

Research Paper

Islamic Finance-Growth Nexus: Evidence from Indonesia

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ABSTRACT

Previous work on the financial industry, which covers the entire financial services sector and is related to economic growth, has remained limited. This present study empirically analyzed the growth of Indonesia's three main sectors of the Islamic Financial Industry (Islamic Capital Market, Islamic Banking, and Islamic non-bank Financial Industry) towards economic growth between 2014Q1 and 2021Q3. The quarterly data was processed through the ARDL Bound-test for cointegration and Error Correction Model (ECM). The research revealed three of the four research variables (sharia stock, Sukuk, and sharia insurance) that significantly affect GDP, while Islamic banking shows no significant effect on GDP. As a result, Indonesian Islamic banks must optimize funds for the productive sector. Future policies should consider maximizing the role of the Islamic financial industry to accelerate economic growth.

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Introduction

Economic growth, as measured by Gross Domestic Product (GDP), has become an essential goal for each country to achieve since it can be used as a benchmark for state development, the impact of economic policies, and population welfare (Nnadozie & Jerome, 2019). In terms of business fields, Indonesia's GDP is made up of nine business fields (sectors), one of which is the financial sector (BPS, 2021). The financial sector is related to economic growth through its function of distributing funds to sectors in need so that a developing financial sector will strengthen the allocation of sources of funds for

productive use, and thus be able to increase economic growth (Grassa & Gazdar, 2014). Furthermore, OJK explicitly stated in the publication of the Indonesian Financial Services Sector Master Plan 2021-2025 that the financial services sector is the lifeblood of the economy, and that it is required to sustainably maintain financial system stability to contribute optimally to national economic growth (OJK, 2021). Hence, it can be concluded that the financial sector holds primary control as the engine of the economy in each country.

The Indonesian Islamic financial service sector is grouped into three main sub-sectors: the Islamic capital market sector, the Islamic banking sector, and the Islamic non-bank financial industry (IKNB) sector. The Islamic capital market has shown significant developments, one of which is the support of the 2015-2019 Sharia Capital Market Roadmap, which is reflected in an increase in the number of assets with a sharia stock market capitalization of 43.98% in 2020 (OJK, 2021). Sharia stocks account for more than 80% (IDR 3,744.82 trillion) of total Islamic capital market assets, followed by Sukuk issued by corporations and sovereign sukuk (SBSN) (16.86%) and sharia mutual funds (1.18%).

In addition to the capital market, the banking industry, including Islamic banking, is the main and most important sector in growing a country's economy. The intermediary function in the banking sector to channel funds from surplus parties to deficit units such as through financing mechanisms at Islamic banks has been demonstrated to improve the Indonesian economy (Supriani et al., 2021). Another sub-sector is the Islamic non-bank financial industry, which includes the sharia insurance industry, sharia pension funds, sharia financing institutions, and other sharia financial service institutions, all of which play an important role in a country's economic growth. According to non-bank financial industry statistics, there are 14 Sharia Industry Units and 46 Sharia Investment Package Company Units as of July 2021. As of September 2021, the assets of the sharia insurance industry had tripled to IDR 43.68 trillion, with a gross contribution to GDP of IDR 16.89 trillion. As a result, sharia insurance is currently in high demand as an alternative to existing conventional insurance, and it is expected that this trend will continue in the future (Effendi, 2021).

This study investigates the relationship between the independent variable and the dependent variable in the long and short term because the economic system requires time to fully respond to the occurrence of stimulus or policy both domestically and internationally. Of the various existing methods, ARDL has advantages over other methods first, it can be used in small-sample research, such as studies on new phenomena. Second, sharia banking assets, sharia insurance, outstanding Sukuk, and capitalization of sharia stocks data are still relatively new, having been collected in 2014. Third, Estimate the model's long-term and short-term components simultaneously, and eliminate problems like autocorrelation. This method can distinguish between exogenous and endogenous variables.

