Diterima: 25 Feb 2025 Direvisi: 31 Mei 2025 Disetujui: 4 Juni 2025 Dipublikasi: 9 Juni 2025

MACROECONOMIC DETERMINANTS OF BANK FINANCING STABILITY: A COMPARATIVE STUDY OF SHARIA AND NON-SHARIA BANKS

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Abstract

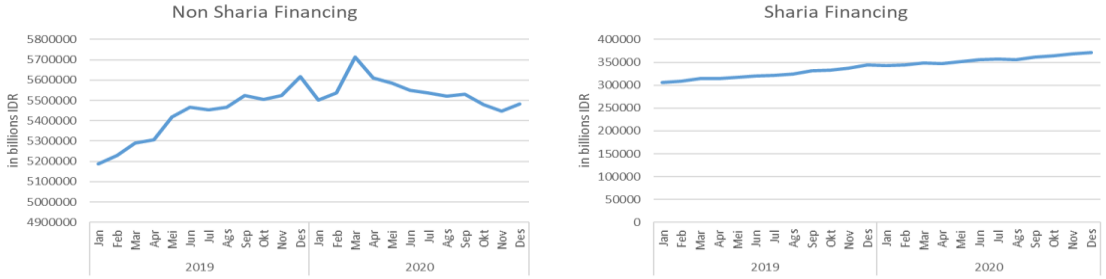
This research analyzes the stability of Sharia banks in responding to economic shocks compared to non-Sharia banks by examining the influence of macroeconomic variables on their financing performance. The population in this study includes all Sharia and non-Sharia banks operating in Indonesia registered with the Otoritas Jasa Keuangan (OJK). The sample consists of all population from both types of banks, this research used secondary data obtained from publications by Bank Indonesia, OJK, and BPS. The data used monthly data from july 2018 until august 2023. This research employs the Vector Error Correction Model (VECM), which is a refinement of the Vector Autoregression (VAR) model, used when the variables exhibit long-term cointegration this analysis is used to see factors that can influence financing for both Sharia and non-sharia banks. Three independent variables were tested (interest rates, inflation and exchange rates). The responses of Sharia banks and non-sharia banks to shocks in economic variables will be compared. VECM is used because it is more comprehensive and allows us to see short-term and long-term effects. This research found that sharia financing in the long term is influenced by the exchange rate in a negative direction, while in the short term interest rates have a negative effect. On the other hand, for non-sharia financing, inflation has a positive effect in both the short and long term, the exchange rate has a negative effect in the long term, and interest rates have a negative effect in the short term. These findings highlight structural differences in how each banking system responds to macroeconomic fluctuations. These conclusions emphasize that Sharia banks may offer greater stability under certain economic conditions, particularly in managing inflation-related risks, although both systems remain vulnerable to exchange rate movements and interest rate fluctuations in the short term.

Keywords: *Bank Financing Stability, Macroeconomic; Non Sharia Banks; Sharia Banks*

INTRODUCTION

Banking institutions play an important role in facilitating investment and economic growth by providing financing (Ntarmah et al., 2022; Pratami et al., 2022). By channeling funds and providing financial assistance, banks contribute to the development and expansion of businesses, thereby driving economic progress and creating jobs. Therefore, the banking sector acts as a catalyst for sustainable economic development by encouraging entrepreneurship and nurturing the growth of SMEs.

Figure 1
Comparison of Sharia and non-sharia financing



Source: OJK

However, during the COVID-19 pandemic which was officially announced in Indonesia on March 2nd, 2020 the performance of the national banking sector experienced noticeable strain. As illustrated in Graph 1, banking intermediation showed a declining trend, reflecting reduced lending activity and a cautious stance by banks in response to increased economic uncertainty. Amid this challenging period, Sharia banking demonstrated relative stability and resilience, showing signs of consistent growth compared to its conventional counterparts (Karim et al., 2017). This phenomenon has drawn scholarly and policy attention to the distinct operational principles of Islamic banks, which rely on risk-sharing mechanisms, real-sector linkages, and ethical investment filters that may offer greater insulation against systemic shocks.

Given this context, it becomes increasingly relevant to explore whether Sharia banks possess an inherent structural advantage in navigating macroeconomic disruptions, such as inflation, interest rate volatility, and currency fluctuations. These variables have historically posed significant challenges to conventional banking systems due to their sensitivity to monetary policy shifts and speculative behavior. In contrast, Islamic financial institutions, which prohibit interest (riba) and speculative transactions (gharar), may exhibit different behavioral patterns under similar economic stressors.

