# DOES ISLAMIC FINANCE DRIVE ECONOMIC GROWTH IN INDONESIA? AN ANALYSIS USING VECTOR ERROR CORRECTION MODEL

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#### **ARTICLE HISTORY**

#### Received:

28 February 2025 Revised 24 March 2025 Accepted: 21 May 2025 Online available: 28 May 2025

#### Keywords:

Islamic Finance, Economic Growth, Vector Error Correction Model.

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#### ABSTRACT

**Introduction**: Indonesia, as the second-largest Muslim-majority country in the world, has significant potential for developing the Islamic finance sector. On the other hand, the financial sector, including Islamic finance, plays a crucial role in a country's economic growth.

**Methods**: This study utilizes quarterly time-series data from 2011 to 2023, with economic growth (GDP) as the dependent variable. The independent variables include Islamic banking assets, outstanding sukuk value, and total zakat distribution. The analysis is conducted using the vector error correction model (VECM), beginning with stationarity testing, optimal lag selection, cointegration testing, model estimation, and variance decomposition analysis.

**Results**: The analysis results indicate that, in the short term, Islamic finance (Islamic banking, sukuk, and zakat) does not have a significant impact on Indonesia's economic growth. However, in the long term, these three variables have a positive and significant effect on economic growth.

**Conclusion and suggestion**: Islamic finance has been proven to play an essential role in driving Indonesia's long-term economic growth. Islamic banking contributes through real sector financing; sukuk supports infrastructure development, and zakat enhances societal welfare and aggregate consumption. The government needs to strengthen Islamic financial infrastructure, improve financial literacy, and enhance the inclusivity of Islamic finance in Indonesia.

### INTRODUCTION

In recent years, many studies have discussed the relationship between the financial sector and economic growth (Boukhatem & Moussa, 2018). This is because some researchers believe that the financial sector has a very important role in real economic

growth, both at the national and international levels (Demirguc-Kunt et al., 2003; Love, 2003). This condition is based on the reason that when the economy is about to improve, the productivity of entrepreneurs must also be increased by providing entrepreneurs with credit aimed at financing new production techniques and interesting innovations (Schumpeter & Swedberg, 2021). Thus, it is not surprising that financial processes are able to increase economic growth and development (Goldsmith, 1959; Gurley & Shaw, 1955).

The financial sector that is developing and becoming the center of attention is the Sharia financial sector, this condition can be seen from Sharia financial assets which are predicted to reach \$5,955 trillion in 2025/2026, an increase of 49.4% compared to 2021/2022 (State of the Global Islamic Economy Report, 2023). The interesting thing about Sharia finance is that it not only covers the commercial sector (such as Sharia banking and Sharia capital markets), but also includes the social sector (such as zakat, infaq, alms and waqf). Therefore, it is not surprising that the Islamic financial sector is in line with global financial goals in the form of (1) social empowerment which has an impact on the real economy, (2) poverty alleviation, and (3) reducing income inequality (Nugraheni & Muhammad, 2023; Tamanni & Besar, 2019).

Indonesia is a country with good Sharia financial growth. Based on the State of the Global Islamic Economy Report, the position of Sharia finance is ranked 7th (State of the Global Islamic Economy Report, 2023). Apart from that, in the Islamic Finance Development Index, Indonesia is also ranked 3rd, with the highest score on the education indicator (LSEG & ICD, 2023). This condition is supported by the growth of Sharia financial assets in Indonesia which reached IDR 2,375 trillion in 2022, an increase of 15.86% from 2021 (Otoritas Jasa Keuangan, 2022). This rapid development of assets cannot be separated from Indonesia's population, which is predominantly Muslim, because the Muslim population plays an important role in the development of Sharia financial institutions (Hassan et al., 2011; Lebdaoui & Wild, 2016).

