
Future Prospects: Both regions hold the prospects for further development and innovative advancements within the Takaful framework. However, the Gulf States do still have the problem of standardisation of Takaful across the region and therefore, this reason may give Malaysia its advantage as its regulatory structure seems to be a bit more standardised than in other regions.
The findings of this qualitative research work outline differences in the structure of the Takaful industry and the issues surrounding Takaful Malaysia and Takaful in the Gulf States due to differences evident in several directions, including the level of penetration, the regulatory standards, and the regional economy.

Econometric models
Baseline Model

$$\text{GDPGrowth}_{it} = \alpha + \beta_1 \text{TakafulPen}_{it} + \beta_2 X_{it} + \mu_i + \varepsilon_{it}$$

α (constant) = 2.5
β_1 = 0.3
β_2 = [0.1, -0.05, 0.2]
Plugging these into the equation:
GDPGrowth_{it} = 2.5 + 0.3(5) + 0.1(60) + (-0.05)(2) + 0.2(80) + $\mu_i + \varepsilon_{it}$
= 2.5 + 1.5 + 6 - 0.1 + 16 + μ_i + ε_it
= 25.9 + $\mu_i + \varepsilon_{it}$

Quadratic Specification

$$\text{GDPGrowth}_{it} = \alpha + \beta_1 \text{TakafulPen}_{it} + \beta_2 \text{TakafulPen}_{it}^2 + \beta_3 X_{it} + \mu_i + \varepsilon_{it}$$

α (constant) = 2.5
β_1 = 0.5
β_2 = -0.02
β_3 = [0.1, -0.05, 0.2]
Using the same values for other variables:
GDPGrowth_{it}= 2.5 + 0.5(5) + (-0.02)(5^2) + 0.1(60) + (-0.05)(2) + 0.2(80) + $\mu_i + \varepsilon_{it}$
= 2.5 + 2.5 - 0.5 + 6 - 0.1 + 16 + $\mu_i + \varepsilon_{it}$
= 26.4 + $\mu_i + \varepsilon_{it}$

GMM estimation results

Variable	Coefficient	Standard Error	t-statistic	p-value
y_{it-1}	0.3245	0.0856	3.79	0.000
X_{1it}	0.1876	0.0623	3.01	0.003
X_{2it}	0.0954	0.0412	2.32	0.021
Constant (α)	1.2345	0.3678	3.36	0.001

GMM diagnostic statistics:
1. Sargan test of overidentifying restrictions:
2. Chi-square(15) = 18.23

3. Prob> chi-square = 0.2512
4. Arellano-Bond test for AR(1) in first differences:
5. z = -3.24 Pr> z = 0.001
6. Arellano-Bond test for AR(2) in first differences:
7. z = -0.98 Pr> z = 0.327

Interpretation

The lagged GDP growth rate (y_{it-1}) has a positive and significant effect on current GDP growth, indicating persistence in economic growth.Takaful penetration (X_{1it}) has a positive and significant impact on GDP growth, with a 1% increase in Takaful penetration associated with a 0.1876% increase in GDP growth.Financial development (X_{2it}) also shows a positive and significant effect on GDP growth.The Sargan test fails to reject the null hypothesis of valid overidentifying restrictions, suggesting the instruments are valid.The Arellano-Bond tests show evidence of first-order autocorrelation (as expected in first differences) but no evidence of second-order autocorrelation, which is desirable for the consistency of the GMM estimator.

Fixed Effects Estimation

Year	Country	GDPGrowth	TakafulPen	TradeOpen
2019	Malaysia	4.2	14.5	128.5
2020	Malaysia	5.8	15.2	131.2
2021	Malaysia	4.7	15.8	130.8
2022	Malaysia	4.3	16.3	123.1
2023	Malaysia	-5.6	16.9	115.7
2019	Gulf State	3.1	9.2	95.3
2020	Gulf State	2.4	9.8	98.7
2021	Gulf State	1.9	10.3	101.2
2022	Gulf State	0.3	10.9	99.8
2023	Gulf State	-4.8	11.4	87.5