The financial intermediation role of banking institutions is fundamental to the functioning of a modern economy. Banks act as a conduit for transferring funds from surplus units (depositors) to deficit units (borrowers), thereby stimulating investment, consumption, and overall economic development. In the Indonesian banking landscape, this role is performed through two distinct systems: conventional banking, which operates on the basis of interest (riba), and sharia banking, which adheres to Islamic principles, offering financing based on risk-sharing and asset-backed contracts.

The Sharia banking system has experienced growth in Indonesia in recent years (Mutamimah & Saputri, 2022). Sharia banks have a significant role in providing financing for the Islamic economic sector in this country (Setiawan, 2019; Syahputri & Pimada, 2023). Meanwhile, non-sharia banks are still the main force in the overall banking system. Therefore, it is important to analyze and understand the differences in financing between Sharia and non-sharia banks in Indonesia. Sharia Banks and Non-sharia Banks have an important role in meeting the financial needs of the Indonesian people by providing choices that suit individual preferences and beliefs.

Sharia financing, unlike its conventional counterpart, prohibits interest and instead promotes ethical and equitable financial practices through mechanisms such as mudharabah, musyarakah, murabahah, and ijarah. Its dual objective generating profit while ensuring social welfare positions sharia finance as a potential stabilizing force in the financial system, particularly during periods of economic volatility. Sharia banks have different characteristics from non-sharia banks, especially in terms of operational principles and products offered, sharia banking operates within the parameters of Islamic law principles (Ghoniyah et al., 2020; Yüksel & Canöz, 2017). An important aspect of bank operations is financing which supports banking activities (Saputri & Ahmadi, 2022). Therefore, it is important to analyze the factors that influence Sharia and non-sharia bank financing in Indonesia.

The results of this research will provide a better understanding of the interaction between macroeconomic factors and Sharia/non-sharia bank financing in Indonesia. It can provide insight to policy makers and practitioners in the banking sector about how macroeconomic variables can influence the stability and growth of the banking sector (Maria et al., 2019). A better understanding of the interrelationship between Sharia and non-sharia

bank financing also helps financial authorities, policy makers, and practitioners in the banking sector to develop more effective strategies to improve coordination and collaboration between the two sectors and to formulate better strategies for managing risks and promoting sustainable growth in the banking sector.

Bank financing is influenced by macroeconomic conditions, particularly through the transmission of monetary policy (Ali, 2021; Badar, 2024; Buch et al., 2019). According to the Monetary Transmission Mechanism, macroeconomic variables such as interest rates, exchange rates, and monetary policy decisions transmit their effects to the real economy through various channels. Through these mechanisms, changes in macroeconomic conditions can either enhance or restrict the lending capacity of banks, making macroeconomic stability a central element in ensuring the sustainability of financial intermediation.

Several previous studies found that macroeconomic variables (exchange rates, interest rates, and inflation) influence financing in a bank. There is still a gap in results between previous studies. Research from Nahar (Nahar & Sarker, 2016) states that the exchange rate has a negative effect on bank financing, contrary to research from Setyowati (Mubarok et al., 2020; Setyowati, 2019) which states that the exchange rate has a positive effect in the short term. Interest rates have a negative effect on banking financing in accordance with research from (Kismawadi et al., 2023; Zahid & Basit, 2018), this is contrary to Sudarsono's research (Sudarsono et al., 2019). The inflation variable in the research of Setyowati, Abusharbeh, Nursyamsiah (Abusharbeh, 2020; Setyowati, 2019) was concluded to have a negative influence on bank financing, in contrast to the research of Sudarsono, Nahar (Nahar & Sarker, 2016; Sudarsono et al., 2019) which stated that inflation had a positive influence.

The problem discussed in this research is How do Sharia banks compare to non-Sharia banks in terms of stability when responding to economic shocks. The objective of this research is to analyze and compare the stability of Sharia and non-Sharia banks in responding to economic shocks as reflected on their financing performance.

RESEARCH METHOD

Type of Research

This research is a quantitative study with a causal-comparative approach. The aim is to examine the effect of macroeconomic variables (inflation, interest rates, and exchange rates) on Sharia and non-Sharia bank financing and to compare the stability of both banking systems in response to economic shocks.

Population and Sample

The population in this study includes all Sharia (34 banks) and non-Sharia banks (106 banks) operating in Indonesia registered with the Otoritas Jasa Keuangan (OJK). The sample consists of all population (140 banks) from both types of banks, this research used secondary data obtained from publications by Bank Indonesia, OJK, and BPS. The data used monthly data from july 2018 until august 2023.

Operational Definition of Variables

1. Financing
   Sharia financing refers to the provision of funds to customers based on sharia principles, free from interest, and using profit-sharing, sale, or lease contracts, aiming not only for

profit but also for social welfare. In contrast, non sharia financing involves lending money to borrowers with interest charges, primarily aiming to generate financial profit for the bank (Satibi et al., 2018).