Islamic banks are part of the Islamic financial sector which has an important role in economic growth (Abduh & Omar, 2012; Chowdhury et al., 2018; Kassim, 2016). The fundamental difference between conventional banking and Sharia banking is that financial activities do not use an interest system, but instead use a profit sharing system (Junaidi, 2022; Salem & Abdelkader, 2023). This is because the use of interest is prohibited and strongly condemned by the Islamic religion (Gani & Bahari, 2021). This prohibition on interest also makes Sharia banks more resilient than conventional banks when a crisis occurs (Khediri et al., 2015). In Indonesia, Sharia banking is showing positive performance; in 2022 total assets and total third party funds (DPK) of Sharia banking will increase by 15.63% and 12.93%, respectively (Otoritas Jasa Keuangan, 2022). Apart from that, the growth of Sharia banking assets in Indonesia is also better than the growth of conventional banking assets (Otoritas Jasa Keuangan, 2022).

Sukuk is the main Sharia financial instrument that drives economic growth in various countries (Al-Ali, 2019; Lahsasna et al., 2018). Sukuk are debt securities or bonds that comply with Sharia, so that sukuk profits are not based on interest rates but on the performance of the underlying assets underlying the issuance of the sukuk (Ledhem, 2020). In Indonesia, there are two types of sukuk, namely sukuk issued by corporations and sukuk issued by the government. These two types of sukuk have equally good performance; based on Otoritas Jasa Keuangan (2022) the outstanding value of corporate sukuk is IDR 42.50 trillion, while the outstanding value of state sukuk is IDR 1,344.35 trillion.

Zakat is the third pillar of Islam and is a typical instrument in Islamic economics (Jedidia & Guerbouj, 2020). Zakat is also part of the Sharia financial sector, but does not have commercial value, but has social value. This is because zakat contributes to eliminating social challenges such as income inequality because zakat is expected to reduce wealth which is concentrated in only a few people (Abdullah & Suhaib, 2011; al-Qaraḍāwī, 2000). However, zakat is able to encourage economic growth through increasing aggregate consumption components such as consumption, investment and public expenditure (Jedidia & Guerbouj, 2020; Khasandy & Badrudin, 2019).

Previous research has revealed much of the relationship between Islamic finance and economic growth in various countries (Abd. Majid & Kassim, 2015; Furqani & Mulyany, 2009; Ledhem & Mekidiche, 2020; Suprayitno, 2020; Yüksel & Canöz, 2017). However, most previous research separates the commercial sector and the social sector in the Islamic finance industry. Therefore, this research aims to integrate these two sectors and analyze their impact on economic growth in Indonesia in the short and long term. The benefit of this research is that it provides comprehensive empirical insight into the relationship of Islamic finance (commercial and social sectors) to economic growth. In addition, the research findings are expected to be able to provide more holistic policy recommendations to encourage inclusive and sustainable economic growth in Indonesia through Sharia finance.

This paper consists of five sections, each discussing a different aspect. Section 1 discusses the introduction, which outlines the background and rationale for this research. Section 2 includes a literature review, particularly the impact of Islamic finance on economic growth. Section 3 discusses details regarding the data and research methodology used. Section 4 reports the findings and discussion. Finally, section 5 outlines the conclusions and recommendations.

### LITERATURE REVIEW

### **Islamic Finance and Economics Growth**

In talking about economic growth, this cannot be separated from the financial sector which is considered to have a very important role in the economic growth of a country. This opinion was first put forward by Schumpeter and Swedberg, (2021) who stated that the development of the financial sector has a significant influence on economic growth. This opinion is further strengthened by Bencivenga and Smith, (1991) who said that if a country's economic growth is to develop in the long term, then one of the strategic factors that must be implemented by the government is to develop the financial sector they have.

There are four hypotheses that can explain the relationship between the financial sector and economic growth (Butt et al., 2023). The first hypothesis is the supply-leading hypothesis which explains that the development of financial institutions and products will stimulate entrepreneurial activities, which will lead to increased economic growth. The second hypothesis is the demand-following hypothesis which explains that economic growth has a positive impact on the development of the financial sector. The next hypothesis is the feedback hypothesis, this third hypothesis is a combination of the two previous hypotheses, more specifically in this hypothesis it is stated that the development of the financial sector and economic growth have a two-way relationship. The last hypothesis is the neutrality hypothesis which explains that the development of the financial sector and economic growth have no relationship at all.

