

Optimizing the Role of Indonesia's Islamic Financial Industry : Empirical Analysis of its Impact on Economic Growth

Rika Febby Rhamadhani; Ahmad Fanani

STAI AL-Ikhlas Poso, Indonesia
Universiti Brunei Darussalam, Brunei Darussalam

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Corresponding author:

rikafebby@gmail.com

Author's email:

rikafebby@gmail.com

fananiahmad@gmail.com

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Abstract

This study aims to analyze the influence of the Islamic financial services sector on economic growth in Indonesia. The three main sectors of the Islamic finance industry in Indonesia are Islamic Banking, Islamic Capital Markets, and Islamic Non-Bank Financial Industry. The extent to which these three sectors will contribute to economic growth between Q1 2014 and Q3 2021 will be analyzed empirically in this study. The research method uses the ARDL Limit Test for Cointegration and Error Correction Models applied to quarterly data (ECM). Three research variables are Islamic stocks, sukuk, and Islamic insurance. This study found that the Islamic capital market has a considerable influence on GDP, while Islamic banking does not have this influence. Therefore, Islamic banks in Indonesia must optimizing financing for the productive sector. Future policies must consider maximizing the contribution of the Islamic financial sector to economic growth.

Introduction

All countries consider pursuing economic growth as a highly important goal, measured by Gross Domestic Product (GDP) as a benchmark for national development, the impact of economic policies, and the well-being of the population. The financial sector is one of the most important sectors for economic growth and plays a role in channeling funds to needy sectors. The 2021-2025 Master Plan for Indonesia's Financial Services Sector emphasizes the importance of the financial services sector as the backbone of the economy and its role in maintaining financial system stability. Therefore, the financial industry is the primary driver of the economy in every country.

In Indonesia, the Sharia financial services sector is divided into three main sub-sectors, namely the Sharia banking sector, the Sharia non-bank financial industry (IKNB), and the Sharia capital market sector. The Sharia capital market sector has experienced significant growth, with an increase in assets, especially the Sharia stock market capitalization, which increased to 43.98% in 2020. Most Sharia capital market assets are represented by Sharia stocks, Sukuk, and Sharia mutual funds.

The banking industry, including Sharia banking, and Sharia non-bank financial industry such as Sharia insurance, Sharia pension funds, Sharia financing institutions, and other Sharia financial services institutions also play an essential role in driving the economic growth of a country. The Sharia non-bank financial industry continues to grow and develop in Indonesia, with Sharia insurance industry assets increasing threefold to Rp43.68 trillion as of September 2021. This indicates that Sharia insurance is widely sought after as an alternative to conventional insurance and is expected to continue this trend in the future.

This study analyzed the relationship between independent and dependent variables over the long and short term, as economic systems require time to fully respond to domestic and international policies. The ARDL method was used because of its advantages, such as its ability to be applied to small sample studies and to differentiate between endogenous and exogenous variables.

Previous research on Islamic finance is limited, with most studies focusing only on individual sectors such as the stock market, banking, bonds, and insurance industries separately. To address this gap, this study involved the three main sectors of Islamic finance in Indonesia, namely the Islamic capital market, Islamic banking, and Islamic insurance, as well as their impact on economic growth. Data was used from 2014 to 2021, with new proxies introduced such as the Indonesian Islamic Stock Index and total assets. The ARDL-ECM method was applied, which is suitable for small sample studies and can differentiate between exogenous and endogenous variables. The aim of this study is to provide a comprehensive analysis of Islamic finance and its relationship with economic growth. The findings from this study can help in future policy development to maximize the role of Islamic finance in driving economic growth.

Literature Review

If Shariah stocks have good performance, the economy is expected to benefit as they become a source of funding for companies listed on the exchange, thereby increasing production, innovation, resource allocation efficiency (Tan & Shafi, 2021), and the sale of goods or services to consumers, all of which drive economic growth. In the 1910s, Schumpeter proposed that the stock market provided a source of financing for businesses by enabling them to purchase new technology, thereby promoting economic growth (Thaddeus et al., 2021). This phenomenon is often observed in public companies that sell a portion of their own shares to the public. As a result, companies obtain capital and public attention through media coverage to market the products or services they offer.

Therefore, this research hypothesizes that the *Indonesian Shariah Stock Index has a significant positive impact on Indonesia's economic growth* (H1).