2. Inflation
   Inflation, defined as a sustained rise in the price level, is a central concern for monetary policy due to its implications on economic growth, investment decisions, and public confidence in the currency (Ibragimovich, 2022). Inflation data in this research is the consumer price index published by Bank Indonesia.
3. Interest Rate
   Interest rate refers to the cost imposed by a lender on a borrower for utilizing borrowed funds, typically represented as a percentage of the loan principal over a defined period of time (Yamin, 2022). In this study, interest rate data is represented by the BI 7-Day Reverse Repo Rate, which is officially published by Bank Indonesia.
4. Exchange Rates
   Exchange rates denote the value of one currency in terms of another, determining how much of one currency can be exchanged for another (Azwali, 2020). Exchange rate data in this research is the US dollar to rupiah (USD/IDR).

Table 1
Operational Variables

No	Variables	Indicator	Measuring scale
1	Financing	- Total financing disbursed by sharia banks - Total loans disbursed by conventional banks	Ratio scale (in billion IDR)
2	Inflation	Consumer Price Index (CPI), Year-on-year inflation rate (%)	Ratio scale (percentage)
3	Interest Rate	BI 7-Day Reverse Repo Rate (%)	Ratio scale (percentage)
4	Exchange Rate	Monthly average USD to IDR exchange rate	Ratio scale (currency unit)

Source: OJK, Bank Indonesia

Data Analysis Technique

Data analysis used Vector autoregression (VAR) so it is hoped that it can produce a more comprehensive analysis than ordinary multiple regression. The process of VAR analysis begins with data exploration and transformation, commonly using natural logarithms to stabilize variance. Following this, a unit root test is conducted to determine the stationarity of each variable. If the data is stationary at level, the next step is to perform a correlation test. A high correlation indicates the suitability of the Structural VAR (S-VAR) model for capturing long-term relationships, while a low correlation indicates using the VAR Level model for long-term analysis.

VAR analysis makes it possible to include several endogenous variables in the same model (Akkaya, 2021). In the context of Sharia and non-sharia financing, VAR is possible to model the relationship between the two types of financing by taking both as endogenous variables in one model. VAR analysis describes the dynamic relationship between observed variables. This means being able to analyze the response of variables to changes in other variables over a certain time. In this case, analyzing how macroeconomic variables influence

Sharia and non-sharia bank financing over time.

VAR is also used to forecast future values of variables based on historical relationship pattern. By using impulse response analysis, the researcher can analyze how sudden changes or surprises in one variable affect other variables within a certain period of time (Sudarsono et al., 2019). This provides valuable insight into the short-term and long-term effects of economic shocks on Sharia and non-sharia bank financing.

Stationarity Test

Data that fluctuates and moves around the mean is considered stationary data, while if the data fluctuates and moves with a mean that changes over time it is considered non-stationary data, to overcome non-stationary data, differentiation can be done on the data.

If the data is found to be stationary only after first differencing, a cointegration test is carried out to assess the existence of enduring long-term associations among the variables. If cointegration is confirmed, the Vector Error Correction Model (VECM) is applied. This involves determining the optimal lag length and the cointegration rank to estimate both short-term and long-term dynamics effectively. In cases where no cointegration is detected, the VAR First Difference model is used, focusing solely on short-term relationships (Basuki & Prawoto, 2017).

Optimal Lag

After confirming stationarity, the next step is to identify the optimal lag length for the VAR or VECM model. The optimal lag ensures that the model accurately captures the dynamic structure of the data without overfitting. This is typically determined using statistical criteria such as the Akaike Information Criterion (AIC), Schwarz Bayesian Criterion (SBC), Hannan-Quinn (HQ). The selected lag length is then used in further tests and in model estimation.

Stability Test

A stability test is conducted to ensure that the model behaves consistently over time. This involves examining the eigenvalues of the coefficient matrix. The model is considered stable if all eigenvalues lie within the unit circle (have a modulus less than one). Stability is a prerequisite for valid inference and reliable forecasting.

Cointegration Test

After the data is known to be stationary, the data is then tested for cointegration using the Johansen cointegration test, If the variables are stationary only after first differencing, a cointegration test is conducted to assess the presence of long-run equilibrium relationships. If cointegration is identified, the Vector Error Correction Model (VECM) is employed. Conversely, in the absence of cointegration, the analysis proceeds with the First-Difference VAR model, which captures only short-term dynamics.