This study aims to reveal how Islamic finance influences economic growth in Indonesia. Therefore, the hypothesis used in this study is the first hypothesis, namely the supply-leading hypothesis. Previous studies (Elmawazini et al., 2020; Ledhem, 2020; Ledhem & Mekidiche, 2020, 2021; Saleem et al., 2021; Smaoui & Nechi, 2017) also support the first hypothesis.

### **Previous Study and Hypothesis**

Several studies have revealed a positive and significant relationship between Islamic banks and economic growth. Zirek et al. (2016) tested several variables in Islamic banks, namely total deposits, total assets, and total financing on economic growth in OIC countries. The findings of this study revealed that when the variables in Islamic banks increase, economic growth will also increase. Based on this, the hypothesis proposed in this study is:

H1: Islamic banks have a positive and significant effect on economic growth in Indonesia

It is not only Islamic banks that have an influence on economic growth. Previous studies have also revealed the relationship between sukuk and economic growth. Adela

(2021) revealed that the issuance of sukuk in Malaysia will increase economic growth in Malaysia. Thus, the hypothesis proposed in this study is:

H2: Sukuk has a positive and significant effect on economic growth in Indonesia

Previous studies revealed that not only the commercial sector of Islamic finance has an influence on the economic growth of a country, but the social financial sector also has the same influence, one of which is zakat. Jedidia and Guerbouj (2020) explain that zakat can have a positive and significant effect on economic growth. This is because the proper distribution of zakat can increase aggregate demand, investment, and aggregate public spending. Therefore, the hypothesis proposed in this study is:

H3: Zakat has a positive and significant effect on economic growth in Indonesia

### **RESEARCH METHODS**

### Data

This research uses time series data starting from the first quarter of 2011 to the last quarter of 2023 (2011Q1 – 2022Q4). The endogenous variable in this research is economic growth which is proxied by gross domestic product (GDP). Meanwhile, the exogenous variables used are Sharia bank as a proxy for total Islamic bank assets, sukuk as a proxy for the outstanding value of sukuk, and zakat as a proxy for total ZIS distribution. We obtained economic growth data from the Central Statistics Agency (BPS), while we obtained zakat data from financial reports issued by the Indonesian National Zakat Amil Agency (BAZNAS). Then we collected data about Sharia banking and sukuk from every report issued by the Financial Services Authority (OJK).

Symbol	Variable	Proxy	Source
In(GDP) Eco	Economic growth	Logarithm of Indonesia's GDP with an	Badan Pusat Statistik
		expenditure approach using current	(BPS)
		prices	
ln(IB)	Syariah banking	Logarithm of total Indonesian Sharia	Otoritas Jasa Keuangan
		banking assets	(OJK)
In(SUKUK)	Sukuk	Logarithm of the outstanding value of	Otoritas Jasa Keuangan
		sukuk	(OJK)
ln(ZAKAT)	Zakat	Logarithm of total distribution of ZIS	Badan Amil Zakat
		funds	Nasional (BAZNAS)

#### Table 1. Operational Definition of Variables

Source: Author (2024)

### Methodology

This research aims to determine the long-term relationship of the Sharia financial sector (syariah banks, sukuk and zakat) to economic growth in Indonesia in the short and long term. Therefore, the analysis technique used in this research uses the vector error

correction model (VECM) technique. However, before carrying out this analysis, several tests are required first, such as: stationarity test, optimum lag test, VAR stability test, and cointegration test. In addition , this research uses VDC analysis to measure the relative strength of each random innovation in certain variables on economic growth.

## **RESULT AND ANALYSIS**

## **Descriptive Statistics**

Concerning the results of statistical data processing carried out on Sharia financial and GDP data with a total of 52 observations, based on Table 2 it can be seen that the average value of ln(GDP) is 15.00090, ln(Zakat) is 24.65444, ln(IB) is 12.79825, and ln(SUKUK) of 2.727021. Meanwhile ln(Zakat) has the highest standard deviation, namely 1.220348.

