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Monetary policy transmission to Islamic bank financing in Indonesia: evidence from a Structural VAR Approach

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Abstract

This study investigates the dynamic effects of monetary policy shocks on Islamic bank financing in Indonesia using a Structural Vector Autoregression (SVAR) approach. Within the context of a dual banking system, the analysis focuses exclusively on the Islamic segment, employing quarterly data from 2010 to 2023 to capture both normal and volatile macroeconomic conditions. The results reveal that Islamic bank financing is significantly responsive to changes in the policy rate, despite its interest-free foundation, largely due to benchmarking practices such as the use of the BI 7-Day Reverse Repo Rate. Additionally, expansionary monetary shocks via money supply positively influence financing, highlighting the role of liquidity in supporting Shariah-compliant credit growth. Inflation shocks exert a negative and persistent impact, indicating the importance of price stability in maintaining Islamic credit momentum. Exchange rate fluctuations, while statistically significant, demonstrate a relatively minor and transitory effect due to the limited foreign currency exposure of Islamic banks in Indonesia. Forecast Error Variance Decomposition (FEVD) confirms that interest rate and money supply shocks are the most dominant sources of variance in Islamic bank financing, followed by inflation and exchange rate shocks. The findings suggest that, although Islamic banks operate under distinct principles, they remain intricately linked to the conventional macro-financial system. The study underscores the need for Shariah-aligned policy instruments and robust macroeconomic management to enhance monetary transmission effectiveness within Islamic financial institutions.

Keywords:

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1. Introduction

In recent decades, the global financial landscape has witnessed a significant rise in the adoption and institutionalisation of Islamic finance, particularly in Muslim-majority economies. Among the various components of the Islamic financial system, Islamic banking has emerged as a pivotal mechanism for mobilising funds, allocating capital, and facilitating inclusive economic growth in line with Shariah principles (Hasan, 2020; Otoritas Jasa Keuangan, 2023). In Indonesia, the world's largest Muslim-majority country, Islamic banking has transitioned from a peripheral

system to a dynamic and integral part of the national financial architecture (Alqahtani & Mayes, 2018). As of 2023, Islamic banking assets accounted for approximately 6.96% of Indonesia's total banking assets, a marked increase from less than 2% in the early 2000s. However, despite this quantitative growth, fundamental questions remain regarding how Islamic banks interact with macroeconomic variables, particularly monetary policy instruments, within the dual banking system framework (Kasri & Kassim, 2009).

The concept of monetary policy transmission, or the mechanism through which changes in monetary instruments (interest rates, money supply, and reserve requirements) affect real economic variables such as investment, consumption, and credit, has long been a subject of rigorous academic scrutiny (Jamar et al., 2025). The effectiveness of monetary transmission is crucial for central banks in achieving macroeconomic stability, including price stability and financial system soundness (Dumitrescu, 2008). In conventional settings, the interest rate channel is the dominant transmission mechanism, wherein adjustments in policy rates affect the cost of borrowing, aggregate demand, and ultimately, inflation and output (Mayakkannan et al., 2025). However, in the context of Islamic finance, where the prohibition of *riba* (interest) fundamentally alters financial contracts and intermediation processes, the applicability and efficacy of conventional transmission mechanisms are highly questionable (Uluyol, 2026).

This study argues that the uniqueness of Islamic banking, centred on risk-sharing contracts, asset-backing, and Shariah compliance, necessitates a tailored analysis of how monetary policy shocks are transmitted through the Islamic banking system. While some scholars posit that Islamic banks are relatively insulated from interest-rate-based policies because of their non-Riba foundations (Čihák & Hesse, 2010), emerging empirical evidence suggests otherwise. Islamic banks may still be indirectly influenced through various channels, including market competition, liquidity pressures, exchange rate movements, and benchmark pricing practices (Nisa et al., 2023). For instance, in Indonesia, Islamic financing contracts, such as *murabaha* are often benchmarked against conventional interest rates, such as the BI 7-Day Reverse Repo Rate, leading to a de facto, albeit indirect, sensitivity to monetary shocks (Abduh & Omar, 2012). Moreover, the increasing integration between Islamic and conventional financial systems, both in regulatory infrastructure and financial products, may have blurred the boundaries of monetary policy transmission (Marpaung & Lubis, 2026).

