Best Journal of Administration and Management (BEJAM) ISSN: 2964-657X
Vol.4, No.3, 2026
pp. 159-174 https://doi.org/10.56403/bejam.v4i3.440

The Dynamics of Interdependence between Sharia Assets (ISSI, SUKUK) and the Macroeconomic System in Indonesia

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Article Information

Article History
Received, May 9, 2026
Revised, May 25, 2026
Accepted, May 26, 2026
Published, May 30, 2026

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ABSTRACT

This study aims to analyze the dynamics of interdependence between sharia assets, namely the Indonesian Sharia Stock Index (ISSI) and sukuk, with Indonesian macroeconomic variables using the Vector Autoregression (VAR) approach. The macroeconomic variables analyzed include the BI exchange rate, BI Rate, inflation, export value, money supply (M2), gold price, West Texas Intermediate (WTI) crude oil price, and the Industrial Production Index (IPI). The data used is a monthly time series for the period July 2011–December 2024 with a sample of 160 observations. The results of the stability test indicate that the VAR(1) model used is stable and suitable for further analysis. The Granger causality test indicates that most variables do not have a significant causal relationship, except for the exchange rate (KURS) which is proven to affect almost all other variables. The Impulse Response Function (IRF) test shows that most shocks to the ISSI, inflation, M2, gold, and WTI variables do not generate significant responses to other variables, while sukuk shows a positive response to shocks from the BI Rate, KURS, and IPI in the short term These findings emphasize the importance of strengthening Islamic financial instruments and exchange rate stability in supporting the integration of Islamic financial markets with the national macroeconomic system.

Keywords: ISSI, Sukuk, Macroeconomics.

1. INTRODUCTION

The Indonesian Islamic capital market has experienced significant development and become a vital economic force driving national economic growth (Nurhanifah, 2024). Islamic financial instruments such as the Indonesia Sharia Stock Index (ISSI) and sukuk have become increasingly popular investment options for both domestic and international investors due to their adherence to sharia principles, which prioritize fairness and sustainability (Muttaqi, 2024). The capitalization of the Indonesian Islamic capital market has increased substantially year after year, demonstrating growing investor confidence in sharia-based financial instruments (*Asian Development Bank*, 2021). This development not only contributes to the diversification of the national investment portfolio but also strengthens the foundation of the Islamic economy in Indonesia, the country with the largest Muslim population in the world (Muharam et al., 2019).

The dynamics of the relationship between macroeconomic variables such as the BI exchange rate, BI rate, and inflation with ISSI performance are fundamental aspects that need to be studied. Not only do macro variables influence ISSI, but ISSI movements also have the

potential to provide signals regarding macroeconomic conditions, for example in attracting foreign investment and influencing the stability of the Indonesian financial market (Sudarsono & Latifatunnisa, 2024). Research shows that the rupiah exchange rate and BI interest rate have a significant influence on ISSI in both the short and long term, while inflation shows varying impacts depending on economic conditions (L. Sari et al., 2025). Macroeconomic stability is an important prerequisite for the development of the Islamic capital market, considering that investors require predictability in making long-term investment decisions (Alam et al., 2020). Exchange rate fluctuations, changes in interest rates, and inflation rates not only affect people's purchasing power but also influence the flow of foreign capital into the Indonesian Islamic capital market (Zuhroh et al., 2018).

The development of sukuk as an alternative Islamic financing instrument has a strong correlation with monetary variables such as the money supply (M2), where increased liquidity in the economy tends to encourage the growth of the sukuk market and has a positive impact on economic growth (Mitsaliyandito & Arundina, 2018). According to the BI report, economic liquidity or broad money supply (M2) in December 2024 continued to grow. The M2 position in December 2024 was recorded at IDR 9,210.8 trillion or grew by 4.4% (yoy), after growing by 6.5% (yoy) in the previous month. This development was driven by the growth of narrow money supply (M1) by 5.8% (yoy) and quasi money by 0.3% (yoy) (Prakoso, 2025). The data has shown a consistent upward trend, reaching a significant proportion in the national economic structure with stable growth from year to year. Empirical research demonstrates that sukuk play a strategic role in supporting infrastructure financing and national development projects, and their growth is significantly influenced by Bank Indonesia's monetary policy (Asian Development Bank, 2021). The interaction between sukuk and monetary variables has become increasingly complex with the development of innovative sukuk instruments such as green sukuk and cash waqf-linked sukuk, which require adequate market liquidity support (Evi Mutiara Marpaung, 2025).

Global commodity factors, particularly West Texas Intermediate (WTI) crude oil and gold prices, also play a significant role in influencing the dynamics of the Islamic capital market (Ardian et al., 2024). Fluctuations in WTI crude oil prices impact fiscal stability, energy costs, and domestic inflation, which in turn influence investor sentiment towards Islamic bonds (ISSI) and sukuk. Meanwhile, gold is known as a safe-haven asset that is often an alternative investment during periods of global economic uncertainty. Rising gold prices can shift investor interest from Islamic capital markets to commodity assets, while declining gold prices have the potential to increase the attractiveness of Islamic financial instruments, including sukuk and ISSI (Nawatmi et al., 2025).