Research conducted by Gani and Bahari (2021) from 1998 to 2017 in Malaysia concludes that Islamic banking, through financing and deposits, is said to have a significant positive impact on Malaysia's economic growth. These findings are also consistent with studies in Nigeria from 2013 to 2020 (Tabash et al, 2022), and in Turkey from 2013 to 2019 (Ledhem & Mekidiche, 2021). From these previous studies, there are limitations to research that examines the financial industry as a whole and relates it to

economic growth. Furthermore, research on the Islamic financial industry is still very limited, as the majority of existing studies only look at the financial industry in the stock/capital market sector (Kapaya, 2020; Tan & Shafi, 2021), banking (Anwar et al., 2020; Elmawazini et al., 2020; Ledhem & Mekidiche, 2020; Supriani et al., 2021), bonds (Ledhem & Mekidiche, 2021; Smaoui & Nechi, 2017), and the insurance industry (Mainata & Pratiwi, 2019; Muye & Hassan, 2016; Osei-Bonsu et al., 2021) separately.

Previous research on the financial sector, which includes the entire financial services industry and is connected to economic growth, has remained sparse. As a result, this study examines all three major sectors of the Islamic financial industry, including the Islamic capital market, which includes indicators of Sharia stocks and Sukuk, Islamic banking, and sharia insurance as a representation of the Islamic Non-bank financial industry in Indonesia. Some of the novelties offered in this study include the use of data from the most recent period 2014-2021, the use of several new proxies such as the Indonesian Sharia Stock Index and total assets, the addition of sharia insurance variables, and the application of the ARDL-ECM method, which had previously been limited to use by previous researchers on this topic.

Hypotheses Development

Economic growth is characterized by an increase in economic activity, resulting in an increase in goods and services produced by the community (Popov, 2017). GDP is a measure of economic growth that occurs in a country. Because financial services and insurance are included in this measurement sector, the GDP growth rate based on the category of business fields at constant prices in 2010 taken from BPS was used in this study; additionally, that growth will be relevant if it refers to constant prices. The four independent variables in this study are explained in the next paragraph.

Stock market capitalization is commonly used as a proxy for Stock Market Development (SMD) to see its relationship to economic growth (Kapaya, 2020; Pradhan et al., 2020). This study applied the Indonesia Sharia Stock Index (ISSI) as a proxy for the growth of Sharia stock. It describes the price performance of all sharia stocks included in the Sharia Securities List (DES) as determined by OJK (IDX, 2021).

Specifically, if sharia stocks grow, the economy will benefit because they become a source of funding for companies that are already listed on the stock exchange, boosting production, innovation, and resource allocation efficiency (Tan & Shafi, 2021) and sales of goods or services to consumers to drive the economy. In the 1910s, Schumpeter proposed that stock markets provide finance to businesses by allowing them to purchase new technologies, thereby promoting economic growth (Thaddeus et al., 2021). This phenomenon is frequently observed in publicly traded companies that sell a portion of their share ownership to the public. As a result, the company will receive capital as well as public attention through media coverage to market the traded products or services. Thus, the following relationship is hypothesized:

H1: *Indonesia Sharia Stock Index has a significant positive effect on Indonesia's economic growth.*

The outstanding Sukuk is the most commonly used in the research of some of the proxies for the growth of Sukuk in measuring the growth of Sukuk (Abrorov, 2020). This

study makes use of the remaining outstanding corporate Sukuk and SBSN. If the outstanding value rises, the economy will benefit because it indicates that government projects funded by SBSN have been completed and can be used. In that case, one example is infrastructure, such as toll roads, which can increase transactions and economic mechanisms in Indonesia. Furthermore, the rise in outstanding corporate Sukuk indicates a high level of productivity in the form of more goods and services offered (Ledhem & Mekidiche, 2021; Tan & Shafi, 2021). Nneka (2022) asserted that Sukuk, as a long-term capital source, is critical for real economic sustainability and growth, as well as the stability of the financial system. As a result, the following relationship is established:

H2: *Sukuk has a significant positive effect on Indonesia's economic growth.*

The growth of Islamic banking is measured through the growth of total assets of Islamic commercial banks (BUS) and Islamic business units (IUBU), from year to year in aggregate referring to the Sharia Banking Statistics (SPS) issued by the Financial Services Authority (OJK). The more funds collected and distributed to the real sector, the more the economy will grow and strengthen because real sector productivity can be directly experienced by people through the trading of goods and services. In other words, the banking sector has effectively served as an intermediary financial institution as evidenced by several research findings in Malaysia, (Gani & Bahari, 2021), Turkey (Ledhem & Mekidiche, 2021), and Nigeria (Tabash et al., 2022). In summary, as the number of Islamic banking assets grows, so will economic growth, because the increased number of assets can spur more financing distribution to corporate and individual businesses, resulting in increased productivity and economic growth.