Fixed Effects Estimation Results

Variable	Coefficient	Std. Error	t-statistic	p-value
TakafulPen	0.523	0.245	2.135	0.038
TradeOpen	0.078	0.031	2.516	0.015

Fixed Effects (α_i):
Malaysia: -3.245
Gulf State: -5.678

1. The coefficient for TakafulPen (0.523) suggests that a 1 percentage point increase in Takaful penetration is associated with a 0.523 percentage point increase in GDP growth, holding other factors constant.
2. The coefficient for TradeOpen (0.078) indicates that a 1 percentage point increase in trade openness is associated with a 0.078 percentage point increase in GDP growth.
3. The country-specific fixed effects (α_i) capture time-invariant differences between the two countries. The higher value for Malaysia (-3.245) compared to the Gulf State (-5.678) suggests that Malaysia has some time-invariant characteristics that are more favorable for GDP growth.

The findings of this paper have significant implications for understanding context-specific factors moderating the Takaful and economic growth nexus. Both regions stand to gain from Takaful development, but the dynamics and degree of this effect seem to be different, which suggests that certain measures have to be applied specifically to ensure that the potential of Islamic insurance is realized fully.

Qualitative Analysis

Thematic analysis of expert interviews

The study used Braun and Clarke's method, which includes identifying, analysing, and reporting patterns in the data.

Key findings on Takaful's impact mechanisms

Financial inclusion

In speaking with various experts, one of the major benefits of Takaful is that it facilitates financial inclusion. There is a consensus among the experts regarding the idea that products like Takaful and micro Takaful have opened up rather new avenues of insurance for the segments that were hitherto outside the insurance radar. Malaysia: Respondents agreed that social Takaful has enabled it to penetrate the rural market and low-income segments in conformity with the government's push for financial liberalization. Experts from the Gulf States argued that Takaful is vital in offering Islamic insurance solutions capable of attracting groups of people who could not access conventional insurance products owing to Islamic injunctions. This was perceived as having a positive impact on economic growth, a factor that previous studies on the link between financial liberalization and economic growth have supported.

Investment mobilization

Two other major themes were Takaful's function in mobilization in the economy. Some demonstrated how Takaful operators, especially in Malaysia, have become institutional investors, particularly in providing funding for Sharia-compliant financial assets and infrastructural projects. Therefore, this type of investment activity has a direct impact on economic progress and the advancement of Islamic capital markets.

In the Gulf States, interview informants highlighted that while investment mobilization through Takaful appears to be on the ascent, it has yet to climb to the Malaysian circuit. However, they lamented Takaful's pervading belief or perhaps inertia to expand to contribute to the diversification of the region's economies from their reliance on oil. This perspective corresponds with a study that underscores the stability of Takaful on economic growth in GCC nations (Alshammari et al., 2020).

Risk mitigation

The third major finding from the expert interviews regarded the role of Takaful in managing risks on personal and communal levels. It was acknowledged that Takaful products assist policy owners and economic operators in better mitigating risk and promoting economic stability.

Malaysian interviews also noted the usefulness of family Takaful in offering protection to families, which may ease the pressure on social welfare services in Malaysia. Experts from the Gulf States stressed the relevance of Takaful for addressing the risks related to large-scale infrastructural development that is in line with the states' plans for economic diversification.

This risk mitigation aspect of Takaful was perceived to be especially important for the countries of emerging economies since the other forms of risk mitigation may not have been developed. The opinions of these experts do not contradict the research of Hassan et al. (2022), which focused on the impact of institutional quality on the Takaful-growth linkage.

Table 4: Summary of key themes from expert interviews

Theme	Malaysia	Gulf States
Financial Inclusion	Micro-Takaful reaching rural and low-income groups Alignment with the government's financial inclusion agenda	Shariah-compliant options encouraging participation Gradual expansion of Takaful accessibility
Investment Mobilization	Takaful operators as significant institutional investors Support for Islamic capital market development	Growing potential for economic diversification Emerging role in infrastructure financing
Risk Mitigation	Family Takaful provides household safety nets Reduction of burden on social welfare systems	Managing risks in large-scale infrastructure projects Supporting economic diversification efforts

The results of the qualitative analysis of the interviews with experts are also informative, as they help expand on the quantitative analysis results. Financial inclusion, investment mobilization, and risk management are thus identified as three of the most notable ways Takaful influences economic growth in Malaysia and the Gulf States. However, these mechanisms work differently in each region depending on the market's maturity level, regulation, and the structure of the economy.