VECM

This research employs the Vector Error Correction Model (VECM), which is a refinement of the Vector Autoregression (VAR) model, used when the variables exhibit long-term cointegration. Before implementing the VECM, a series of preliminary tests are carried out, including a unit root test to assess stationarity, the Johansen cointegration test to identify long-run relationships, and the determination of optimal lag length.

Impulse Response Function (IRF)

To explore the dynamic interactions over time, the study also utilizes Impulse Response Functions (IRF) and Variance Decomposition, which help analyze the variables' reactions to shocks and the contribution of each shock to forecast error variance in both short-term and long-term perspectives. Impulse Response Analysis is employed to assess how a shock in one variable affects the other variables over time. IRFs help in understanding the time path and magnitude of a variable's response to unexpected changes (shocks) in another. In the context of this research, IRFs provide insights into how macroeconomic shocks influence Sharia and non-Sharia bank financing across short and long-term horizons.

Granger Causality Test

The Granger Causality test is applied to examine the directional causality among the variables. The Granger Causality Test in this study is conducted to examine the directional relationship between Sharia and non-Sharia bank financing. This test assesses whether past values of one type of financing help predict the future values of the other. This analysis provides insight into the dynamic interaction and predictive precedence between the two types of financing, which is essential for understanding their mutual influence and integration within the banking sector.

RESULT AND DISCUSSION

Result

Stationarity Test

Augmented Dickey-Fuller (ADF) test which is said to be stationary when the probability value is less than 0.05 because it uses a significance level of 5%. The results are as follows:

Table 2
Level Stationary Test

Series	Prob.	Lag	Max Lag	Obs
Non Sharia Financing (BK)	0.9888	0	10	61
Sharia Financing (BS)	0.0359	2	10	59
Inflation (CPI)	0.0000	0	10	61
Exchange Rate (KRS)	0.0000	0	10	61
Interest Rate (SBI)	0.7977	0	10	61

Source: processed data by EVIEWS, 2024

Vector Autoregression (VAR) analysis considers the stationarity of the data. If the data is stationary at the level under the provisions, then it can be continued using VAR analysis. However, when the data is stationary at the first difference level it is necessary to carry out a cointegration test to find out which analysis will be used with the Vector Error Correction Model (VECM) or VAR in Difference. The results of the data analysis are in Table. 2 still shows that several variables are not stationary at the level, so it is necessary to carry out a stationary test on differences.

Table 3
First Difference Stationary Test

Series	Prob.	Lag	Max Lag	Obs
D(BK)	0.0273	2	10	58
D(BS)	0.0000	1	10	59
D(CPI)	0.0000	1	10	59
D(KRS)	0.0000	4	10	56
D(SBI)	0.0000	0	10	60

Source: processed data by EVIEWS, 2024

Table 3 shows that all research variables sharia financing (BS), non-sharia financing (BK), inflation (CPI), exchange rate (KRS), and interest rate (SBI) are stationary at the first difference, indicated by a probability value of less than 0.05. For this reason, the next step needs to be a cointegration test.

Optimal Lag

Determining optimal lag can use several criteria such as Akaike Information Criterion (AIC), Schwartz Information Criterion (SIC), and Hannan-Quinn Information Criterion (HQ). The decision to select the lag used is based on the criteria with the smallest value among the various lags proposed or seen from the number of criteria that propose the lag (the lag with the most stars).

Table 4
Optimal lag of Sharia financing

Lag	LogL	L.R	FPE	AIC	S.C	HQ
0	313.5675	NA	9.93e-11	-11.68179	-11.53309	-11.62461
1	346.9277	60.42587	5.17e-11	-12.33689	-11.59339*	-12.05098
2	374.1318	45.16911	3.42e-11	-12.75969	-11.42138	-12.24504
3	390.4015	24.55803	3.48e-11	-12.76987	-10.83675	-12.02648
4	413.8727	31.88548	2.77e-11	-13.05180	-10.52388	-12.07968
5	450.6634	44.42649*	1.38e-11*	-13.83636	-10.71363	-12.63551*
6	465.4888	15.66453	1.66e-11	-13.79203	-10.07450	-12.36245
7	478.1797	11.49364	2.33e-11	-13.66716	-9.354821	-12.00884
8	499.7815	16.30328	2.59e-11	-13.87855*	-8.971406	-11.99150

Source: processed data by EVIEWS, 2024

Table 4 shows the optimal lag for the Sharia financing is lag 5, this is based on three criteria that recommend in subsequent tests lag 5, then it will be used as a reference. Meanwhile, the optimal lag for non-sharia financing is lag 3.