H3: *Islamic banking has a significant positive effect on Indonesia's economic growth.*

Moreover, the growth of sharia insurance is measured by the growth of total assets of sharia insurance including sharia general insurance, sharia life insurance, and sharia reinsurance published by the OJK through statistics of sharia non-bank financial industry. In a study on sharia insurance, Mainata and Pratiwi (2019) concluded that increasing sharia insurance assets play a vital role in supporting economic growth. When sharia insurance assets increase, the economy responds with higher growth rates because a healthy investment climate improves, affecting the community's economy and national scale. Furthermore, the increase in sharia insurance assets suggests an increase in *tijarah* funds invested in the sharia finance sector, such as sharia stocks, Sukuk, and banking, to support the contribution of sharia finance to economic growth.

H4: *Sharia insurance has a significant positive effect on Indonesia's economic growth.*

Method

Research Design

To ensure that the objectives are met, this research is guided by a research question: How does the growth of the Islamic financial industry affect Indonesia's economic growth from 2014 to 2021? This study employs quantitative methods to examine specific samples, collecting data with research instruments and statistically analyzing it to test the hypotheses. Specifically, this study applies a time series data analysis approach using the Auto Regressive Distributed Lag (ARDL) analysis method. The data used in this study

were taken from official publications by the Central Bureau of Statistics (BPS), Sharia Banking Statistics (SPS) by the Financial Services Authority (OJK), and the Directorate General of Budget Financing and Risk Management Ministry of Finance of the Republic of Indonesia, which the general public can access.

Sample Selection and Data Sources

The data collected in Indonesian rupiah (IDR) units were converted into percentages because this study focuses on the phenomenon of growth between periods. The year 2014 was chosen as the starting point for the study because publicly available and accessible data for several variables began this year, with data ending in the third quarter of 2021 as of the most recent publication. The variable measurement in this study is presented in Table 1.

Table 1. Variable Measurement

Variable	Definition	Measurement	Notation	Source
Economic Growth (Y)	GDP Growth Rate (%)	$\frac{GDP_t - GDP_{t-1}}{GDP_{t-1}} \times 100$	GDP	Central Bureau of Statistics (BPS)
Sharia Stock Growth (X1)	Sharia Stock Capitalization Growth is measured through the price of the Indonesia Sharia Stock Index (%)	$\frac{ISSI_t - ISSI_{t-1}}{ISSI_{t-1}} \times 100$	ISSI	Financial Services Authority (OJK)
Sukuk Growth (X2)	Total growth of outstanding corporate Sukuk and sovereign Sukuk (%)	$\frac{OUTS_t - OUTS_{t-1}}{OUTS} \times 100$	SUKUK	DJPPR of the Ministry of Finance and OJK
Islamic Banking Growth (X3)	Total asset growth of Islamic commercial banks and Islamic business units (%)	$\frac{ASSET_t - ASSET_{t-1}}{ASSET_{t-1}} \times 100$	IBS	Islamic Banking Statistics (SPS) on OJK
Sharia Insurance Growth (X4)	Total sharia Insurance Asset Growth (%)	$\frac{ASSET_t - ASSET_{t-1}}{ASSET_{t-1}} \times 100$	INS	Statistics of Islamic non-bank financial industry on OJK

The population in this study were eleven sub-sectors of Islamic financial services in Indonesia consisting of Sharia stocks, state and corporate Sukuk, sharia mutual funds,

Islamic commercial banks, Islamic business units, Islamic Rural Banks (BPRS), sharia insurance, Islamic financial institution, venture capital, sharia pension funds, and other sharia non-bank financial industry. The sample selection technique used in this study is a purposive sampling method, with the researcher taking into account the dominance and size of total assets and market share owned by sharia stocks, corporate Sukuk and SBSN, Islamic commercial banks and Islamic business units, and insurance. sharia in comparison to other sub-sectors of sharia finance. As a result, sampling in this sub-sector is expected to represent the three major sectors of Islamic finance, namely the Islamic capital market, Islamic banking, and the Islamic non-bank financial industry.