Export value are also fundamental indicators that cannot be ignored. IPI growth reflects the condition of the real sector, which in turn signals a positive impact on the performance of Islamic stocks. Conversely, industrial contraction can weaken the ISSI outlook and investor interest (As Shadiqqy, 2020). Similarly, strong export performance contributes to exchange rate stability, increased state revenue, and strengthened Islamic financial markets. Conversely, a slowdown in exports due to external factors can depreciate the rupiah exchange rate and weaken Indonesia's Islamic capital market (Apriliskan Fajri et al., 2020).

Empirical data shows that Indonesia's Islamic capital market capitalization has reached a significant proportion, with the ISSI encompassing over 400 sharia-compliant companies, while outstanding corporate and sovereign sukuk have continued to experience substantial increases in recent years (Franadita et al., 2024). Despite this encouraging growth, a significant research gap remains in understanding the complex interdependence of ISSI, sukuk, and the full spectrum of macroeconomic variables within a single, comprehensive analytical framework (Abustan & Mahyuddin, 2009). Previous studies have tended to analyze partial relationships between variables or used approaches limited to only a few variables,

thus failing to capture the complexity of systemic interactions within the Indonesian economy (Iman et al., 2020). This limitation is increasingly urgent to address given the complexity of global macroeconomic dynamics and the need for a holistic understanding of how various economic shocks simultaneously impact the Indonesian Islamic financial ecosystem (M. Juhro, 2008).

This study aims Analyzing the relationship between the Indonesian Sharia Stock Index (ISSI), sukuk market, exchange rate (BI Rate) inflation, sharia assets, and macroeconomic variables in Indonesia. This paper provide empirical contributions to the development of theory regarding the mechanism of simultaneous relationships between Islamic financial markets and the national macroeconomic system and expanded empirical insights into the transmission mechanisms of monetary policy and Islamic financial markets through assets such as sukuk and Islamic stock indices.

2. LITERATURE REVIEW

The relationship between capital markets and macroeconomics is explained through monetary economics and investment theory. According to Mishkin (2019), macroeconomic conditions such as inflation, interest rates, exchange rates, and the money supply have a direct impact on capital market performance. When inflation and interest rates rise, the cost of capital also rises, depressing stock and bond prices. Conversely, an increase in the money supply can boost market liquidity and increase demand for financial assets, including sharia-compliant assets (Fauzan & Suhendro, 2023).

In the context of sharia, this interaction adheres to the principles of Islamic finance, which link the monetary and real sectors in a balanced manner (real-economy linkage). Macroeconomic variables such as exchange rates, inflation, and conventional interest rates influence the performance of ISSI and sukuk through liquidity mechanisms, risk perception, and changes in the value of underlying assets (Umar, 2018). *The Vector Autoregression* (VAR) model developed by Sims (1980) provides an appropriate framework for analyzing the reciprocal relationship between the Islamic capital market and the macroeconomic system because it considers the dynamic interrelationships between variables without rigidly establishing the direction of causality.

The Indonesian Sharia Stock Index is a statistical measure that reflects the price movements of a group of Sharia-compliant stocks selected based on specific criteria. The Financial Services Authority (OJK) conducts the selection of Sharia-compliant stocks through the publication of the Sharia Securities List (DES) (Franadita et al., 2024). The Indonesia Stock Exchange (IDX) then uses the DES as a reference in selecting stocks for inclusion in its Sharia-compliant indices. The purpose of the Sharia index is to facilitate investors in finding Sharia-compliant investment benchmarks in the capital market. The IDX continues to develop Sharia indices in Indonesia to meet the needs of capital market players, for example through the launch of new indices such as the IDX Sharia Growth, which selects stocks based on liquidity, market capitalization, and financial performance (Bursa Efek Indonesia, 2025).

H1: *It is suspected that there is a significant relationship between the Indonesian Sharia Stock Index (ISSI) and macroeconomic indicators and other sharia assets in Indonesia.*

In Islamic finance literature, sukuk is often defined as a sharia-compliant financial instrument that provides proof of ownership (either full or beneficial) of a tangible asset or specific project, rather than as a debt that pays fixed interest. For example, Abubakar et al., (2023) refer to sukuk as a sharia-compliant certificate that provides ownership of a tangible asset and profit distribution based on asset performance, not interest. According to Law No. 19 (2008), sukuk are government securities issued based on sharia principles, as evidence of participation in State Sharia Securities Assets (SBSN), either in Rupiah or foreign currency. According to the DSN-MUI Fatwa, (2020), Sukuk are Sharia Securities (Sharia Securities) in the form of certificates or proof of ownership of equal value and representing an indefinite

portion of ownership (musya) of the underlying asset (Usul al-Shukuk), after the receipt of sukuk funds, the closing of the order, and the commencement of the use of funds according to their intended use.