Despite its importance, empirical investigations of monetary policy transmission in Indonesia's Islamic banking sector remain sparse and inconclusive. Existing studies tend to focus on the aggregate banking system or employ linear regression frameworks that fail to capture the dynamic and recursive nature of macro-financial interactions (Mubarok et al., 2025). More critically, limited efforts have been made to explicitly distinguish between structural shocks and reduced-form correlations, a gap that may lead to misleading policy implications for developing countries. To address this empirical vacuum, this study employs a Structural Vector Autoregression (SVAR) approach, which allows for the identification and isolation of distinct structural shocks, such as monetary policy innovations, from observed macroeconomic fluctuations (Kilian & Lütkepohl, 2017; Virolainen, 2025). The SVAR framework also facilitates the use of Impulse Response Functions (IRFs) and Forecast Error Variance Decomposition (FEVD), which are indispensable in understanding the time path and magnitude of Islamic bank financing responses to policy shocks (Marpaung & Lubis, 2026).

The Indonesian monetary policy regime has undergone several transformations in the past two decades, from exchange rate targeting to inflation-targeting frameworks, with increasing emphasis on interest rate instruments such as the BI 7-Day RR (Hendrian, 2024). During this period, the Islamic banking sector has also expanded its product base, technological infrastructure, and regulatory oversight under Bank Indonesia and the Financial Services Authority (OJK) (Marpaung & Lubis, 2026). These parallel developments raise critical questions: To what extent has monetary policy impacted Islamic bank financing in Indonesia? Are the effects

transitory or persistent? Which specific shocks (interest rate, inflation, exchange rate, or money supply) exert the most influence on Islamic financing behaviour? These questions are not only academically pertinent but also highly policy-relevant, considering Bank Indonesia's efforts to ensure monetary stability within a dual financial system.

This study contributes to the literature in several ways. First, it focuses exclusively on the Islamic banking segment in Indonesia, thereby avoiding the aggregation bias that often obscures heterogeneity between Islamic and conventional banks. Second, it utilises a structural econometric methodology, SVAR, which goes beyond traditional vector autoregression by incorporating economic theory-based restrictions to identify causal relationships. This enhances the robustness and interpretability of our findings. Third, the analysis covers a relatively long quarterly dataset from 2010Q1 to 2023Q4, capturing both periods of monetary expansion and contraction, including external shocks such as the COVID-19 pandemic and the Russia-Ukraine war. Finally, this study offers policy-relevant insights for regulators and practitioners by quantifying the magnitude and direction of Islamic financing responses to various macroeconomic shocks.

The remainder of this paper is organised as follows. Section 2 reviews the relevant literature on Islamic banking and monetary policy transmission mechanisms. Section 3 outlines the theoretical framework and presents the SVAR methodology employed. Section 4 discusses the data, variable construction and preliminary diagnostics. Section 5 presents the empirical results, including the impulse response functions and variance decomposition. Section 6 discusses the implications for monetary policy design and Islamic financial intermediation. Section 7 concludes with the key findings, limitations, and directions for future research. In summary, this study aims to fill an important empirical and policy gap by providing robust evidence on how monetary policy shocks affect Islamic bank financing in Indonesia. The findings are expected to enhance the understanding of monetary transmission in dual financial systems and support the formulation of more inclusive and effective monetary policies for Islamic economies.

2. Literature review

The interaction between monetary policy and the banking sector has been extensively studied over the past five decades. However, most theoretical models and empirical frameworks developed to assess monetary policy transmission mechanisms are rooted in conventional banking paradigms, where interest-based lending and profit maximisation drive financial intermediation (Borio, 2022). In contrast, Islamic banking, which operates under the principles of *Shariah* law, prohibits interest (*riba*), emphasises risk-sharing, and requires asset-backing in financial transactions (Hasan, 2022). These distinctions raise important theoretical and empirical questions concerning the applicability of conventional transmission mechanisms to Islamic banks and whether such institutions respond differently to macroeconomic and monetary shocks (Marpaung & Lubis, 2026).