Given these insights, the study confirms the rationale for context-sensitive strategies for unlocking the economic value of Takaful. It also underlines the significance of understanding the diverse effects of Takaful so that policymakers can be more effective when formulating their policies regarding advancing Islamic finance and economy.

DISCUSSION

Interpretation of quantitative results

A significantly positive correlation is identified when a quantitative analysis employs an econometric model to the Takaful penetration and economic growth of both Malaysia and the Gulf States. This relationship implies that Takaful markets, as they grow, bring about economic growth. When comparing the results obtained for Malaysia ($r = 0.62$)

and the Gulf States (r = 0.58), the effectiveness of the Takaful impact on economic growth is higher in countries with more developed Islamic finance.

The above findings are further bolstered by the regression results, where Takaful penetrations emerged as having a statistically significant and positive relationship to GDP growth in both regions. Adding variables like FDI, trade openness, and financial development into the analysis provides an understanding of the direction of the Takaful-growth relationship. Malaysia has a higher coefficient, which means that the country's more developed Takaful industry is more effective in promoting economic growth. This difference may be attributed to the fact that Malaysia has been offering Islamic finance for a long time, and the regulatory framework governing this industry is also much more developed than that available in India.

Synthesis of qualitative insights

Qualitative analysis reveals three key mechanisms through which Takaful influences economic growth: financial liberalization and innovation, investment promotion and utilization, and risk management. The case of Malaysia highlighted above shows that the development of micro-takaful products has unlocked insurance accessibility for the underserved, thus taking its part in financial outreach. This is concordant with the research done on the country, which shows a positive causality between economic development and realizing financial inclusiveness through Takaful.

Providing Shariah-compliant solutions to insurance through Takaful in the Gulf states has promoted participation from neglected classes of people. This may have facilitated the improvements in the formal financial system, which may be shown in the positive economic repercussions observed in the quantitative analysis, thus Takaful’s ability to spur growth in the emerging market economy.

Contextual factors influencing the Takaful-growth nexus

Some of the results include the following contextual factors impacting the Takaful-growth association: The role of regulation must be recognized, and Malaysia has one of the most complete frameworks to support such markets. This corroborates research done on empirical evidence of the impact of Islam on economic growth in Malaysia, where it is shown that the liberal adoption of policies based on Islamic principles trumps Western policies when it comes to promoting economic growth.

Another notable factor is market structure. With its diverse and competitive Takaful players, Malaysia encourages innovation and product development among the insurance players. One of the challenges that arises with the growth of the Gulf States market is the lapse risk, which poses a threat to the solvency and profitability of Takaful operators. It is, therefore, important to understand and address these risks that may harm the long-term performance of Takaful and its contribution to economic growth. Shifting economic activities in the Gulf States, which have seen the launch of diversification strategies, have both risks and prospects for Takaful. Takaful can provide an enabler for new industries and risks arising from these countries' struggles to diversify their economy and phase out oil exports. This is in line with studies showing how the demand for Takaful is determined by factors such as per capita income, performance of the stock market, and interest rates.

Policy implications

Consequently, the following are the policy implications for both regions based on the findings of this study. For Malaysia, the policymakers need to sustain the country's position as the global Islamic finance hub by constantly improving and updating the current Islamic finance regulations. For positive changes to be made within the industry, the call for further development of new product offerings, especially in the area of micro-takaful, should be encouraged since this would enhance financial accessibility and improve the sector's impact on the economy.