Sukuk growth is often measured using proxies, with the standout Sukuk being one of the most commonly used in research (Abrorov, 2020). For this study, the remaining exceptional corporate Sukuk and SBSN were utilized. A rise in outstanding value is good for the economy as it signals the completion of government projects funded by SBSN, such as infrastructure such as toll roads that can boost transactions and economic activity in

Indonesia. Furthermore, the increase in outstanding corporate Sukuk reflects increased productivity in the form of the provision of more goods and services (Ledhem and Mekidiche, 2021; Tan and Shafi, 2021). According to Nneka (2022), Sukuk, as a source of long-term capital, plays a crucial role in the sustainability and growth of the real economy and the stability of the financial system.

Therefore, the following hypothesis is proposed: *Sukuk has a significant positive effect on Indonesia's economic growth (H2).*

The Sharia-compliant funds collected and disbursed to the real sector are directly linked to the growth and strengthening of the economy, as people can experience the increase in productivity through the trade of goods and services. Research findings from various countries, such as Malaysia (Gani & Bahari, 2021), Turkey (Ledhem & Mekidiche, 2021), and Nigeria (Tabash et al., 2022), show that the banking sector effectively serves as an intermediary financial institution. As a result, an increase in Islamic banking assets can result in more financing being distributed to corporate and individual businesses, increasing productivity and driving economic growth. *The growth of Islamic banking assets has a significant positive effect on the economic growth of Indonesia (H3).*

The growth of sharia-compliant insurance is assessed by examining the expansion of total sharia insurance assets, which include sharia general insurance, sharia life insurance, and sharia reinsurance. These statistics are released by the Financial Services Authority (OJK) through the Sharia Non-Bank Financial Industry Report. Mainata and Pratiwi (2019) concluded that the growth of sharia insurance assets is crucial in promoting economic growth. As sharia insurance assets increase, the investment climate improves, which leads to higher growth rates at both the community and national levels. The increase in the number of Islamic insurance assets explains the increase in *tijarah* funds resulting from self-investment in the Islamic financial sector, including Sukuk, Islamic banking and stocks which contribute to an increase in the Islamic financial sector as a whole and ultimately the economy will grow

The growth of sharia-compliant insurance has a significant positive impact on Indonesia's economic growth (H4).

Research Methods

To answer the question in this research, namely How will the growth of the Islamic financial sector impact Indonesia's economic growth in 2014 and 2021? Using quantitative methods to examine samples, data collection uses statistical data analysis instruments to test hypotheses.

The approach uses Auto Regressive Distributed Lag (ARDL) analysis. With secondary data. The data was obtained from the Sharia Banking Statistics (SPS) of the Financial Services Authority (OJK), then the Central Bureau of Statistics (BPS) and finally from the Directorate General of Financing and Risk Management, Ministry of Finance, Ministry of Finance.

The collected data is converted into percentages because, the point in this study is the phenomenon of growth between periods. Data is taken from 2014 to 2021 which is the most recent publication.

Sample Selection and Data Sources

The study focuses on the growth phenomenon between periods, so the data collected in Indonesian rupiah (IDR) units were converted into percentages. The year 2014 was selected as the starting point for the research since the required data were publicly available and accessible starting from this year, and the data collection ended in the third quarter of 2021, which was the most recent publication at the time of the study.

Table 1. Presents the variables that were measured in this research.

Notation	Variable	Measurement	Source
GDP	Economic Growth (Y)	$\frac{GDP_t - GDP_{t-1}}{GDP_{t-1}} \times 100$	BPS
ISSI	Sharia Stock Growth(X1)	$\frac{ISSI_t - ISSI_{t-1}}{ISSI_{t-1}} \times 100$	OJK
SUKUK	Sukuk Growth (X2)	$\frac{OUTS_t - OUTS_{t-1}}{OUTS} \times 100$	OJK and DJPPR
IBS	Islamic Banking Growth(X3)	$\frac{ASSET_t - ASSET_{t-1}}{ASSET_{t-1}} \times 100$	OJK
INS	Sharia Insurance Growth (X4)	$\frac{ASSET_t - ASSET_{t-1}}{ASSET_{t-1}} \times 100$	OJK

To obtain an appropriate and representative sample, purposive sampling was used with consideration of the size of the assets, market share and dominance. Therefore, he chose 3 important sectors in Islamic finance, namely Islamic banking, Islamic capital markets and Islamic non-bank financial industry or Islamic insurance.