H2: *It is suspected that there is a significant relationship between Sukuk and macroeconomic indicators and other financial assets in Indonesia.*

The Kurs is the reference exchange rate used in foreign exchange transactions between Bank Indonesia and other parties. According to Mankiw (2018), the exchange rate is the price of one unit of foreign currency in domestic currency, indicating the comparison of the values between the two currencies. The exchange rate plays a crucial role in determining a country's export and import competitiveness and is a key indicator in assessing macroeconomic stability. Furthermore, the exchange rate is also influenced by various factors such as inflation, interest rates, and the international balance of payments. According to Bank Indonesia (2020), the BI rate is the reference exchange rate used in foreign exchange transactions between Bank Indonesia and other parties and serves as the basis for determining daily transaction rates in banking. This rate reflects the price of one unit of foreign currency in rupiah and serves as the official reference for foreign exchange market intervention and reporting of foreign exchange transactions.

H3: *It is suspected that there is a significant relationship between the Kurs(exchange rate) and sharia asset variables and macroeconomic indicators in Indonesia.*

Inflation is a condition in which there is a general and sustained increase in the prices of goods and services in an economy over a certain period, resulting in a decrease in the purchasing power of money or the real value of the currency (Ha et al., 2019). The price increase in question is not limited to just one or two commodities, but rather covers most goods and services consumed by the public, so it is called a *broad-based* or comprehensive price increase. Inflation is also persistent, meaning that the price increase occurs continuously, not just temporarily. According to Ha et al. (2019), inflation is closely related to the expectations of economic actors and monetary policy, where the central bank uses instruments such as interest rates and money supply controls to maintain price stability. More broadly, inflation can also be understood as a sustained and broad-based increase in the price level. in the overall price level) which has an impact on social aspects and public policy (Béland et al., 2024).

H4: *It is suspected that there is a significant relationship between inflation and sharia asset variables and macroeconomic indicators in Indonesia.*

The BI Rate is the policy interest rate set by Bank Indonesia (BI) as a reference in implementing monetary policy to achieve the inflation target set by the government. The BI Rate reflects the attitude or stance of Bank Indonesia's monetary policy, whether it is tight to suppress inflation, or loose to encourage economic growth (Prasasti & Slamet, 2020). According to Bank Indonesia (2023), changes in the BI Rate affect banking interest rates, the money supply, aggregate demand, and ultimately the inflation rate and national economic growth. In modern monetary policy practice, the BI Rate is used as the main instrument to manage market expectations and maintain the stability of the Rupiah exchange rate. The formula for measuring the BI Rate. To model the adjustment of Bank Indonesia's benchmark interest rate (BI Rate) to the deviation of inflation and real output from its target.

H5: *It is suspected that there is a significant relationship between the BI Rate (reference interest rate) and sharia asset variables and macroeconomic indicators in Indonesia.*

Export value is the total monetary value of all goods and services sold by a country abroad during a specific period. This value is usually calculated in national currency or United States dollars (USD) and reflects a country's ability to generate foreign exchange and indicates the performance of the external sector of the economy (Ajija et al., 2021). According to the Central Statistics Agency (BPS, 2024), export value is measured based on free on board (FOB), which is the price of goods at the port before being shipped to the destination country,

excluding insurance and shipping costs. Export value reflects a country's international trade performance and is an important indicator in the balance of payments. *Export value* can also be used as an indicator of a country's economic growth. The higher a country's export value, the higher its economic growth (Ajija et al., 2021). Therefore, export value is very important for a country because it can influence the economy. To measure a country's external sector performance, export value is the main indicator that reflects the ability to generate foreign exchange through international trade. This value is usually calculated using the Free on Board (FOB) method, which reflects the price of goods at the port of export before being shipped to the destination country. Export Value is calculated in USD or Rupiah, depending on the reporting context.

H6: *It is suspected that there is a significant relationship between Export Value and Islamic asset variables and macroeconomic indicators in Indonesia.*

The broad money supply (M2) is a monetary indicator that reflects total liquidity in the economy. M2 includes currency circulating in the community, demand deposits in the form of checking account balances, and deposits in the form of savings and time deposits in banks. This indicator is used to assess the monetary conditions and stability of a country's financial system (Bank Indonesia, 2024). M2 is called broad money because it reflects the total economic liquidity available for transactions and investment. In monetary theory, excessive M2 growth without increasing real output can lead to inflationary pressures (Friedman, 1968). Several empirical studies have shown that M2 is closely related to inflation and long-term economic growth (Amaliyah & Aryanto, 2022). Bank Indonesia routinely monitors M2 to determine appropriate monetary policy to maintain price stability and the national financial system.

H7: *It is suspected that there is a significant relationship between the Money Supply (M2) and the variables of sharia assets and macroeconomic indicators in Indonesia.*

Gold has historically been viewed as a store of value and a hedge against financial risk and inflation. Gold, or precious metal, is an investment instrument that has been marketed since ancient times. Gold can convey positive or negative sentiment toward a country's currency, but it can also act as a long-term safe haven because it is a target for investors during times of market volatility (Sugiyanto & Robiyanto, 2022). Gold does not generate periodic returns like interest, so its value is highly dependent on market perceptions of macroeconomic conditions and real interest rates (Pratiwi & Awaluddin, 2024). In financial literature, gold is often used as an instrument for portfolio diversification due to its high liquidity and durability (Ahsanah Dina Nudia, 2022).