Data Analysis

The Auto Regressive Distributed Lag (ARDL) analysis method introduced by Pesaran et al (2001) was the analytical technique of this study. According to Berteli et al. (2022), the ARDL assumes the field of econometrics that has the basic assumption that the variable itself can influence variables in several previous periods. Furthermore, research by Ghouse et al. (2018) states that the ARDL model can be used as an alternative tool to avoid spurious regression.

ARDL approach has advantages over other methods, namely (1) allowing research with a small sample, such as this study using quarterly data with a total of 30 data, (2) estimating the long-term and short-term components model simultaneously, and eliminating problems such as autocorrelation, and (3) distinguishing exogenous and endogenous variables, (4) avoiding pre-testing problems that are implicitly seen in the cointegration analysis of long-term relationships, and (5) feasible to be used for stationary variables at different levels, namely $I(0)$ and $I(1)$ (Nkoro & Uko, 2016).

To eliminate bias in study results, a robustness test was performed to assess reliability as a measure of consistency and validity, namely the accuracy of the proposed model between forecasting and actual results. The robustness test relevant to this research method consists of two categories, namely (1) diagnostic check (autocorrelation test using Breusch-Godfrey test Serial Correlation LM test and heteroscedasticity test using Breusch-Pagan-Godfrey test), and (2) stability model (CUSUM & CUSUMQ).

Results

According to GDP at constant prices in 2010, Indonesia's economic growth showed a positive trend during the 2014-2021 period, despite the fact that the percentage increase was still less than 2%. The greatest increase occurred in 2015, while the greatest decrease occurred in 2020 by 0.49% during the COVID-19 pandemic. This growth is influenced by a variety of factors, ranging from domestic policies to foreign economic conditions. The financial sector, which includes the Islamic finance sector and experienced rapid growth that doubled in the 2016–2020 period, is one of the sectors that hold the majority of control.

All research variables, including GDP (0.0000), Sharia Stock (0.0001), Islamic Banking (0.0117), and Sharia insurance (0.0010), have a probability value lower than the critical value of 5%, according to the findings of the unit root test using the ADF (see Table 2). The four variables are therefore stationary at the level of order $I(0)$, rejecting H_0 , while only Sukuk (0.0000) is stationary at the first difference $I(1)$. Through the results of the ADF test, it can be seen that there is 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
Sukuk	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
Sukuk	0.05	0.0000	Stationary

After all variables are declared stationary, the analysis process can be continued to the lag length test stage (see Table 3). Using three criteria, namely LR, FPE, and AIC in the lag length test and looking at the number of asterisks, Table 3 shows that lag 2 becomes the most optimal lag to be used in this study. The model selection summary also shows the same result.

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

Robustness or diagnostic tests are performed to eliminate potential bias and guarantee the validity of the proposed research model. Through the Breusch-Godfrey Serial Correlation LM Test, it is known that there is no autocorrelation between residuals in the research model. The residuals are normally distributed and there is no heteroscedasticity. The F-statistical probability value for both is greater than the critical value of 0.05.