Data Analysis

Using the Auto Regressive Distributed Lag (ARDL) analysis model by Pesaran et al (2001). This method is an analytical technique that assumes the field of econometrics, and has the assumption that the variable itself can influence the variables of the previous period.

ARDL analysis has the advantage that it is like research with a small sample, for example using quarterly data with a total of 30 data. Then estimate the model of concurrent and other timeframe components. (Nkoro & Uko, 2016).

The robustness test is used in assessing reliability to measure validity and consistency, namely the accuracy of the model between the predicted and actual results. The robustness test consisted of 2 categories, namely diagnostic tests (autocorrelation test with Breusch-

Godfrey test LM Serial Correlation test and heteroscedasticity test with Breusch-Pagan-Godfrey test), and stability models (CUSUM & CUSUMQ).

Results and Discussion

Based on the constant price GDP data in Indonesia from 2010, the economic growth in the period of 2014-2021 has shown a positive trend, although the percentage increase was less than 2 %. The highest increase was observed in 2015, while the largest decrease occurred in 2020 by 0.49% during the COVID-19 pandemic. This growth was influenced by various factors, including domestic policies and foreign economic conditions. The financial sector, which includes the Islamic finance sector, has shown rapid growth and held the majority of control in the 2016-2020 period. The unit root test using the ADF showed that all research variables, namely GDP (0.000), Sharia Stock (0.001), Islamic Banking (0.0117) , and Sharia insurance (0.010), had a probability value lower than the critical value of 5%. Therefore, these variables were stationary at the level of order I (0), rejecting H0. Meanwhile, only Sukuk (0.000) was stationary at the first difference I(1). The ADF test results revealed a combination of variable stationarity at I(0) and I(1).

Table 2. The Result of the Unit Root Test

Level			
Variable	Critical value	Prob	Stat. Status
GDP	0.05	0.0000	Stationary
ISSI	0.05	0.0001	Stationary
<u>Sukuk</u>	0.05	0.3985	Non-Stationary
IBS	0.05	0.0117	Stationary
INS	0.05	0.0010	Stationary
1st Difference			
Variable	Critical value	Prob	Conclusion
<u>Sukuk</u>	0.05	0.0000	Stationary

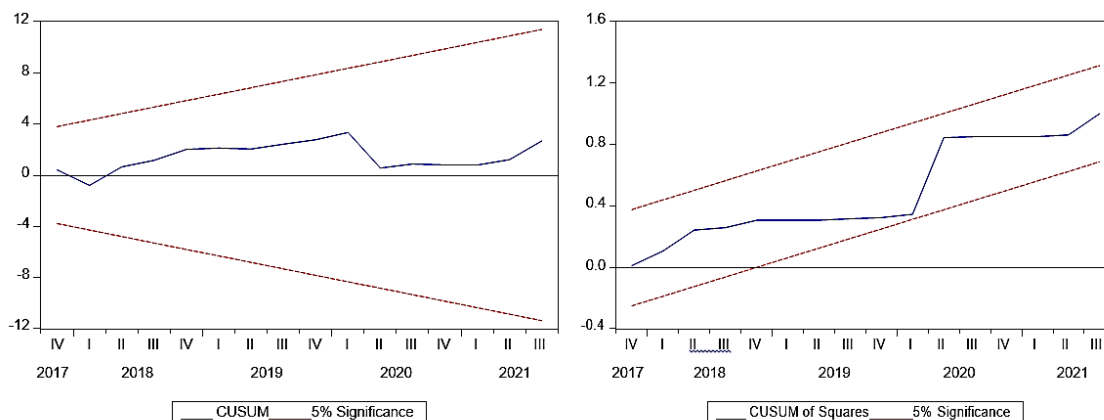
Once all the variables have been confirmed as stationary, the next step in the analysis process is to conduct the lag length test, as presented in Table 3. By utilizing three different criteria, namely LR, FPE, and AIC, and examining the number of asterisks, it is evident that lag 2 is the most appropriate lag to be used in this study. This result is also confirmed by the model selection summary.