H8: *It is suspected that there is a significant relationship between Gold Prices and Islamic asset variables and macroeconomic indicators in Indonesia.*

West Texas Intermediate (WTI) is a type of crude oil that is used as a primary benchmark in determining oil prices in the United States. WTI is known as light sweet crude oil because it has a low density and low sulfur content, making it relatively high quality (Shabri & Samsudin, 2014). West Texas Intermediate (WTI) is used as a futures contract on the New York Mercantile Exchange (NYMEX) with a physical delivery point in Cushing, Oklahoma, which serves as a crude oil storage and distribution center in the United States (Wittner, 2020). WTI price movements are often used as a primary reference in determining global oil prices (Fernandez Perez et al., 2023). West Texas Intermediate (WTI) plays a crucial role in shaping global energy market relationships due to its characteristics as a high-quality crude oil with low density and low sulfur content, making it relatively easy to process and refine (Al-Uboodi, 2017).

H9: *It is suspected that there is a significant relationship between Crude Oil Prices (WTI) and Islamic asset variables and macroeconomic indicators in Indonesia.*

The Industrial Production Index (IPI) is a macroeconomic indicator used to measure changes in real output volume from industrial sectors such as manufacturing, mining, and

utilities, after adjusting for price changes to reflect the level of physical production activity (United Nations, 2013). The IPI serves as a primary tool in assessing the health of the industrial sector and is often used as a leading indicator of economic growth because its fluctuations reflect the dynamics of the business cycle (Fil, 2022).
H10: *It is suspected that there is a significant relationship between the Industrial Production Index (IPI) and the variables of sharia assets and macroeconomic indicators in Indonesia.*

3. RESEARCH METHOD

This research is a quantitative study with a dynamic causality approach (explanatory research). This approach is used because the study aims to explain the dynamics of the reciprocal relationship (interdependence) between sharia assets, namely the Indonesian Sharia Stock Index (ISSI) and Sukuk, with macroeconomic variables in Indonesia, such as the BI rate, inflation, export value, money supply (M2), gold prices, West Texas Intermediate (WTI) crude oil prices, and the Industrial Production Index (IPI). The analytical model used is *Vector Autoregression* (VAR), developed by Sims (1980). The VAR model was chosen because each variable in the system is assumed to influence each other simultaneously, without establishing a causal relationship unilaterally. Thus, this model is able to illustrate the interdependence and dynamic relationships between Islamic economic variables and the Indonesian macroeconomic system in both the short and long term. The data in this study includes all time series data representing sharia assets and Indonesian macroeconomic variables during the period July 2011 to December 2024.

The VAR model is a form of a system of simultaneous equations in which each endogenous variable is regressed against its own past value (lag) and the past values of other endogenous variables in the system. This approach is effective for analyzing both short-term and long-term dynamic relationships between economic variables. The first step is to ensure that the data used is stationary, meaning it has a constant mean and variance over time. Non-stationary data can lead to spurious regression results, invalidating the interpretation of the relationship between variables (Ahmed, 1972). .Stationarity tests are performed using the Augmented Dickey-Fuller (ADF) or *Phillips-Perron* (PP) test. In general, the ADF equation is written as follows:

$$\Delta Y_t = \alpha + \beta t + \gamma Y_{t-1} + \sum_{i=1}^{p} \delta_i \Delta Y_{t-i} + \varepsilon_t \quad (1)$$

If the probability value is less than the 5% significance level, the data is said to be stationary. Conversely, if the data is not stationary, it is transformed through first or second differencing until it reaches stationarity. This step is crucial because the VAR model can only be estimated with stationary data (Khim-sen, 2006). Once the data is declared stationary, the next step is to determine the optimal lag length (number of delays) for the VAR model. Optimal lag is used to ensure that the dynamics of the relationship between variables can be accurately captured without causing autocorrelation or overfitting (Enders, 2015). The smallest criterion value indicates the best number of lags to use in a VAR model (Enders, 2015). Selecting the right lag helps improve model accuracy and maintain the validity of the dynamic relationships between variables. The Granger causality test is conducted to determine the direction of the causal relationship between variables. This test does not assess the causal relationship theoretically, but empirically based on past data movements (Granger, 2008). The general equation of the Granger test is:

$$Y_t = \alpha + \sum_{j=1}^{p} \gamma_j Y_{t-j} + \sum_{i=1}^{p} \beta_i x_{t-i} + u_t \quad (2)$$

The results of this test indicate which variables are statistically able to influence other variables, thus illustrating the existence of a one-way or reciprocal relationship between all variables in the Indonesian Islamic economic model (Yilanci et al., 2021). IRF analysis is conducted to observe how a variable responds to shocks from other variables over a specific time period. IRF helps assess system stability and the speed of adjustment to economic change (Lütkepohl, 2005). The general formula of IRF can be written as:

$$Y_t = \mu + \sum_{i=0}^{\infty} \psi_i \varepsilon_{t-i} \quad (3)$$

The final stage is Variance Decomposition (VD) analysis. The goal is to measure the relative contribution of each variable in explaining the variation (fluctuation) of other endogenous variables (Enders, 2015). The general equation of VD is as follows:

$$Var\left(y_{i,t+h}\right) = \sum_{j=1}^{k} \sum_{s=0}^{h-1} \left(\psi_s(i,j)\right)^2 \sigma_{jj} \quad (4)$$

4. RESULTS AND ANALYSIS

This chapter presents the results of an empirical analysis of the relationship between the Indonesian Sharia Stock Index (ISSI), Sukuk, Exchange Rate, Inflation, BI Rate, Gold Price, Exports, Money Supply (M2), World Oil Price (WTI), and the Industrial Production Index (IPI) in Indonesia. The analysis was conducted using *the Vector Autoregression* (VAR) approach in the RStudio application to examine the causal relationships and dynamics between Islamic economic and financial variables in Indonesia.