	In(PDB)	ln(ZAKAT)	ln(IB)	ln(SUKUK)
Mean	15.00090	24.65444	12.79825	2.727021
Median	15.04755	24.40732	12.86502	2.681072
Maximum	15.48370	27.07429	13.67508	3.864092
Minimum	14.42220	22.29059	11.52475	1.686399
Std. Dev	0.300306	1.220348	0.566850	0.736806
Skewness	-0.164999	0.210279	-0.401164	0.118551
Kurtosis	1.999264	2.222501	2.298389	1.435682
Jarque-Bera	2.405806	1.692979	2.461305	5.423833
Probability	0.300321	0.428918	0.292102	0.066409
Sum	780.0469	1282.031	665.5092	141.8051
Sum Sq. Dev	4.599363	75.95176	16.38724	27.68701
Observation		5	2	

Source: Author (2024)

## **Stationarity Test**

The stationarity test is needed in research with time series data which aims to avoid false regressions. Therefore, a stationarity test using the ADF approach was carried out in this study. Based on Table 3, it can be seen that none of the research data are stationary at the level and all are stationary at the first difference level. The stationarity results show that the requirements for using VECM analysis have been achieved, but cointegration testing must be carried out first.

	At Level		First Difference	
Variable	T-Statistics	Prob	T-Statistics	Prob
ln(GDP)	-1.209578	0.6635	-7.754682	0.0000***
ln(IB)	-1.638605	0.4544	-4.698151	0.0004***
ln(SUKUK)	0.151258	0.9666	-9.819028	0.0000***
ln(ZAKAT)	0.025191	0.9560	-3512844	0.0119***

Source: Processed data (2024)

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## **Cointegration Test**

The cointegration test was applied in this research using the Johansen Cointegration Test approach which can be seen in Table 4. Based on Table 4, it can be concluded that the variables of Sharia banking, sukuk and zakat have a long-term relationship with economic growth. This can be seen in the probability value of the two hypotheses being less than 0.05.

Hypothesized	Trace	0.05	Prob**
No. of CE(s)	Statistics	Critical Value	Critical Value
None*	88.37784	47.85613	0.0000
At Most 1*	36.65149	29.79707	0.0069
At Most 2	7.999704	15.49471	0.4655
At Most 3	0.863046	3.841465	0.3529

Source: Processed data (2024)

### **VECM Estimation**

The results of VECM estimation in the short-term using lag 5 which can be seen in Table 5 show that Sharia banking, sukuk and zakat have an insignificant effect on economic growth in Indonesia. Apart from that, it is known that the Cointeq1 coefficient value is - 0.517364 and is significant, meaning that in this model there is an adjustment mechanism from the short term to the long term. Therefore, it can be concluded that errors in each quarter will be corrected by 51.73% to achieve the optimal economic growth target.

#### Table 5. Short-Term VECM Estimates

Variable	Coefficient	T-Statistics
Cointeq1	-0.517364	-3.25048***
D(IB(-1))	0.056949	0.27792
D(SUKUK(-1))	0.112005	1.86602
D(ZAKAT(-1))	-0.014774	-0.98693

Source: Processed data (2024)

Table 6 is the long-term VECM estimation result which shows that Sharia banking, sukuk and zakat have a positive and significant effect on economic growth in Indonesia. This can be interpreted as meaning that when Sharia banking, sukuk and zakat increase, the Indonesian economy will experience an increase.

### Table 6. Long-Term VECM Estimates

Variable	Coefficient	T-Statistics
IB(-1)	-0.656557	-13.8379***
SUKUK (-1)	-0.136322	3.78282***
ZAKAT (-1)	-0.055604	-2.41057***
С	-5.585429	

Source: Processed data (2024)

### Variance Decomposition

Variance decomposition is used in this research to assess the short-term dynamics of the relationship between Islamic banking, sukuk, zakat and economic growth. The variance decomposition results shown in Figure 1 provide information that Islamic banking has a significant proportion of GDP of around 0% - 35.5%. Meanwhile, sukuk has an average value of 0% - 8.3% and zakat has an average value of 0% - 4.7%.