Table 3. The Result of Lag-Length Test

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-401.4183	NA	1.02E+06	28.02885	28.26459*	28.10268*
1	-378.0564	37.05683	1.18E+06	28.14182	29.55626	28.5848
2	-347.61	37.79551*	961504.7*	27.76621*	30.35935	28.57835

To ensure the validity of the proposed research model, diagnostic tests are conducted to detect and eliminate potential biases. The Breusch-Godfrey Serial Correlation LM Test is used to examine autocorrelation and heteroscedasticity between residuals in the research model. The results indicate that there is no autocorrelation or heteroscedasticity present, and the F-statistical probability value for both is greater than the critical value of 0.05, indicating that the residuals are normally distributed.

Figure 1. The Results of CUSUM and CUSUMQ Tests



The stability of the model is measured using the cumulative sum (CUSUM) and cumulative sum of square (CUSUMQ) tests, as shown Figure 1. The graph does not cross the boundary line, indicating that the model is stable and unbiased, and can be used as a recommendation for policy.

Then, from the results of tests carried out Cointegration Bound (Table 4) explaining that 3 of the 5 equations have an f-statistic value greater than $I(1)$ 4.01, namely when GDP (15.43228), Sukuk (38.55761), and Islamic Banking (18.3807) as the dependent variable. Rejecting H_0 indicates that the variable has a long-term relationship. To estimate long-term and short-term effects, the ARDL analysis technique will be used in the next testing phase.

Table 4. Cointegration Bound Test Result

Using Model 3 (Constant): Unrestricted Constant and No Trend				
Dependent Variable	F-Statistics	I(0) at 5%	I(1) at 5%	Cointeg. Status
GDP	15.43228	2.86	4.01	Yes
ISSI	3.18757	2.86	4.01	No
<u>Sukuk</u>	38.55761	2.86	4.01	Yes
IBS	18.3807	2.86	4.01	Yes
INS	1.164514	2.86	4.01	No

In addition, the long-term estimation results can be observed by comparing the probability value with the critical value of 5% (refer to Table 5). Hypothesis 0 assumes that there is no meaningful relationship between the research variables, whereas hypothesis 1 suggests the presence of such a relationship. The decision is based on whether the

probability value surpasses the critical value of 0.05. If the probability value is higher than the critical value, then hypothesis 0 is accepted, indicating that no significant relationship exists. Conversely, if the probability value associated with the variable is lower than the critical value of 0.05, then hypothesis 0 is rejected, signifying the existence of a substantial effect.

Table 5. The result of Long-Run Estimation

Variable	Coefficient	t-statistic	Prob.	Status
ISSI	-0.027439	-0.451082	0.6580	Not significant
<u>Sukuk</u>	-0.217253	-3.133691	0.0064	Significant
IBS	-0.301892	-1.761302	0.0973	Not significant
INS	0.355074	3.646053	0.0022	Significant

Table 5 presents the results of the long-run relationship analysis between the explanatory variables (Indonesia Sharia Stock Index, Sukuk, Islamic Banking, and sharia insurance) and the response variable (GDP) by comparing the t-count to the t-table or p-value to a critical value (0.05). The movement of the represented variables has a significant impact on GDP as evidenced by their significant status. The probability values of Sukuk ($0.0064 < 0.05$) and sharia insurance ($0.0022 < 0.05$) indicate that only the growth of Sukuk and sharia insurance have a significant effect on GDP. However, the growth of Islamic banks has a probability value of 0.0973 and 0.6580, which are higher than the threshold value of 0.05, indicating that their effect on GDP is not significant. The coefficient value indicates that a rise in Sukuk by one unit will lead to a fall in GDP by 0.217253 units, while a rise in sharia insurance can result in a 0.355074 unit increase in GDP.

After establishing the long-term equilibrium relationship between the variables, the analysis proceeds to estimate the short-term effect using the Error Correction Model (ECM) by calculating the elasticity between the independent and dependent variables. A significant negative CointEq value indicates that the observed short-term equation model is valid. The decision to reject H0 is made by comparing the probability value with a critical value of 0.05. Table 6 presents the data processing results for estimating the short-term effect between the research variables.