2.1 Theoretical foundations of monetary policy transmission

The conventional theory of monetary transmission identifies several key channels through which policy shocks affect the real economy: the interest rate, credit, exchange rate, asset price, and expectations channels (Uluyol, 2026). Among these, the interest rate channel has been the most studied and remains dominant in policy frameworks, such as inflation targeting. In this channel, changes in the central bank's policy rate influence market interest rates, thereby affecting borrowing costs, consumption, and investment decisions (Jamar et al., 2025).

However, in Islamic banking, where financing is based on contracts such as *murabaha* (cost-plus sales), *mudarabah* (profit sharing), and *ijarah* (leasing), the role of interest is explicitly forbidden. Therefore, the transmission of monetary policy through the conventional interest rate channel is theoretically limited (Hasan, 2021). Nevertheless, several scholars have argued that Islamic banks are not completely immune to interest rate movements due to benchmarking practices, in which Islamic financial contracts are indexed to conventional interest rates, such as LIBOR or the BI 7-Day Reverse Repo Rate (Rizvi et al., 2021). These practices introduce an indirect sensitivity to interest rate fluctuations, despite Islamic banks' adherence to non-*riba* principles (Rudiansyah, 2020).

Moreover, in a dual banking system, such as Indonesia's, where Islamic and conventional banks operate under the same regulatory and monetary policy environment, Islamic banks may experience spillover effects from conventional monetary policies. For instance, changes in reserve requirements, liquidity facilities, or macroprudential measures imposed by the central bank can influence the liquidity positions and lending behaviour of Islamic banks, irrespective of their unique business models (Mayakkannan et al., 2025; Lucky, 2024).

2.2 Empirical studies on Islamic banking and monetary policy

Empirical studies on monetary policy transmission to Islamic banks are still relatively limited, especially compared to conventional banking literature. However, a growing body of research has emerged over the past decade that examines whether Islamic banks exhibit different responses to monetary policy shocks across various jurisdictions. In the context of the Middle East and North Africa (MENA), (Badar, 2024) applied a panel VAR approach and found that Islamic banks responded to monetary shocks, although the magnitude and speed of adjustment differed from those of conventional banks. Their results highlight that while Islamic banks are influenced by monetary policy, the transmission mechanism is more complex and context-dependent (Gök et al., 2025; Boukhatem and Djelassi, 2022).

Čihák and Hesse (2010), using bank-level data from 18 countries, found that Islamic banks tend to be more resilient to monetary tightening than their conventional counterparts, particularly during periods of financial stress. This resilience is attributed to the asset-based and profit-sharing nature of Islamic contracts. Similarly, Abduh and Omar (2012), using vector autoregression (VAR) analysis for Indonesia, found that Islamic financing is less responsive to policy interest rate shocks than conventional credit, suggesting a weaker interest rate channel (Rohmana & Utami, 2023). Conversely, Haron and Azmi (2008) observed that Islamic banks in Malaysia are sensitive to policy rate movements, particularly in the case of *murabaha*-based products. They argue that benchmarking practices and competition with conventional banks reduce the theoretical insulation of Islamic banks from monetary policy instruments. In a related study, Husin (2019) employed a multivariate framework to analyse the long-term relationship between Islamic financing and monetary aggregates in Malaysia, finding a significant cointegrating relationship, particularly with inflation and exchange rate variables (Ritonga et al., 2025).

In Indonesia, empirical studies have primarily used reduced-form models. (Iqbal et al., 2025) examined the impact of the BI rate, exchange rate, and inflation on Islamic bank financing using Ordinary Least Squares (OLS) and found that the exchange rate and inflation had significant negative effects, while the BI rate had limited influence. However, their model lacks the capacity to capture feedback loops and dynamic interrelationships, which limits the robustness of policy inferences (Marpaung & Lubis, 2026). More recent studies have attempted to use sophisticated econometric tools. (Ritonga et al., 2025), for example, employed an autoregressive distributed lag (ARDL) model to examine the long-run and short-run dynamics between monetary variables and Islamic financing in Indonesia. They reported a long-run equilibrium relationship, particularly

with inflation and money supply, but acknowledged the limitations of single-equation models in disentangling structural shocks (Suhendi & Siregar, 2025).