Table 1. Results of the Phillips Perron Test (PP Test) for All Variables (log-difference)

Variables	Normal Data	log	log difference
ISSI	0.09	0.08357	0.01
Sukuk	0.01	-	-
Kurs	0.6611	0.9191	0.01
Inflation	0.3638	0.3686	0.01
BI Rate	0.7674	0.7623	0.01
Gold	0.7674	0.8749	0.01
Export	0.4228	0.3802	0.01
M2	0.9900	0.7312	0.01
IPI	0.0100	-	-
WTI	0.6541	0.5378	0.01

The Phillips-Perron test on the ISSI, Inflation, BI Rate, Gold, Exchange Rate, Export Rate, Export, M2, and WTI in *log-difference form* indicate that the p-value of 0.01 is less than the 5% significance level. Therefore, the null hypothesis is rejected, indicating that the ISSI variable is stationary after log-differencing (Table 1). This means that the log-difference transformation successfully overcomes the problem of non-stationarity at the previous level, and the variable meets the requirements for use in VAR model estimation.

Table 2 Results of Optimum VAR *Lag Selection*

Criteria	Best Lag
Akaike Information Criterion (AIC)	1
Hannan-Quinn (HQ)	1
Schwarz Criterion (SC)	1
Final Prediction Error (FPE)	1

Based on the calculation results of all lag selection criteria, all criteria selected lag = 1 as the optimum lag. This shows consistency between the criteria that the most appropriate VAR model for this research data is VAR(1).

Table 3 VAR stability test results

No	Root	Mark	Stability Criteria	Results
1	Root 1	0.9027	< 1	Stable
2	Root 2	0.5180	< 1	Stable
3	Root 3	0.4955	< 1	Stable
4	Root 4	0.3394	< 1	Stable
5	Root 5	0.3394	< 1	Stable
6	Root 6	0.2134	< 1	Stable
7	Root 7	0.2134	< 1	Stable
8	Root 8	0.1469	< 1	Stable
9	Root 9	0.1469	< 1	Stable
10	Root 10	0.02875	< 1	Stable

The results of the stability test show that all roots (characteristic roots) of the VAR model have values less than 1. In VAR analysis, the main requirement for the model to be declared stable or fulfill the stationarity properties in the VAR system is: All root values must be within the unit circle (absolute value < 1). The largest root value is 0.9027, and the others are smaller (0.51, 0.49, 0.33, 0.21, etc.). Since they are all < 1, the model meets all stability requirements.

Table 4. Results of Granger Causality

Variables	p-value	
ISSI	0.06032	*
Sukuk	0.08704	*
Kurs	0.02793	**
Inflation	0.2239	NS
BI Rate	0.2239	NS
Gold	0.9298	NS
Export	0.1600	NS
M2	0.0100	***
WTI	0.02875	**

Significant level * = (0.10), ** (0.05), *** (0.01), NS= Not Significant

The Granger test results show that the ISSI and Sukuk variable does not significantly influence the movement of other variables in the VAR system at a significance level of 5%, indicated by a p-value of 0.06032 and 0.08704 which is slightly higher than 0.05. However, at a significance level of 10%, this value can be considered significant so that ISSI has the potential to have a short-term influence on other variables such as sukuk, exchange, inflation, BI rate, gold, exports, M2, WTI, and IPI. Kurs variable has a significant causal influence on other variables in the VAR model, indicated by a p-value of 0.02793 which is smaller than the 5% significance level.

Based on the results of *the Impulse Response Function* (IRF), most of the shocks to the ISSI, inflation, M2, gold prices, and WTI variables did not cause a significant response to other variables in the VAR system, as seen from the response line which remained within the 95% confidence interval. A significant response only emerged for the SUKUK variable, particularly when shocks occurred to the BI Rate, the exchange rate (KURS), and the IPI. For all three shocks, SUKUK showed a positive response in the initial 24 periods before returning to equilibrium.