Table 5
Optimal lag of non-sharia financing

Lag	LogL	L.R	FPE	AIC	S.C	HQ
1	-494.3347	NA	968.4575	18.22624	18.80491*	18.45059*
2	-483.9046	17.88014	1189.784	18.42516	19.58251	18.87386
3	-452.5722	49.23668*	701.3838*	17.87758*	19.61359	18.55063
4	-442.6775	14.13524	906.4616	18.09562	20.41031	18.99302
5	-425.3731	22.24848	924.4937	18.04904	20.94240	19.17079

Source: processed data by EVIEWS, 2024

Table 5 shows the optimal lag for the non-sharia financing is lag 3, this is based on three criteria that recommend in subsequent tests lag 3, then it will be used as a reference.

VAR Stability Test

Table 6
VAR stability test results

Sharia Financing Modulus	Non-sharia Financing Modulus
0.917989	0.864181
0.917989	0.854534
0.906423	0.854534
0.906423	0.755777

Source: processed data by EVIEWS, 2024

A modulus value less than 1 indicates that the VAR model is stable. It can be seen that Table 6 for both Sharia and non-sharia bank financing shows that all modulus values are less than 1 so the model is said to be stable.

Cointegration Test

The next step in VAR analysis is to carry out a cointegration test to see whether there is cointegration between variables. It is said that cointegration occurs when the probability value is below 0.05 or the trace statistic value is greater than the critical value. When cointegration occurs in the research variables, a Vector Error Correction Model (VECM) analysis will be carried out and if no cointegration occurs then a VAR in Difference analysis will be carried out. Following the results of the cointegration test, all probability values are less than 0.05, so the analysis that will be used is VECM.

Table 7
Cointegration Test Results

	Trace Statistics	**Critical Value**	**Prob.**
Non-sharia Financing	93.71226	47.85613	0.0000
Sharia Financing	93.32848	47.85613	0.0000

Source: processed data by EVIEWS, 2024

Vector Error Correction Model (VECM)

VECM was selected according to the criteria that were met, namely that the data was stationary and there was cointegration. In VECM, short-term and long-term relationships were obtained. In this estimation, Sharia Financing (BS) and Non-sharia Financing (BK) act as dependent variables, while Inflation (CPI), Exchange Rate (KRS), and Interest Rates (SBI) as independent variables.

Table 8
Results of VECM Sharia Financing

Long Term	
Variable	t-statistic
D(CPI)	[1.35926]
D(KRS)	**[-6.39046]**
D(SBI)	[1.35396]

Short Term					
	t-statistic				
Variable	lag 1	lag 2	lag 3	lag 4	lag 5
D(CPI)	[1.13757]	[1.07957]	[0.69356]	[0.12938]	[1.23547]
D(KRS)	[-0.39426]	[-0.34426]	[-0.23652]	[0.07617]	[0.11316]
D(SBI)	[-1.46306]	**[-1.80256]**	[-1.65873]	[-1.02780]	[-0.51021]
R-squared	0.911731				
Adj. R-squared	0.855559				

Source: processed data by EVIEWS, 2024

Based on the analysis presented in Table 8, it is evident that the exchange rate has a significant negative impact on Sharia bank financing in the long run. This is demonstrated by the calculated t-value of [-6.39046], which exceeds the critical t-table value of 1.67155 at the 5% significance level. This indicates that, over the long term, fluctuations in the exchange rate can substantially influence financing activities in Sharia banks. On the other hand, inflation and interest rates do not show a significant long-term effect, as indicated by their respective t-values falling below the critical threshold.

In the short term, interest rates exhibit a significant negative effect on Sharia financing specifically at lag 2, as the calculated t-value surpasses the 5% significance threshold (t-table = 1.67155). However, inflation and exchange rate variables do not display any significant influence in the short run. Overall, the findings suggest that inflation does not significantly impact Sharia financing in either the short or long term. The exchange rate negatively and significantly affects Sharia financing only in the long term (at lag 1), while interest rates show a significant negative influence in the short term (at lag 2) but are not significant in the long run.

The R-squared value of 0.9117 shows that about 91.17% of the variation in the dependent variable can be explained by the independent variables included in the model. This suggests a strong overall fit of the model to the observed data. The Adjusted R-squared value of 0.8556, which accounts for the number of explanatory variables, confirms that the model maintains a high explanatory power, explaining about 85.56% of the variance even after adjustment. This demonstrates that the model provides a robust representation of the relationship among the variables without overfitting.