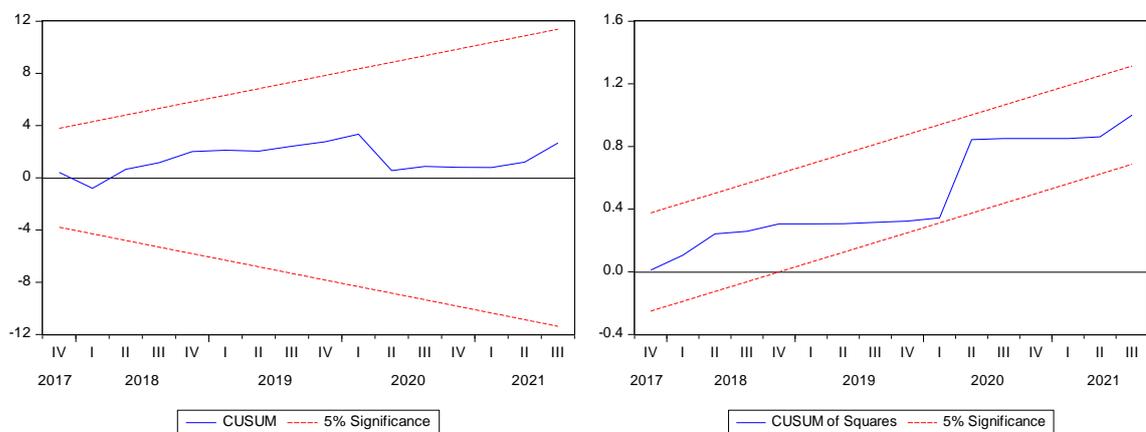


Figure 1. The Results of CUSUM and CUSUMQ Tests

The test stages of measuring the stability of the model are carried out with cumulative sum (CUSUM) and cumulative sum of square (CUSUMQ) tests. The test results in Figure 1 demonstrate that the graph does not cross the line's boundary, displaying that the model is declared correct, unbiased, stable, and capable of being used as a recommendation for policy.

The results of data processing using the Cointegration Bound test (see Table 4) show that three of the five 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) are the dependent variables. Therefore, rejecting H_0 indicates that the variables have a long-term relationship. To estimate the long-term effect and test the short-term effect, the testing phase will continue using ARDL analysis techniques.

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
Sukuk	38.55761	2.86	4.01	Yes
IBS	18.3807	2.86	4.01	Yes
INS	1.164514	2.86	4.01	No

Moreover, by contrasting the probability value and the critical value of 5%, the results of the long-term estimation can be seen (see Table 5). According to hypothesis 0, there is no evidence of a significant relationship between the research variables, while hypothesis 1 demonstrates such a relationship. The decision is made taking into account that if the probability value is greater than the critical value of 0.05, then accept H_0 , indicating that no significant relationship is found; however, if the probability value indicated by the variable is smaller than the critical value of 0.05, then reject H_0 , indicating that there is a significant effect.

Table 5. The result of Long-Run Estimation

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

By comparing t-count to t-table or p-value to a critical value, Table 5 illustrates the long-run relationship between each explanatory variable (Indonesia Sharia Stock Index, Sukuk, Islamic Banking, and sharia insurance) and the response variable (GDP) (0.05). The represented variable's movement has a significant influence on GDP, as evidenced by its significant status. According to Table 5, which compares the probability values of Sukuk ($0.0064 < 0.05$) and sharia insurance ($0.0022 < 0.05$) for the four variables under consideration,

only the growth of Sukuk and growth of sharia insurance have a significant effect on economic growth (GDP).

The growth of Islamic banks, however, has a probability value of 0.0973 and a probability value of 0.6580, both of which are higher than the threshold value of 0.05, indicating that their effect on GDP is not significant. It can be determined specifically from the coefficient value that a rise in Sukuk of one unit will result in a fall in GDP of 0.217253 units. On the other hand, a rise in sharia insurance can result in a 0.355074 unit increase in GDP.

With regards to short-term estimation, the analysis stage is continued after establishing a long-term equilibrium relationship between the variables under study by calculating the elasticity of the short-term effect between the independent variable and the dependent variable using the Error Correction Model (ECM). A significant negative CointEq value means that the observed short-term equation model can be declared valid. By comparing each probability value with a critical value, the decision is made; if the p-value is less than the critical value of 0.05, H₀ is rejected as having a significant influence on the other variables. Table 6 presents data processing results in estimating the short-term effect between 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(Sukuk)	-0.269213	-4.878654	0.0002	Significant
D(IFS)	-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
CointEq(-1)*	-1.915861	-9.820985	0.0000	Significant

As can be seen from Table 6, the variables GDP lag 1 (0.0003), Sharia stock lag 1 (0.0028), Sukuk (0.0002), and INS lag 1 (0.0015) have probability values that are less than the critical value of 0.05 in the short term, rejecting the hypothesis that each of these variables has a significant effect on GDP. While Sharia Stock, Islamic banking, and sharia insurance have no considerable effect since the probability value of each of these variables is greater than the critical value of 5%.