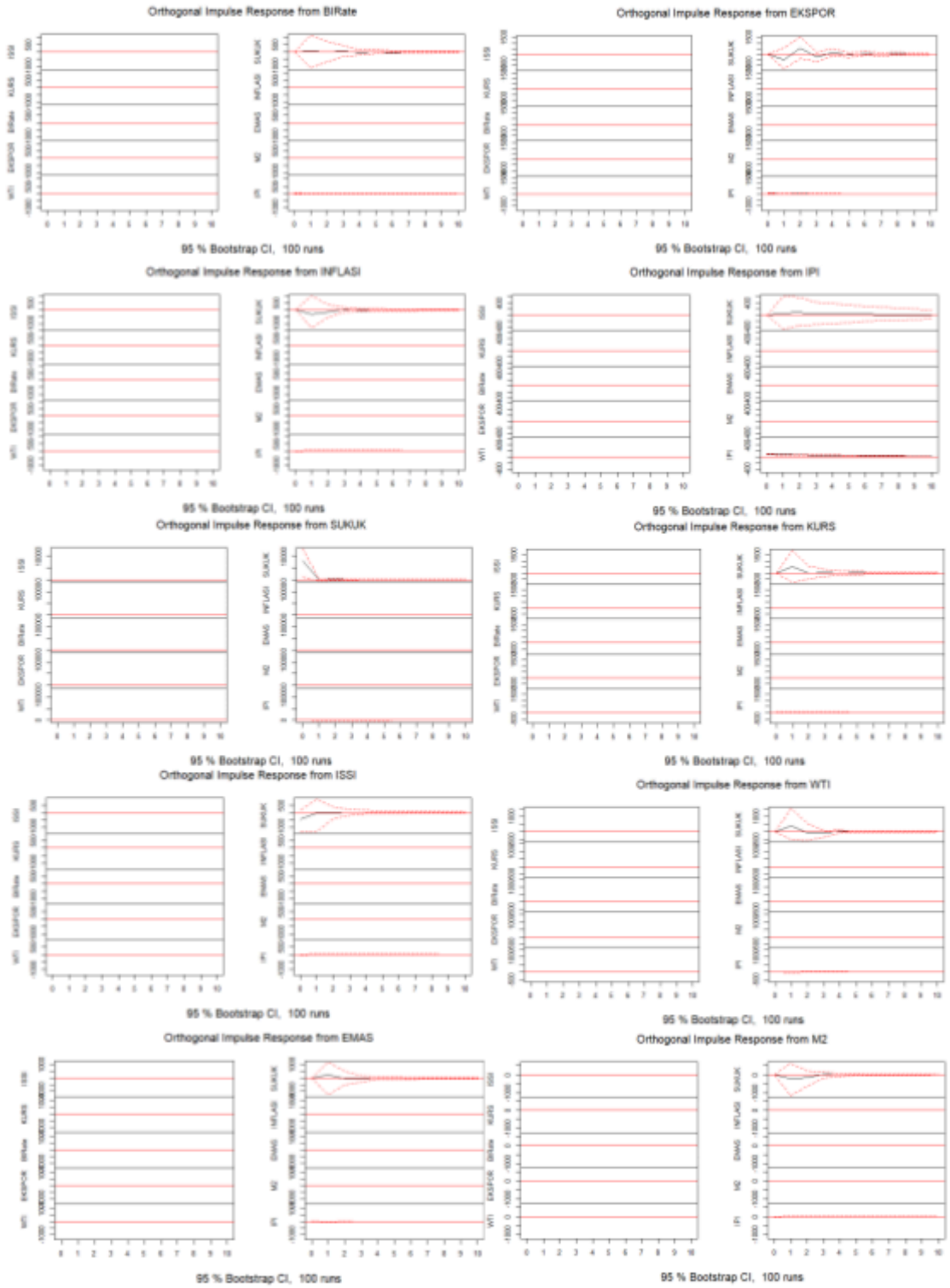

Figure 1. Impulse Response Function test results

This indicates that the transmission of short-term dynamics in the economic system occurs more through sukuk instruments than other macroeconomic variables. In general, the IRF results indicate that the structure of the relationships between macro and financial variables in the VAR model does not significantly influence each other, with the minor exception of the short-term response of SUKUK to some shocks. This finding aligns with the Granger test results, which also indicate a lack of direct causality between the variables. Based on the results of the Impulse Response Function (IRF), most of the shocks to the ISSI,

inflation, M2, gold prices, and WTI variables did not cause a significant response to other variables in the VAR system, as seen from the response line which remained within the 95% confidence interval. A significant response only emerged for the SUKUK variable, particularly when shocks occurred to the BI Rate, the exchange rate (KURS), and the IPI. For all three shocks, SUKUK showed a positive response in the initial 24 periods before returning to equilibrium. This indicates that the transmission of short-term dynamics in the economic system occurs more through sukuk instruments than other macroeconomic variables. In general, the IRF results indicate that the structure of the relationships between macro and financial variables in the VAR model does not significantly influence each other, with the minor exception of the short-term response of SUKUK to some shocks. This finding aligns with the Granger test results, which also indicate a lack of direct causality between the variables.