Table 6. Short-Run Estimation Result

Variable	Coefficient	t-statistic	Prob.	Status
D(GDP(-1))	0.676915	4.652129	0.0003	Significant
D(ISSI)	0.041673	0.662554	0.5170	Not significant
D(ISSI(-1))	0.212069	3.522301	0.0028	Significant
D(<u>Sukuk</u>)	-0.269213	-4.878654	0.0002	Significant
D(IBS)	-0.252548	-1.732650	0.1024	Not significant
D(INS)	0.129627	1.153671	0.2656	Not significant
D(INS(-1))	-0.426467	-3.815378	0.0015	Significant
<u>CointEq(-1)*</u>	-1.915861	-9.820985	0.0000	Significant

Table 6 shows that the variables of GDP lag 1, Sharia stock lag 1, Sukuk, and INS lag 1 have p-values that are less than the critical value of 0.05 in the short term, indicating that the null hypothesis that each of these variables has no significant effect on GDP can be rejected. On the other hand, Sharia Stock, Islamic banking, and sharia insurance have no significant effect on GDP in the short term since the probability value of each of these variables is higher than the critical value of 5%.

Discussion

This study aimed to investigate the relationship between the growth of Indonesia's Islamic financial industry and its economic growth from 2014Q1 to 2021Q3. The quarterly data were analyzed using the cointegration bound test (ARDL) and Error Correction Model (ECM) analysis techniques.

Effect of Sharia Stock Growth on Indonesia's Economic Growth in the Long and Short Term

Between 2014 and 2021, Sharia stocks in Indonesia experienced a significant growth of approximately 28%. In the third quarter of 2021, the market capitalization for Sharia stocks ranged from IDR 2,803,512.82 billion to IDR 3,595,742.20 billion, with 434 stocks included in the Sharia Stock calculation. While the growth of Sharia stocks in the long term has no significant effect on Indonesia's economic growth, in the short term, an increase in Sharia stock growth at lag 1 will have a positive response on Indonesia's economic growth, as supported by the research conducted by Tan and Shafi (2021) on Malaysia's economic growth. However, the financial sector dominates the primary factor that influences economic growth, and the percentage of Sharia stocks in the financial sector is only 1.71%, which is half of the IHSG's capitalization. Therefore, the long-term effect of Sharia stocks on Indonesia's economic growth is insignificant. Sharia stock shares are dominated by consumer goods, raw materials, and infrastructure, with finance, technology, transportation, and logistics being the sectors with the lowest shares. Finally, according to Islamic teachings, investment activities are meant to increase assets by assuming a zero interest rate and replacing it with a variable expected profit (r) that denotes the category of each business unit, which has been practiced since the time of the Prophet Yusuf, as stated in the Qur'an's Surah Yusuf: 47–49.

The Long and Short-Term Impact of Sukuk Growth on Indonesia's Economic Growth

As of September 2021, the outstanding bonds in Indonesia totaled IDR 4,871.35 trillion, with 91% (IDR 4,443.96 trillion) comprising government bonds and Sukuk, and the remaining 9% (IDR 427.39 trillion) consisting of corporate bonds and Sukuk. Corporate Sukuk accounted for 9% (IDR 37.16 trillion) of the market share of corporate bonds, while SBSN represented 27% (IDR 1,188.07 trillion) of the total market share of government bonds. Despite still having a smaller market share than conventional bonds, SBSN and corporate Sukuk have grown substantially in the past seven years, from IDR 184 trillion in 2014Q1 to IDR 1,188 trillion in 2021Q3.

This study investigated the long-term and short-term impact of corporate Sukuk and SBSN on Indonesia's economic growth between 2014Q1 and 2021Q3. The results suggest that the growth rate of corporate Sukuk and SBSN in circulation could surpass the country's economic growth in both the long and short term. However, the statistical tests revealed a negative sign for the Sukuk coefficient value and a probability value smaller than the critical value of 5%, indicating that a one-unit increase in Sukuk could cause a decline in GDP of 0.217253 units in the long term and 0.269213 units in the short term. Thus, we can conclude that Hypothesis 2, which assumes a positive impact of Sukuk growth on Indonesia's economic growth, is not supported.

This study shows that the growth of Sukuk, a type of Islamic financial instrument, does not have a significant positive effect on Indonesia's economic growth. This finding supports previous studies by Ledhem (2020) and Smaoui and Nechi (2017), but contradicts findings by Ridlo et al. (2021) and Tan and Shafi (2021), which only focused on corporate Sukuk while this study also included state Sukuk in its analysis.

Sukuk is used by businesses and the government to fund projects and boost productivity. However, the statistical analysis in this study reveals a negative relationship between Sukuk and GDP. The government's debt to GDP ratio has also significantly increased to 41.38% as of September 2021, which could affect economic growth.