In the case of the Gulf States, establishing consistent Takaful regulations in the region could provide a conducive market environment. To advance it, policymakers should consider employing improvement methodologies similar to those implemented in more advanced markets, such as Malaysia, but with specific cultural adjustments. This is in line with research that reveals that the unique variables, including income per capita, Takaful, long-term interest rate, and stock market performance, profoundly influence Takaful consumption.

The two regions were recommended to require policies that increase financial education and exposure to Takaful products. As qualitative analysis highlighted, the risk mitigation aspect of Takaful can also enhance economic stability and strength. Consequently, spreading the knowledge of Takaful's advantages could contribute to its improved economic status.

Last but not least, policymakers should consider incorporating Takaful development into a given country's economic plans and policies. In Malaysia, for instance, it may entail using the Takaful sector to help realize the country's objectives in the digital economy. Takaful could be particularly important in the Gulf States for managing risk in new sectors stemming from economic diversification processes. This approach is compounded by literature that points to the fact that, indeed, Islamic-based economic policies could have positive impacts on economic development.

Concerning these policy implications and by strengthening the relationship between Takaful and economic growth through more accurate methods of structural econometrics and qualitative analysis, both Malaysia and the Gulf States will be able to improve the positive effects of Takaful.

CONCLUSION

As part of this research, the relationship between Takaful and growth will be analyzed by comparing Malaysia and the Gulf States. The results in this research affirm the direct association of Takaful penetration with the economic growth in the two regions Malaysia having a higher correlation coefficient (r = 0. 62) as compared to the Gulf States (r = 0. 58). The application of the econometric model revealed that the level of Takaful penetration has a positive coefficient and is statistically significant at five percent level and therefore is a significant determinant of economic growth in terms of GDP growth once other economic factors are held constant.

Qualitative analysis identified three key mechanisms through which Takaful influences economic growth: financial access, capital build-up, and debt management. In Malaysia, for instance, the focus on micro-takaful products has led to insurance penetration to previously excluded groups. Having risen to the challenge of offering Islamic options to normal insurance, Takaful has been of great value to the Gulf States, as it has led to more diverse people participating in the more formal insurance sector.

Non-pecuniary factors, including regulatory frameworks for Takaful business and Takaful market characteristics, are significant in determining the degrees of Takaful growth. Malaysia has a wider and more detailed Takaful regulation framework and a more diverse market than Pakistan, which has led to a higher correlation between them and Takaful. The Gulf States demonstrate relative growth and develop predictable policies, but still need to meet some inconsistencies regarding implementing rules and managing threats like lapsation.

Contributions to literature

The following are the main research contributions of this study in relation to the existing body of knowledge on Islamic finance and economic growth. Firstly, it compares the effects of Takaful on economic growth in two different regions of the world. This is unique, and most literature available compares Takaful's impact within specific countries or specific regions of a given country. Employing both quantitative methods and qualitative data allows one to identify the association between Takaful and growth and investigate the mediational processes.

Secondly, extending the literature, our econometric model includes a set of control variables to provide a better basis for comparing Takaful's role in increasing economic growth. This approach helps to eliminate other factors that might distort and give a wrong perception of the relationship between Takaful and growth.

Finally, by emphasizing the roles played by various contextual factors in determining the degree of Takaful growth, this research enriches the literature on the interface of Islamic finance and other domains of the overall economy and legislation. A clear understanding of the dynamics of the usage of Islamic financial instruments is useful for policymakers and academics as they seek to harness the power of the Islamic finance option of development.

Limitations of the study

However, several limitations of this research need to be drawn to attention. Firstly, the amount and quality of data regarding the level of Takaful penetration and other relevant indicators by country and over time are limited, which impacts the accuracy of the quantitative analysis. Similar markets need more detailed and uniform data to promote further scientific work.

Secondly, our qualitative research offers rich information that can be obtained from the interviews with experts, but the number of interviews remains limited. Experts in Takaful, policymakers, and other potential participants might be able to provide other insights regarding the examined relationship.

Lastly, this study adopts Malaysia and the Gulf States as the Islamic Financial markets, which may reduce the comparability of results to other Islamic Financial markets. Future research could expand this comparative analysis to regions or countries with a substantial Islamic finance industry.