Discussion

This study empirically analyzed the growth of Indonesia's three main sectors of Islamic Financial Industry (Islamic Capital Market, Islamic Banking, and Islamic non-bank Financial Industry) towards economic growth between 2014Q1 and 2021Q3. The quarterly data were processed through 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

Sharia stocks experienced significant growth of about 28% from 2014 to 2021, beginning in 2014Q1. In 2021Q3, the market capitalization for Sharia Stock ranged from IDR 2,803,512.82 billion to IDR 3,595,742.20 billion. Data published by IDX as of September 2021 shows that there are 434 stocks included in the Sharia Stock calculation (IDX, 2021). There was a very significant increase in sharia stocks, which in 2014 only recorded 334 issuers. As of January 2021, the composition of Sharia Stock shares is dominated by three consumer goods (23.8%), raw materials (23.7%), and infrastructure (14.3%), among other sectors. The three industries with the lowest shares, on the other hand, are finance (1.7%), technology (0.6%), and transportation and logistics (0.3%).

Based on the results of the ARDL test, the long-term growth of Sharia stocks over the long term has no significant effect on Indonesia's economic growth, with a probability value of 0.658 indicating a number higher than the critical value of 5%. On the other hand, in the short term, if the Sharia stock growth at lag 1 increases, Indonesia's economic growth will respond positively. Specifically, through the coefficient value, it is known that an increase of one Sharia Stock unit in the previous quarter will be responded to by an increase in GDP of 0.212069 units in the short term. Thus, it can be concluded that hypothesis 1 which states that the growth of Sharia stocks has a positive effect on Indonesia's economic growth is accepted.

This finding is supported by research conducted by Tan and Shafi (2021) which states that Sharia stocks have a significant positive effect on Malaysia's economic growth, it supports the supply leading hypothesis. When compared to the IHSG, which reached 27.02% with a predominance of financial sector shares up 37.1% as of January 2021, Sharia Stock performance through returns only reached 18.87%, which is one of the reasons for the finding of an insignificant effect between Sharia Stock and GDP in Indonesia over the long term.

The financial sector is the primary factor influencing economic growth, but the percentage of sharia stocks in the financial sector is only 1.71%. However, the financial sector, which includes bank shares like BBCA, BBRI, and BMRI, has the highest market capitalization ratio in the IHSG, with an average of IDR 500 trillion. Another factor is that, as of September 2021, the capitalization of sharia stocks was only IDR 3,595 trillion, or half of the IHSG's capitalization of IDR 7,711 trillion. As a result, the long-term effect of sharia stocks on Indonesia's economic growth has been insignificant.

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. The Qur'an's Surah Yusuf: 47–49 encloses the investment-related teaching that has been practiced since the time of the Prophet Yusuf.

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

According to OJK data as of September 2021, there was IDR 4,871.35 trillion worth of outstanding bonds of that date. Of that amount, 91% (IDR 4,443.96 trillion) were government bonds and Sukuk, while the remaining 9% (IDR 427.39 trillion) were bonds and corporate Sukuk. In particular, corporate Sukuk accounts for 9% (IDR 37.16 trillion) of the market share of corporate bonds, while SBSN records for 27% (IDR 1,188.07 trillion)

of the total market share of government bonds. Despite still having a smaller market share than the conventional bond, SBSN and corporate Sukuk have grown ten times in the past seven years, from IDR 184 trillion in 2014Q1 to IDR 1,188 trillion in 2021Q3.