Table 9
VECM Results for Non-sharia Financing

Long Term			
Variable	t-statistic		
D(CPI)	**[2.07837]**		
D(KRS)	**[-7.39460]**		
D(SBI)	[0.17328]		
Short Term			
	t-statistic		
Variable	lag 1	lag 2	lag 3
D(CPI)	**[2.20401]**	**[2.38118]**	**[2.89860]**
D(KRS)	[-0.36386]	[0.34097]	[0.44361]
D(SBI)	[-1.06613]	[-0.00942]	**[-1.76930]**
R-squared	0.748693		
Adj. R-squared	0.672716		

Source: processed data by EVIEWS, 2024

Referring to the data analysis results in Table 9, it is found that in the long term, only inflation and the exchange rate significantly affect non-Sharia bank financing. Inflation exerts a positive and statistically significant influence, while the exchange rate shows a significant negative impact. This is evidenced by the t-values for the Consumer Price Index [2.07837] and the exchange rate (KRS) [-7.39460], both exceeding the critical t-table value of 1.67155 at the 5% significance level. In contrast, interest rates do not exhibit a significant long-term effect on non-Sharia financing.

In the short-term analysis, inflation maintains a significant positive influence across lag 1 to lag 3, while interest rates have a significant negative impact at lag 3, as indicated by t-values exceeding the 5% threshold (t-table = 1.67155). However, the exchange rate does not show any significant short-term effect.

The findings indicate that inflation has a consistently positive and significant effect on non-Sharia financing in both the long term (lag 1) and the short term (lags 1–3). The exchange rate negatively and significantly impacts financing in the long run (lag 1) but has no meaningful effect in the short run. Interest rates show a significant negative influence only in the short term (lag 3) and remain insignificant over the long term.

The R-squared value of 0.7487 shows that about 74.87% of the variation in the

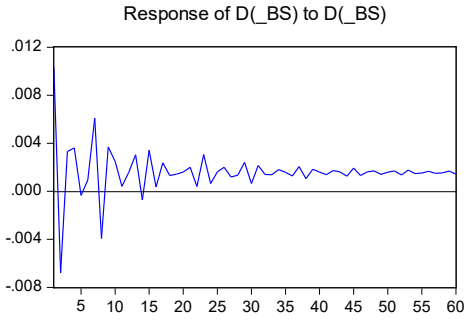
dependent variable can be explained by the independent variables included in the model. This shows that the model has a fairly good fit with the observed data. The Adjusted R-squared value of 0.6727 accounts for the number of predictors in the model and indicates that about 67.27% of the variation is explained after adjustment. This suggests the model remains reasonably reliable without overfitting.

Impulse Response

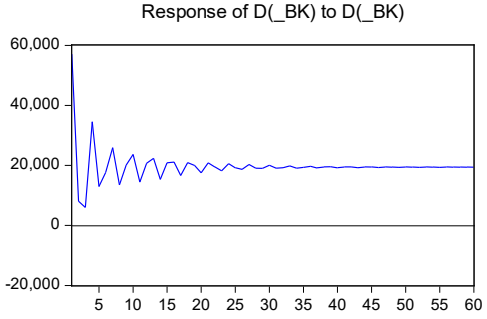
Impulse response in var analysis (vector autoregression) is used to see a variable reacts to changes in shocks in a complex system of time variables. By analyzing the impulse response, we can see how a surprise change in one variable can propagate through the system and affect other variables over a certain period of time.

Figure 2
Financing's response to itself

Sharia Financing



Non-sharia Financing

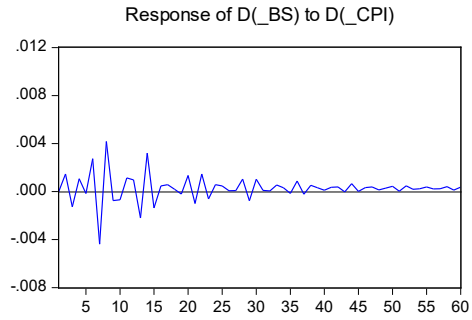


Source: processed data by EVIEWS, 2024

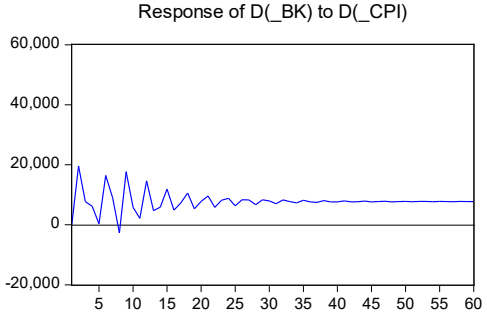
The response to sharia financing itself appears to fluctuate in the 1st to 30th period, after which the response tends to be constant and in the positive area. Meanwhile, non-sharia financing is based on the results of an analysis of the response to shocks from inflation that occurs in the 1st to 25th period and continues to move steadily in the positive area with a higher tendency than sharia financing.