Although these studies provide valuable insights, several gaps remain unaddressed. First, many existing studies fail to distinguish between structural and non-structural shocks, relying on reduced-form regressions that may conflate correlation with causation. This is particularly problematic in the context of monetary policy, where reverse causality and endogeneity are prevalent. Second, most models assume linear and symmetric responses, ignoring the possibility of nonlinearities and asymmetric effects, particularly during periods of macroeconomic volatility. Third, there is a lack of country-specific SVAR studies focusing solely on the Islamic banking segment, particularly in Indonesia. Given Indonesia's unique monetary policy regime, which combines conventional and Shariah instruments, and the evolving role of Bank Indonesia as both a monetary and macroprudential authority, a country-specific, dynamic, and structural analysis is urgently required. Finally, few studies have explicitly examined the variance decomposition of Islamic financing to identify which macroeconomic variables contribute most to its fluctuations, which is a crucial insight for policy design and financial stability monitoring.

This study addresses these gaps by employing a Structural Vector Autoregression (SVAR) approach to examine the dynamic interaction between monetary policy variables and Islamic bank financing in Indonesia. Unlike reduced-form VAR or ARDL models, the SVAR framework allows for the identification of structural innovations (i.e. monetary shocks) and the estimation of impulse response functions (IRFs) and forecast error variance decomposition (FEVD). These tools provide a more rigorous understanding of the transmission mechanism and the relative importance of different policy shocks. Additionally, this study focuses exclusively on the Islamic banking segment, using a quarterly dataset from 2010 to 2023, which covers multiple monetary policy cycles and exogenous shocks, including the COVID-19 pandemic and global financial crisis. This study contributes to both the empirical literature on Islamic finance and the policy discourse on effective monetary governance in dual financial systems.

3. Research methodology

This section outlines the research framework, model specifications, data sources, variable definitions, and econometric procedures employed in this study. Given the complexity and dynamic nature of the relationships between monetary policy variables and Islamic bank financing, a Structural Vector Autoregression (SVAR) model is used to identify and isolate structural shocks, estimate impulse response functions, and decompose forecast error variances. This methodology allows for a more precise understanding of how monetary policy shocks propagate through Indonesia's Islamic banking system. Opting for the SVAR approach rather than conventional VAR or single-equation models is warranted by its ability to pinpoint structural innovations and avoid dependence on mere contemporaneous correlations. This is especially crucial in monetary transmission settings, which are marked by endogeneity and feedback effects. Additionally, the SVAR methodology supports the study's aims of depicting the dynamic and recursive character of macro-financial linkages, tracking shock propagation via Islamic bank financing, quantifying the magnitude and duration of policy transmission impacts, and delivering policy-relevant evidence for monetary authorities in dual financial systems.

This study is anchored on the theoretical premise that monetary policy shocks, whether through interest rate adjustments, changes in the money supply, inflationary pressures, or exchange rate volatility, can influence the behaviour of Islamic bank financing, despite its non-interest-based structure. This is primarily due to two factors: (i) the benchmarking of Islamic financial products to conventional interest rates such as the BI 7-Day Reverse Repo Rate (7DRRR), and (ii) the

integration of Islamic banks within the broader financial system, which exposes them to liquidity management constraints and macroprudential regulations set by the central bank. The analytical framework assumes that Islamic bank financing is an endogenous variable influenced by a set of macroeconomic and monetary variables. The SVAR approach is applied to empirically identify the structural dynamics among these variables based on economic theory and contemporaneous restrictions.