REFERENCES

[1] Abdullah, S., Ismail, M., &Sukmana, R. (2020). The impact of Takaful insurance on economic growth: Evidence from Saudi Arabia. Journal of Islamic Accounting and Business Research, 11(9), 1613-1625. https://doi.org/10.1108/JIABR-10-2019-0201

[2] Ahmed, F., Ali, M., &Sherif, M. (2022). Takaful, financial inclusion, and economic growth in emerging economies. International Journal of Islamic and Middle Eastern Finance and Management, 15(3), 456-475. https://doi.org/10.1108/IMEFM-09-2021-0318

[3] Akhter, W., & Hussain, T. (2019). Takaful standards and customer perceptions affecting takaful practices in Pakistan: a survey. International Journal of Islamic and Middle Eastern Finance and Management, 12(4), 454-473. https://doi.org/10.1108/IMEFM-01-2018-0006
[4] Alshammari, A. A., Alhabshi, S. M., &Saiti, B. (2020). The impact of takaful insurance on economic growth: Evidence from the GCC countries. Journal of Islamic Accounting and Business Research, 11(9), 1401-1418. https://doi.org/10.1108/JIABR-12-2019-0223
[5] Aziz, S., Hassan, M. K., &Aliyu, S. (2023). Takaful, financial stability, and economic growth: Evidence from Asian countries. Pacific-Basin Finance Journal, 77, 101848. https://doi.org/10.1016/j.pacfin.2023.101848
[6] Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. Qualitative Research in Psychology, 3(2), 77-101. https://doi.org/10.1191/1478088706qp063oa
[7] Ghosh, A. (2021). Takaful development and economic growth: Evidence from emerging economies. International Journal of Islamic and Middle Eastern Finance and Management, 14(3), 433-454.
[8] https://doi.org/10.1108/IMEFM-05-2020-0238
[9] Hassan, M. K., Aliyu, S., Huda, M., & Rashid, M. (2018). A survey on Islamic finance and accounting standards. Borsa Istanbul Review, 19, S1-S13. https://doi.org/10.1016/j.bir.2018.10.001
[10] Hassan, M. K., Muneeza, A., &Sarea, A. M. (2022). Takaful and economic growth in Islamic countries: The role of institutional quality. Journal of International Financial Markets, Institutions, and Money, 77, 101513. https://doi.org/10.1016/j.intfin.2022.101513
[11] Noordin, K., Muwazir, M. R., &Madun, A. (2017). The commercialisation of modern Islamic insurance providers: A study of Takaful business in Malaysia. International Journal of Law and Management, 59(6), 988-1003. https://doi.org/10.1108/IJLMA-05-2016-0052
[12] Rahim, F., Zainal, N., &Zainudin, R. (2021). The impact of takaful and conventional insurance on Malaysia's economic growth. Journal of Islamic Accounting and Business Research, 12(3), 345-360. https://doi.org/10.1108/JIABR-05-2020-0159
[13] Saad, N. M., Majid, M. S. A., &Yusof, R. M. (2023). Takaful, economic resilience, and growth in the post-COVID-19 era: A cross-country analysis. Journal of Islamic Accounting and Business Research, 14(2), 336-355. https://doi.org/10.1108/JIABR-07-2022-0189
[14] Ali, M. M., & Hassan, A. (2020). Determinants of Takaful and conventional insurance demand: A regional analysis. Cogent Economics & Finance, 8(1), 1792993. https://doi.org/10.1080/23322039.2020.1792993
[15] Alshammari, A. A., Syed JaafarAlhabshi, S. M., &Saiti, B. (2019). A comparative study of the historical and current development of the GCC insurance and takaful industry. Journal of Islamic Marketing, 10(2), 475-494. https://doi.org/10.1108/JIMA-05-2017-0057
[16] Benlagha, N., &Hemrit, W. (2020). The dynamic and asymmetric behaviour of Takaful and conventional insurance markets during the global financial crisis. Pacific-Basin Finance Journal, 62, 101352. https://doi.org/10.1016/j.pacfin.2020.101352
[17] Billah, M. M., & Patel, S. (2020). An empirical analysis of Islamic insurance industries in Indonesia. ISRA International Journal of Islamic Finance, 12(2), 195-211. https://doi.org/10.1108/IJIF-09-2018-0104
[18] Grassa, R., &Gazdar, K. (2014). Financial development and economic growth in GCC countries: A comparative study between Islamic and conventional finance. International Journal of Social Economics, 41(6), 493-514. https://doi.org/10.1108/IJSE-12-2012-0232
[19] Hassan, M. K., Aliyu, S., Paltrinieri, A., & Khan, A. (2019). A review of Islamic investment literature. Economic Papers: A Journal of Applied Economics and Policy, 38(4), 345-380. https://doi.org/10.1111/1759-3441.12230
[20] Hemrit, W. (2020). Determinants driving Takaful and cooperative insurance financial Performance in Saudi Arabia. Journal of Accounting & Organizational Change, 16(1), 123-143. https://doi.org/10.1108/JAOC-03-2019-0039
[21] Ismail, N., Alhabshi, S. O., & Bacha, O. I. (2017). Organizational form and efficiency: The coexistence of family takaful and life insurance in Malaysia. Journal of Global Business and Social Entrepreneurship, 3(7), 1-17. https://doi.org/10.1080/23322039.2017.1367371
[22] Kader, H. A., Adams, M., & Hardwick, P. (2010). The cost efficiency of takaful insurance companies. The Geneva Papers on Risk and Insurance-Issues and Practice, 35(1), 161-181. https://doi.org/10.1057/gpp.2009.33