Source: Processed data (2024)

### Discussion

Based on the VECM estimation results, it can be concluded that, in the long term, Sharia banking has a positive and significant influence on economic growth in Indonesia. In the last four years, total Sharia banking assets in Indonesia have experienced growth of higher than 10% (Otoritas Jasa Keuangan, 2022). The increasing total assets opens up great opportunities for Sharia banking to provide financing to the real sector, such as providing working capital and investment to MSMEs. Based on the report (Otoritas Jasa Keuangan, 2023), the provision of working capital and investment to MSMEs reached IDR 95,410 billion, 37.21% greater than in 2020 which only reached IDR 69,535 billion. Providing financing to real sectors such as MSMEs will certainly increase economic growth, because MSMEs are the industry that has the largest contribution to Indonesia's GDP.

In contrast to long-term findings, Islamic banking does not have a significant relationship with economic growth in the short term. This condition is caused by the size of the Sharia banking market in Indonesia which is still very small. Based on Otoritas Jasa Keuangan (2022), the market size of Sharia banking is only 7.09%, much smaller than

conventional banking which has a market size of 92.91%. The very small size of the Sharia banking market certainly has a limited impact on Sharia banking in influencing economic growth in Indonesia in the short term. The research findings are consistent with previous research findings (Abduh & Omar, 2012; Atici, 2018; Gani & Bahari, 2021; Rafay & Farid, 2017) which revealed that Islamic banking has an important influence in determining a country's economic growth.

In addition, this research reveals that, in the long term, sukuk have a positive and significant influence on economic growth in Indonesia. This is because sukuk are used to finance various infrastructure projects, which can increase economic efficiency and productivity so that ultimately they can increase economic growth in Indonesia. There are at least 578 road construction infrastructure projects and 130 land, sea and air transportation infrastructure projects financed by state sukuk (Otoritas Jasa Keuangan, 2022). In the short term, sukuk do not have a significant effect on Indonesia's economic growth. This is because the majority of sukuk in circulation have a tenure of more than three years, namely 144 series or 67%, while sukuk with a tenure of only 1-3 years amount to 77 series or 33% of the total sukuk in circulation (Otoritas Jasa Keuangan, 2023). Therefore, in the short term, the role of sukuk in economic growth is still not visible. This research is in line with previous findings (Ledhem, 2020; Sari et al., 2018; Smaoui & Nechi, 2017; Yıldırım et al., 2020) which reveal that sukuk can increase economic growth.

In the long term, zakat has a positive and significant influence on Indonesia's economic growth. This is because the zakat paid by muzakki will be distributed to less fortunate people so that this will increase aggregate consumption and stimulate economic growth. Apart from that, zakat is also channeled to education with the aim of improving the quality of human resources, which will increase innovation and work productivity and ultimately improve the country's economy. Based on Baznas (2022), the ZIS funds distributed to the education sector are quite high, reaching IDR 902.95 million. However, in the short term, zakat does not have a significant influence on economic growth. This condition is caused by the distribution of zakat funds focused on direct cash assistance or basic needs whose impact on economic growth cannot be immediately seen. This is proven by the majority of ZIS fund distribution being aimed at the humanitarian sector where implementation is urgent such as accidents and disasters, at least zakat distribution in this sector reached IDR 1,704 trillion (Baznas, 2022). This research is in accordance with previous research which revealed that zakat can increase the country's economic growth (Athoillah, 2018; Jedidia & Guerbouj, 2020).

### CONCLUSION

This research aims to determine the influence of the Islamic finance industry on economic growth in Indonesia, both from the commercial sector and the social sector. Based

on testing the vector error correction model, it can be seen that Sharia banking, sukuk and zakat do not have a significant effect on Indonesia's economic growth. However, in the long term, Sharia banking, sukuk and zakat have a positive and significant impact on Indonesia's economic growth. Therefore, to increase Indonesia's economic growth, the government must further develop the Sharia financial industry.

The recommendations from this research are as follows: The Indonesian government is expected to be able to strengthen financial infrastructure such as technology so that Sharia financial operations can be more effective and efficient. Apart from that, efforts to increase Sharia financial literacy and inclusiveness must be carried out immediately so that many people know and use the Sharia financial industry. This research only focuses on Indonesia, so that further research can develop it by using more countries so as to gain a comprehensive understanding of the role of Islamic finance in the country's economic growth.

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