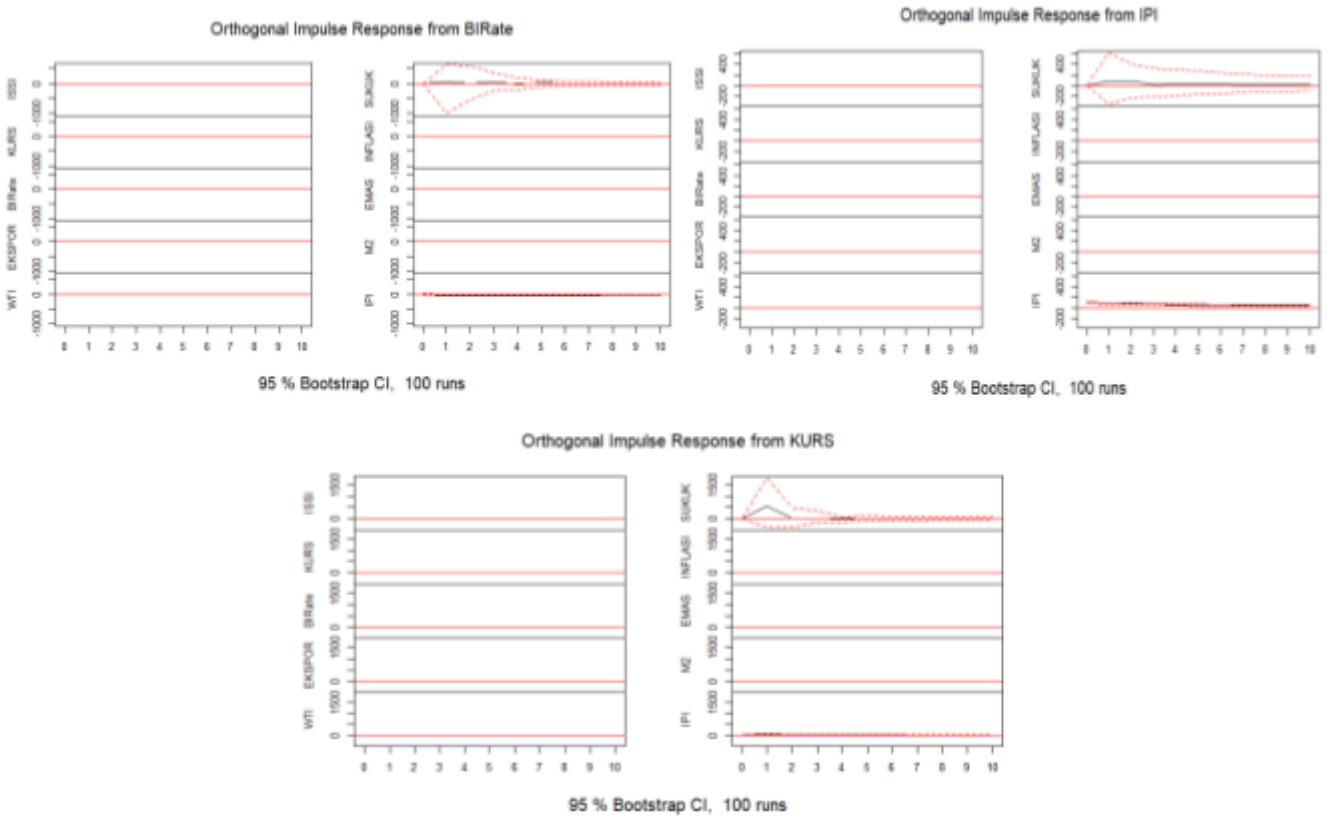

Figure 2. Forecast Error Variance Decomposition test results

Based on the results of *the Forecast Error Variance Decomposition* (FEVD), it can be concluded that the largest contribution to long-term ISSI variation comes from the ISSI variable itself, indicating that index movements tend to be *self-explained.* Meanwhile, the contribution of other variables such as interest rates, exchange rates, inflation, and WTI is relatively small and therefore does not dominate ISSI changes. In the SUKUK variable, the contribution of internal variables such as SUKUK.l1 still dominates in the first 10 periods, while the influence of external variables such as the exchange rate, BI Rate, and IPI begins to increase but still does not exceed the contribution of the variable itself. For the exchange rate variable (KURS), FEVD shows that rupiah fluctuations are mostly explained by internal shocks to the KURS, while the contribution of the BI Rate and world oil prices began to appear after period 5 but were not the dominant factor. In general, the FEVD results indicate that most variables in the VAR system are largely explained by their own internal dynamics, so shocks from other variables do not exert a dominant influence in the short or medium term. This finding confirms that the dynamic structure of the Indonesian Islamic financial market

tends to be endogenous and does not exhibit strong cross-variable correlations within the analyzed observation horizon.

DISCUSSION

This study aims to analyze the dynamic relationship (interdependence) between Islamic financial assets in Indonesia represented by the Indonesian Islamic Stock Index (ISSI) and Sukuk with various macroeconomic indicators such as inflation, exchange rate (KURS), BI benchmark interest rate (BI Rate), money supply (M2), export value, gold price, world crude oil price (WTI), and Industrial Production Index (IPI). The analysis was conducted using the *Vector Autoregression* (VAR) approach which is able to capture the reciprocal relationship between variables simultaneously without determining the direction of causality at the beginning (Killian & Lütkepohl, 2017). This approach is in accordance with the principles of Islamic transactions that emphasize transparency, balance and measurability as commanded by Allah in QS. Al-An'am: 152. This verse emphasizes that every calculation process, including economic data analysis, must be carried out precisely, impartially, and without prejudice to any party. The objective, statistically based VAR method fulfills these principles.

The Granger test results indicate that the ISSI variable does not have a significant effect on other variables in the VAR system at the 5% significance level. The p-value of 0.06032 is slightly higher than 0.05, so the null hypothesis is rejected. However, at the 10% significance level, the ISSI can be considered significant, potentially having a short-term effect on other variables such as Sukuk, Exchange Rate, Inflation, BI Rate, Gold, Exports, M2, WTI, and IPI.