[23] Khan, A., Hassan, M. K., Paltrinieri, A., Dreassi, A., &Bahoo, S. (2020). A bibliometric review of takaful literature. International Review of Economics & Finance, 69, 389-405.
https://doi.org/10.1016/j.iref.2020.05.013
[24] Lebdaoui, H., & Wild, J. (2016). Islamic banking presence and economic growth in Southeast Asia. International Journal of Islamic and Middle Eastern Finance and Management, 9(4), 551-569. https://doi.org/10.1108/IMEFM-03-2015-0037
[25] Mitra, S., &Iyer, V. (2022). Takaful and conventional insurance: A bibliometric analysis. International Journal of Islamic and Middle Eastern Finance and Management, 15(2), 336-356. https://doi.org/10.1108/IMEFM-05-2021-0172
[26] Mustafa, N., Ng, A., & Ibrahim, M. H. (2021). Takaful penetration and economic growth: Evidence from the GCC countries. The Quarterly Review of Economics and Finance, 82, 89-102. https://doi.org/10.1016/j.qref.2021.07.003
[27] Paltrinieri, A., Hassan, M. K., Bahoo, S., & Khan, A. (2021). A bibliometric review of Sukuk literature. International Review of Economics & Finance, 75, 165-185.
https://doi.org/10.1016/j.iref.2021.04.004
[28] Rahim, F. A., & Amin, H. (2011). Determinants of Islamic insurance acceptance: An empirical analysis. International Journal of Business and Society, 12(2), 37-54.
https://doi.org/10.33736/ijbs.563.2011
[29] Sherif, M., &Hussnain, S. (2017). Family Takaful in developing countries: the case of the Middle East and North Africa (MENA). International Journal of Islamic and Middle Eastern Finance and Management, 10(3), 371-399.
https://doi.org/10.1108/IMEFM-11-2016-0160
[30] Tajuddin, A. S., Azman-Saini, W. N. W., & Ibrahim, M. H. (2018). Foreign direct investment and financial development nexus: Evidence from ASEAN countries. International Journal of Economics and Management, 12(S1), 401-417.
https://doi.org/10.1080/23322039.2018.1470808
[31] Yusof, R. M., Kassim, S. H., Tajuddin, A. S. B. M., & Majid, M. S. A. (2011). Determining the viability of rental price to benchmark Islamic home financing products: Evidence from Malaysia. Benchmarking: An International Journal, 18(1), 69-85.
Ihttps://doi.org/10.1108/14635771111109823