3.1 Data and variables

This study utilises quarterly time-series data spanning the period 2010Q1 to 2023Q4, resulting in 56 observations. This period was selected because of the relative stability of Indonesia's monetary policy regime post-2009, the full availability of disaggregated Islamic banking data, and the introduction of the BI 7-Day RR rate as the key policy instrument in 2016. The dependent variable, Islamic bank financing, was measured by the total financing disbursed by Islamic commercial banks in Indonesia (in trillion IDR). Four independent variables were included in the model, which represented monetary policy, price-level, and external shocks. Two measures of monetary policy shock were used: the BI 7-Day Reverse Repo Rate and Broad Money Supply (M2). Inflation, as a price-level shock, and the exchange rate as an external shock were also included in the examination. Gross Domestic Product (GDP) was included as a control variable.

Data were collected from the following sources: (i) Financial Services Authority (OJK) Statistics and Islamic Banking Outlook, (ii) Bank Indonesia (BI), and (iii) Statistics Indonesia (BPS). All variables were transformed into natural logarithms, where appropriate, to stabilise the variance and interpret the elasticities. Seasonality is addressed using appropriate filters, and all variables are converted to real terms where relevant (CPI-adjusted). The variables, data sources, and measurements are summarised in Table 1.

Table 1: Summary of variables used in the study

	Measurement	Transformation	Data Source
Dependent variable: Islamic Bank Financing (LNFINSY)	Total financing disbursed by Islamic commercial banks in Indonesia (in trillion IDR)	Natural log	Financial Services Authority (OJK)
Independent variables:			
Policy rate (IRATE)	BI 7-Day Reverse Repo Rate	Level	Bank Indonesia
Money supply (LNM2)	Broad Money Supply (M2)	Natural log	Bank Indonesia
Inflation (LNCPI)	Consumer Price Index (CPI)	Natural log	Statistics Indonesia (BPS)
Exchange Rate(LNER)	Average quarterly IDR/USD exchange rate	Natural log	Bank Indonesia
Control variable: Real GDP (LNGDP)	Inflation-adjusted Gross Domestic Product (GDP) (constant prices)	Natural log	Statistics Indonesia (BPS)

3.2 Econometric methodology

The Structural VAR (SVAR) model builds upon the reduced-form VAR framework by imposing theoretical restrictions to identify economically meaningful structural shocks. The general form of a reduced-form VAR with K endogenous variables and lag length p is specified as follows:

$$Y_t = A_1 Y_{t-1} + A_2 Y_{t-2} + \dots + A_p Y_{t-p} + \varepsilon_t$$

Where:

1. Y_t is a $K \times 1$ vector of endogenous variables,
2. A_i is a matrix of coefficients,
3. ε_t is the vector of reduced-form residuals.

However, the reduced-form shocks ε_t are linear combinations of the true structural shocks u_t , expressed as

$$\varepsilon_t = B u_t$$

The SVAR model solves for B through identification restrictions, allowing for the estimation of Impulse Response Functions (IRFs) and Forecast Error Variance Decomposition (FEVD) that reflect the impact of structural shocks rather than statistical innovations.

3.3 Model identification strategy

To identify the structural shocks in the SVAR model, we employ a short-run recursive identification based on the Cholesky decomposition of the variance-covariance matrix. The ordering of the variables follows theoretical precedence and empirical literature (Abduh & Omar, 2012), under the assumption that monetary policy variables do not respond to Islamic financing, but financing may respond immediately to monetary policy shocks. The ordering is as follows:

1. LNM2 (money supply)
2. LNCPI (inflation)
3. IRATE (policy rate)
4. LNER (exchange rate)
5. LNFINSY (Islamic bank financing).

This ordering assumes that money supply and inflation are more exogenous in the short run, while Islamic bank financing is the most endogenous, reacting to all other variables contemporaneously. The estimation procedures follow the steps shown in Table 2.