Figure 3
Financing response to inflation shock

Sharia Financing



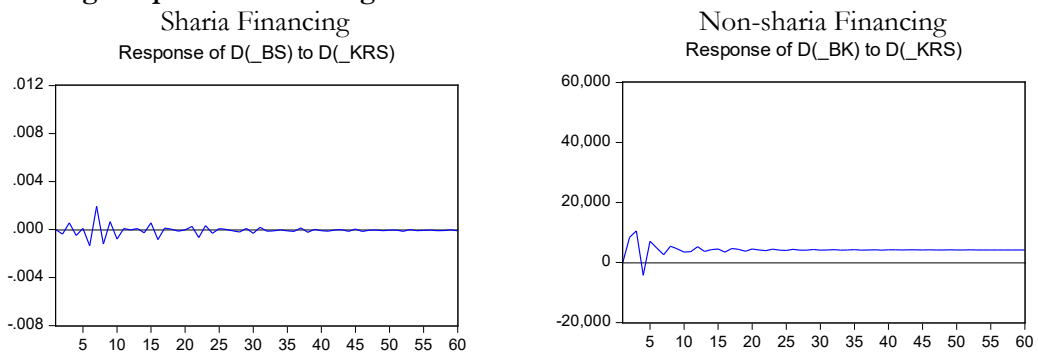
Non-sharia Financing



Source: processed data by EVIEWS, 2024

The response of sharia financing to shocks from inflation rises and falls until the 35th period, after which the response tends to be constant and is on the balance line. Meanwhile, non-sharia financing is equally fluctuating up to period 25, but the response remains in the positive area or above the balance line.

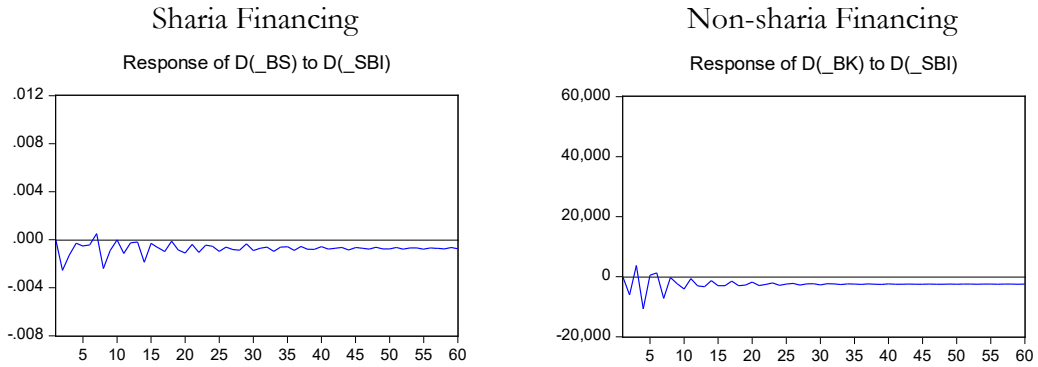
Figure 4
Financing Response to Exchange Rate Shocks



Source: processed data by EVIEWS, 2024

From the picture above, it can be explained that the response of sharia financing to exchange rate shocks appears to fluctuate until the 10th period and gradually return to the balance point. In contrast to the response to non-sharia financing, it fluctuated until the 7th period after which it remained in the positive area.

Figure 5
Financing Response to Interest Rate Shocks



Source: processed data by EVIEWS, 2024

From Figure 5, it can be seen that the Sharia and non-sharia financing variables responded to changes/shocks that occurred in interest rates which were quite fluctuating until the 20th period and gradually remained constant but remained in the negative area or below the balance line.

Granger Causality

The results of the Granger causality test on sharia and non-sharia financing show that sharia and non-sharia financing are not interconnected and do not have a causal relationship following the analysis results which show that the value of prob. greater than 0.05 (table 9).

Table 10
Granger causality results between sharia and non-sharia financing

Null Hypothesis:	F-Statistic	Prob.
_BS does not Granger Cause _BK	2.74816	0.1028
_BK does not Granger Cause _BS	2.57255	0.1142

Source: processed data by EVIEWS, 2024

DISCUSSION

Relationship between inflation and financing

One notable observation is the differential effect of inflation on Sharia and non-Sharia financing. In the long term, inflation exerts a significant positive influence on non-Sharia financing, indicating that as inflation rises, there is an increased demand for conventional financing products. This could be attributed to various factors such as inflation hedging strategies or higher nominal returns offered by non-Sharia financial instruments, in line with these findings, inflation has a positive effect following the research from Sudarsono (Sudarsono et al., 2019) Nahar (Nahar & Sarker, 2016) which states that inflation has a positive effect.