This study provided evidence that the number of corporate Sukuk and SBSN that were still in circulation between 2014Q1 and 2021Q3 could grow at a faster rate than the economy of Indonesia, both in the long term and the short term. This finding refers to the decision-making that there is a probability value smaller than the critical value of 5% and a negative sign indicated by the Sukuk coefficient value. According to the findings of statistical tests, a one-unit increase in Sukuk will cause a long-term and short-term decline in GDP of 0.217253 and 0.269213 units, respectively. We can therefore draw the conclusion that Hypothesis 2, which asserts that the growth of Sukuk has a positive effect on Indonesia's economic growth is rejected.

This research confirms [Ledhem \(2020\)](#) and [Smaoui and Nechi \(2017\)](#) who state that the development of Sukuk does not significantly affect economic growth. However, in contrast to [Ridlo et al. \(2021\)](#) and [Tan and Shafi \(2021\)](#), the difference in results is most likely because the data used in the two studies only covers corporate Sukuk, while in this study a combination of corporate and state Sukuk is used. Sukuk is a source of funding for businesses looking to boost marketing, innovation, and productivity. Sukuk is also used by the state to finance government-funded projects and the state's budget shortfall concurrently. Therefore, productivity outcomes and successfully completed projects will have a direct effect on society and will be addressed through economic growth in a nation. But statistical analysis reveals that the relationship between Sukuk and GDP has a negative direction.

First, the government debt to GDP ratio significantly increased to 41.38% as of September 2021, providing support for the study's findings (IDR 6.711,52 trillion). In contrast, the ratio in earlier years was consistently kept below 30%. Government debt is dominated by SBN at 87.72%. (IDR 5.887,67 trillion). Second, The IDR-USD exchange rate increased, reaching nearly IDR 17,000 in April 2020, and SBSN denominated in US dollars reached 83.19% at the same time. This resulted in increased yield payment obligations with the majority of Sukuk *ijarah* contracts. Third, As of September 2021, SBSN's market value (IDR 805,15 billion) was still far behind SUN's (IDR 3.332 billion), which had grown to be four times as valuable as SBSN and accounted for 81% of all sovereign bonds. However, compared to corporate bonds (95.5%), the market share of corporate Sukuk (from corporate issuance) is far behind (4.5%).

[Laila and Anshori \(2021\)](#) conclude that government commitments, transaction infrastructure, and regulatory issues are the top three issues preventing the development of state Sukuk. Two suggestions are made: optimizing project-based financing or the state budget deficit using the Sukuk instrument, and modifying the tax burden on Sukuk and bonds so that Sukuk can compete fairly in the capital market.

Effect of Islamic Banking Growth on Indonesia's Economic Growth in the Long and Short Term

With the establishment of the Bank Muamalat in 1991, Indonesia saw the emergence of the Islamic banking sector. Gradually, Islamic commercial banks and Islamic business units started to operate under both private and public ownership. There were 15 BUS and

20 UUS in Indonesia as of September 2021, and their respective assets totaled IDR 418,766 billion and IDR 211,575 billion (OJK, 2021). Statistical tests show that in the long term and short-term Islamic banking cannot significantly affect Indonesia's economic growth. Each probability value indicates this in the long term (0.0973) and short term (0.1024) which is greater than the critical value of 0.05. Thus, it can be concluded that the rejection of H_0 means that the growth of Islamic banks does not significantly affect Indonesia's economic growth.

This is in line with Gani and Bahari (2021), Ledhem and Mekidiche (2020), and Mensi et al. (2020) that due to the high level of profit-sharing in financing distribution, makes it unproductive and causes Islamic banking to have a lower market share than conventional banking, Islamic banking has a negative effect on GDP. The market share of Islamic banking is still only 6% of the entire banking industry, compared to conventional banking, which dominates 94% of the banking market share, as one of the potential explanations for the lack of significance between the growth of Islamic banking and Indonesia's economic growth. Second, During the final seven years of 2014–2021, the growth of Islamic banking assets is still comparatively slow—below 3%. Hence, the conversion of conventional banks to Islamic banks is a necessary policy that the government must put into action to increase the size and market share of Islamic banking and maximize its contribution to economic growth through the distribution of financing and the collection of third-party funds (Elmawazini et al., 2020).