One reason for the negative relationship is that the majority of Sukuk is denominated in US dollars, leading to increased yield payment obligations when the IDR-USD exchange rate increases. Additionally, corporate Sukuk has a much smaller market share compared to corporate bonds, and state Sukuk faces issues with transaction infrastructure and regulatory concerns.

To promote the development of state Sukuk, the study suggests optimizing project-based financing or using Sukuk to finance the state budget deficit, as well as modifying the tax burden on Sukuk to make it more competitive in the capital market.

The Influence of Islamic Banking Expansion on Indonesia's Long and Short-Term Economic Growth

The emergence of the Islamic banking sector in Indonesia began with the establishment of Bank Muamalat in 1991, followed by the operation of Islamic commercial banks and business units under private and public ownership. As of September 2021, there were 15 Islamic commercial banks and 20 Islamic business units in Indonesia with total assets of IDR 418,766 billion and IDR 211,575 billion, respectively (OJK, 2021). However, statistical analysis shows that Islamic banking growth does not have a significant impact on Indonesia's economic growth in both the short and long term.

The probability values of 0.1024 and 0.0973 in the short and long term, respectively, are greater than the critical value of 0.05, indicating the rejection of H3. This is consistent with previous studies by Gani and Bahari (2021), Ledhem and Mekidiche (2020), and Mensi et al. (2020), which suggest that the high level of profit-sharing in Islamic banking financing distribution leads to unproductivity and a lower market share compared to conventional

banking, resulting in a negative effect on GDP. Another potential reason for the lack of significance between Islamic banking growth and Indonesia's economic growth is the low market share of Islamic banking, which only accounts for 6% of the banking industry compared to conventional banking, which dominates 94%.

Furthermore, the growth of Islamic banking assets during the last seven years (2014-2021) has been slow, with a rate below 3%. Therefore, the government must take necessary measures, such as converting conventional banks into Islamic banks, to increase the size and market share of Islamic banking, maximize its contribution to economic growth through financing distribution and third-party fund collection, and achieve a more significant impact on Indonesia's economic growth.

The Impact of Islamic Insurance Development on Indonesia's Economic Growth in the Long and Short Run

The statistical test results indicate that the expansion of sharia-compliant insurance has the potential to stimulate Indonesia's economic growth in both the short and long term, although the effect is different. In particular, a short-term rise in INS is associated with a decrease of 0.426467 units in GDP, while a long-term increase in INS is linked to a boost of 0.355074 units in GDP. This finding is consistent with prior research conducted by Mainata & Pratiwi (2019), Mohy ul din et al. (2017), Muye & Hassan (2016), and Osei-Bonsu et al. (2021). The negative effect in the short term can be attributed to the fact that over 80% of sharia-compliant insurance investments are allocated to the Islamic capital market, which is highly volatile.

Additionally, according to Batorshyna et al. (2021), the lack of profitability and failure to expand assets in line with modern innovation and development trends may be the underlying cause of this negative relationship. Conversely, in the long term, sharia-compliant insurance has a positive impact, as evidenced by its assets, which tripled from IDR 18,411.91 billion in 2014Q1 to IDR 43,681 billion in 2021Q3. As of September 2021, sharia insurance contributed nearly 17% of the total assets to GDP. Furthermore, there was growth in sharia life insurance (87.26%), sharia general insurance (8.67%), and sharia reinsurance (4.07%).

Conclusion

According to the study, the growth of Indonesia's Sharia Stock Index does not have a significant impact on economic growth in the long term, although it does have a positive effect on GDP growth in the short term. This could be due to several factors, such as the low proportion of financial sector stocks in the index and the increasing government debt to GDP ratio. The growth of Sukuk, a type of Islamic bond, also has a negative effect on economic growth in both the long and short term. Furthermore, the growth of Islamic banking does not appear to have a significant impact on economic growth in either the long or short term, as it only represents a small portion of the national banking assets.

However, the expansion of sharia insurance has been found to have a significant positive impact on economic growth in the long term, despite having a negative effect in the

short term. This is largely due to the significant contribution of sharia insurance assets to GDP, which reached almost 17% of the total assets in 2021. It is important for government institutions to collaborate to maximize the use of Islamic financial services, with a focus on developing infrastructure, education, and financial literacy in Islam for all levels of society, from urban to rural areas and from elementary to college education.

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