Conversely, the absence of a significant effect of inflation on Sharia financing suggests that Islamic financial institutions may exhibit a certain degree of insulation from inflationary pressures. This phenomenon underscores the resilience of Sharia-compliant financial mechanisms and their ability to navigate economic fluctuations without being unduly influenced by inflationary trends. Several studies support this finding, research from (Bawono & Kava Nasikin, 2021) states that inflation has no effect.

Relationship between exchange rate and financing

The findings regarding the exchange rate dynamics reveal a consistent pattern across both Sharia and non-Sharia financing in the long term. The significant negative effect of exchange rates underscores the sensitivity of both types of financing to exchange rate movements. This suggests that fluctuations in exchange rates can significantly impact the attractiveness and viability of both Sharia and non-Sharia financing options over an extended time horizon. Several studies support this finding, research from (Bawono & Kava Nasikin, 2021) states exchange rate has a negative effect on Sharia financing.

However, it is noteworthy that the exchange rate exerts no significant influence on either type of financing in the short term. This may indicate a certain degree of stability or inertia in the immediate response of financial markets to exchange rate fluctuations, highlighting the importance of considering longer-term trends in exchange rate dynamics when assessing their impact on financing activities. The exchange rate variable in Setyowati (Setyowati, 2019) and Nahar (Nahar & Sarker, 2016) was concluded to have a negative influence on financing.

Relationship between interest rate and financing

Interestingly, the analysis reveals contrasting effects of interest rates on Sharia and non-Sharia financing, particularly in the short term. While interest rates exhibit no significant impact on either type of financing in the long term, their effect in the short term is more nuanced.

For non-Sharia financing, a significant negative effect of interest rates is observed at lag 3, suggesting that changes in interest rates may take some time to manifest in the demand for conventional financing products, interest rates have a negative effect on financing in accordance with research from (Dwiawani & Sudarsono, 2021; Kismawadi et al., 2023). Conversely, Sharia financing demonstrates a significant negative effect of interest rates at lag 2, indicating a relatively quicker response to interest rate fluctuations compared to non-Sharia financing. Research from (Dwiawani & Sudarsono, 2021; Kismawadi et al., 2023) concluded that interest rates have a negative effect on Sharia financing.

Differential Impacts of Macroeconomic Variables on Sharia and non-Sharia Banks

The findings suggest that Sharia banks and non-Sharia banks respond differently to economic shocks, reflecting distinct patterns of stability. While non-Sharia financing appears more sensitive to inflation, Sharia financing remains unaffected, indicating a relatively higher resilience of Sharia banks to inflationary shocks. However, both banking systems are equally affected by exchange rate fluctuations in the long term, and both are sensitive to interest rates in the short term, though at different time lags. Furthermore, Granger causality analysis shows that there is no causal relationship between Sharia financing and non-Sharia financing in either direction. These findings highlight structural differences in how each banking system responds to macroeconomic fluctuations. These conclusions emphasize that Sharia banks may offer greater stability under certain economic conditions, particularly in managing inflation-related risks, although both systems remain vulnerable to exchange rate movements and interest rate fluctuations in the short term.

The lack of Granger causality indicates that changes in one system do not predict or cause changes in the other. This separation can have several implications, for investors and financial institutions, and this independence can be beneficial for risk diversification. Since the two systems do not directly influence each other, they may respond differently to economic shocks, providing a buffer during financial instability. The independence between Sharia and non-Sharia financing can contribute to overall market stability. If one system experiences turbulence, the other is less likely to be directly affected, reducing the risk of widespread financial contagion.

CONCLUSION

Based on the Vector Error Correction Model (VECM) analysis, this study concludes that macroeconomic variables influence Sharia and non-Sharia financing differently. Inflation has a significant positive impact on non-Sharia financing in the short term (lags 1 to 3) and the long term, but it does not affect Sharia financing in either time frame. The exchange rate exerts a significant negative influence on both types of financing in the long term, although it shows no significant short-term effect. Interest rates do not affect financing in either system in the long run, but in the short term, they have a significant negative effect specifically at lag 3 for non-Sharia financing and at lag 2 for Sharia financing.

This study is limited by the use of secondary data and the focus on only three macroeconomic variables (interest rates, inflation, exchange rates). It also does not explore institutional or behavioral factors that may influence financing behavior in Sharia and non-Sharia banks. Future research could expand the model by incorporating additional variables such as GDP growth, money supply, or policy uncertainty. Moreover, qualitative analysis could be combined with econometric approaches to gain deeper insights into the internal decision-making processes of both types of banks. A comparative analysis across multiple countries with dual banking systems may also provide a broader perspective on the global dynamics of Sharia and non-Sharia financing.

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