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

According to the research results of statistical tests, the growth of sharia insurance can stimulate Indonesia's economic growth both in the long term and the short term, but in a different direction. In particular, a short-term increase in INS would result in a decrease in GDP of 0.426467 units, whereas a long-term increase in INS would result in an increase in GDP of 0.355074. This supports previous research (Mainata & Pratiwi, 2019; Mohy ul din et al., 2017; Muye & Hassan, 2016; Osei-Bonsu et al., 2021). The negative effect in the short term occurs because more than 80% of the sharia insurance investment portfolio is placed in the Islamic capital market with high volatility. Moreover, Batorshyna et al. (2021) asserted that the lack of profitability and inability to grow their assets in line with modern innovation and development trends may be the root of the negative relationship. Meanwhile, in the long term, over the four-year period from 2014 to 2021, assets increased significantly, growing by up to three times. This demonstrates the beneficial impact of sharia insurance. It started at IDR 18,411.91 billion in 2014Q1 to reach IDR 43,681 billion in 2021Q3. Of these assets, as of September 2021, the contribution of sharia insurance to GDP reached almost 17% of the total assets. On the other hand, there was growth as a result of the increase in the sharia life insurance (87.26%), sharia general insurance (8.67%), and sharia reinsurance (4.07%).

The sharia insurance sector provides the general public with services for property, health, and life protection. The operation of *tabarru'* is advantageous for both oneself and others thanks to the concept behind it. The concept of risk sharing enhances a favorable investment climate and promotes local economic development to boost the national economy (MES, 2018). Additionally, this concept is also in line with three of the five

principles of Islamic *maqashid* promoted by Imam Asy-Syatibi, namely protecting the life (*hifzu nasf*) and protecting offspring (*hifzu nasab*) in life insurance and sharia health insurance, and protecting property (*hifzu maal*) in sharia general insurance.

The potential inclusion of stocks in the list of sharia securities needs to be further evaluated, and OJK and DSN-MUI should encourage the listing of sharia companies on the stock exchange. Optimizing the issuance and use of corporate Sukuk and SBSN as funding instrument is crucial for companies and the state to encourage the role of Sukuk as a support for economic growth. Marketing on sharia insurance needs to be improved to increase the passion of Islam in terms of protection through the addition of members and the usefulness of the *tabarru* concept for the community. More encouragement from the government and other stakeholders is required when creating policies so that the advantages of Islamic banking can be felt for the expansion of the nation's economy. The conversion of conventional banks to Islamic banks, which must be expanded to other regions due to the significant potential of Islamic banking and the significant Muslim population, is one of these steps that can be taken.

Conclusion

Since the financial sector stocks, which are the primary drivers of economic growth, have the lowest proportion (1.7% vs. 37.1%), the growth of the Indonesia Sharia Stock Index does not have a significant effect on economic growth over the long term, but it does have a significant effect on GDP growth in the short term. The rising ratio of government debt to GDP, which reached 41.38%, the depreciation of the rupiah against the dollar, and the low market shares of SBSN (19%) and corporate Sukuk (4.5%) in comparison to conventional bonds may all be contributing factors to the growth of Sukuk, which has a significant adverse effect on economic growth both in the long and short term. Due to the low growth of Islamic banking assets (3%), and the market share has only reached 6% of all national banking assets, the growth of Islamic banking does not appear to have a significant impact on economic growth in the long or short term. Lastly, the expansion of sharia insurance has been found to have a significant negative effect on GDP in the short term, but a significant positive effect over the long term. The significant positive relationship between sharia insurance and GDP is largely due to the 17% contribution of sharia insurance assets to GDP. Because the Islamic financial sector has an effect on Indonesia's economic development, government institutions must work together to maximize the use of Islamic financial services. All levels of society, from cities to villages and at every educational level from elementary to college, should be able to benefit from infrastructure development, education, and financial literacy in Islam.

Authors' Declaration

The authors made substantial contributions to the conception and design of the study. The authors took responsibility for data analysis, interpretation, and discussion of results. The authors read and approved the final manuscript.

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