This finding aligns with research by Suriani et al. (2021), which emphasized the weak transmission of monetary policy through the Islamic stock index in Indonesia, and a study by Abduh & Azmi Omar (2012), which demonstrated the limited direct relationship between Islamic capital markets and macroeconomic variables. Lütkepohl (2005) also emphasized that in VAR systems, the significance of causality often depends on the time horizon and the level of significance tolerance. The Quran also provides clear guidelines regarding permissible and forbidden economic activities. This is emphasized in Surah Al-Baqarah: 275. This verse emphasizes that lawful economic activities (buying and selling, asset-based investments) will bring blessings, while usury will corrupt the system. The relevance of the ISSI is that the Islamic stock index seeks to reflect this principle, so while its influence is statistically weak, it remains relevant as a Sharia-compliant market indicator.

The Sukuk variable also did not show a significant causal effect at the 5% significance level, with a p-value of 0.08704. However, at the 10% significance level, this result becomes significant, thus interpreting sukuk movements as potentially influencing other variables in the short term. This is in line with research by Cevik & Charap (2011), which found that sukuk are sensitive to monetary policy, although not always strong in the long term. Qaisar Ali et al. (2023) added that sukuk play an important role in supporting financial stability through asset-based financing. Akbar et al. (2024) also emphasized the behavior of retail sukuk investors in Indonesia, which is influenced by macroeconomic expectations. This is in line with sharia principles that emphasize the recording of debt-receivable transactions, as emphasized in QS. Al-Baqarah: 282. This verse emphasizes the importance of clear and transparent transaction recording. The relevance of sukuk is that these instruments are asset-based and officially recorded, thus complying with Sharia principles and supporting financial system stability.

Most variables in the VAR system showed an insignificant response to shocks affecting other variables. This is evident from the response lines that remained within the 95% confidence interval, particularly for the ISSI, inflation, M2, gold price (EMAS), and world oil price (WTI) variables. This finding indicates that the transmission mechanism between

macroeconomic and financial variables in Indonesia remains weak and partial. This phenomenon aligns with Lütkepohl's (2005) view, which states that in a VAR system, an insignificant response may reflect a low structural linkage between variables. Furthermore, a study by Naz et al. (2025) shows that Islamic financial markets tend to have different characteristics than conventional markets, so they do not always respond directly to macroeconomic shocks. In the Indonesian context, Suriani et al. (2021) also emphasized that monetary policy transmission through asset prices and exchange rates remains limited.

However, a notable exception was found in the Sukuk variable, which showed a positive and significant response to shocks to the BI Rate, exchange rate (KURS), and IPI. This response lasted for 2 to 4 quarters before returning to equilibrium. The response to the BI Rate reflects the sensitivity of sukuk to changes in the benchmark interest rate, which can influence investor preference for Sharia-compliant instruments. This is in line with Sharia principles that reject usury, so changes in interest rates can be an important signal for sukuk market players. A study by Cevik & Charap (2011) showed that sukuk have a higher responsiveness to monetary policy than conventional bonds.

Furthermore, shocks to the exchange rate can affect sukuk risk and return expectations, particularly if investors factor in currency volatility in their portfolios. Meanwhile, shocks to the IPI reflect real sector dynamics that can influence demand for sukuk-based financing for productive projects. These findings indicate that sukuk act as a more active transmission channel in the Indonesian economic system compared to other macroeconomic variables. In the literature, sukuk are often considered stable and responsive instruments in the face of short-term economic dynamics (Abduh & Chowdhury, 2012; Naz et al., 2025; Suriani et al., 2021). The significant response of sukuk to certain shocks also supports the Granger test results, which indicate a lack of direct causality between other variables in the VAR system. This indicates that the structure of the relationship between macroeconomic and financial variables in Indonesia is not yet fully integrated, as explained by Helmut Lütkepohl within the VAR framework, which emphasizes the importance of identifying exogeneity and temporal dynamics between variables.

5. CONCLUSION

Based on the VAR analysis results in Chapter IV, it can be concluded that Islamic financial assets in Indonesia exhibit different relationships with macroeconomic variables. The Indonesian Sharia Stock Index (ISSI) tends to be more influenced by internal company factors and investor sentiment, as it shows no significant response to shocks in inflation, money supply (M2), gold prices, WTI oil prices, or the BI Rate. In contrast, sukuk demonstrates stronger interactions with macroeconomic indicators, particularly the BI Rate, exchange rate, and Industrial Production Index (IPI), indicating its closer connection to monetary policy transmission and the real sector. Among all variables, the exchange rate emerges as the most dominant macroeconomic factor, significantly influencing other variables and serving as a key indicator of macroeconomic stability. Meanwhile, inflation, exports, M2, gold prices, and WTI oil prices generally have limited effects on Islamic financial assets, as their dynamics are primarily driven by their own shocks rather than by interactions with ISSI or sukuk. Overall, the findings suggest that Indonesia’s Islamic capital market is more influenced by domestic financial stability and monetary conditions than by global commodity markets or international trade performance.

ACKNOWLEDGEMENTS

Thanks to all my beloved friends from EKIS D.

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