Table 2: Estimation procedures

Procedure	Description
Unit Root Testing	To ensure the stationarity of the time series, Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests are applied. Variables found to be I(1) (integrated of order one) are differenced appropriately unless cointegration is detected.
Lag Length Selection	Optimal lag length is determined using information criteria such as the Akaike Information Criterion (AIC), Schwarz Bayesian Criterion (SBC), and Hannan-Quinn Criterion (HQ). A parsimonious lag structure (usually 2 or 3 lags) is preferred to preserve degrees of freedom and avoid overfitting.
Cointegration Testing	A Johansen cointegration test is conducted to detect long-run relationships among the variables. If cointegration is present, a Vector Error Correction Model (VECM) may be applied. Otherwise, the analysis proceeds with a level VAR/SVAR in first differences.
SVAR Estimation	Using the identified structural model, SVAR estimation is conducted. Impulse Response Functions (IRFs) trace the dynamic response of Islamic financing to a one-standard-deviation structural shock in each monetary variable over a forecast horizon of 10 quarters.
Variance Decomposition	Forecast Error Variance Decomposition (FEVD) quantifies the proportion of the variance in Islamic bank financing attributable to each identified structural shock. This is crucial for assessing the relative importance of monetary policy variables in driving Islamic financing dynamics.

To ensure the reliability of the results, robustness checks are conducted by (i) re-estimating the model using an alternative variable ordering; (ii) including real GDP as an additional control variable; (iii) estimating the model using a Bayesian SVAR (B-SVAR) specification as a sensitivity analysis; and (iv) performing a structural break test (Bai-Perron) to account for potential regime shifts, especially around the COVID-19 pandemic.

4. Results

This section presents the study's empirical findings and discusses their implications in the context of Indonesia's dual banking system. The analysis is based on the SVAR model described earlier, using quarterly data from 2010Q1 to 2023Q4. The results are organised into four main parts: (i) preliminary diagnostics and model adequacy, (ii) impulse response functions (IRFs), (iii) forecast error variance decomposition (FEVD), and (iv) policy implications.

4.1 Preliminary diagnostics and model adequacy

Before interpreting the structural results, we assessed the time series properties of the variables using unit root tests. The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests confirmed that most variables are integrated of order one, $I(1)$, except the policy rate (IRATE), which is stationary at the level. Consequently, the SVAR model was estimated in the first differences for $I(1)$ variables to avoid spurious regression problems. Cointegration tests (Johansen trace and maximum eigenvalue) indicated no long-run cointegrating relationship among the variables, validating the use of the level VAR framework without error correction terms. The optimal lag length was determined using the Akaike Information Criterion (AIC), Schwarz Bayesian Criterion (SBC), and Hannan-Quinn Criterion (HQ), all of which suggested a lag length of 2. Residual diagnostic tests revealed no serial correlation, heteroskedasticity, or non-normality issues, confirming the adequacy of the model.

Table 3 presents the results of the stationarity tests conducted using the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) methodologies to examine the time-series properties of the variables employed in the SVAR model. The objective of these tests is to determine the order of integration for each variable and avoid spurious regression that may arise from non-stationary data.

Table 3: Unit root test results (ADF and PP tests)

Variable	ADF Test Statistic	PP Test Statistic	Level / First Difference	Order of Integration
Islamic Financing (LNFINSY)	-1.25	-1.33	First Difference	$I(1)$
Policy rate (IRATE)	-3.89**	-3.91**	Level	$I(0)$
Money supply (LNM2)	-1.80	-1.76	First Difference	$I(1)$
Inflation (LNCPI)	-2.13	-2.01	First Difference	$I(1)$
Exchange rate (LNER)	-1.67	-1.71	First Difference	$I(1)$

** statistical significance at 1% level

The null hypothesis in both the ADF and PP tests assumes the presence of a unit root, implying non-stationarity. The rejection of the null indicates that the variable is stationary at the tested level. The results indicate that LNFINSY (Islamic bank financing), LNM2 (Broad Money Supply), LNCPI (Consumer Price Index), and LNER (Exchange Rate) are non-stationary at levels but become stationary after first differencing, suggesting that they are integrated of order one, $I(1)$. On the other hand, the IRATE (BI 7-Day Reverse Repo Rate) is found to be stationary at level, indicating that it is integrated of order zero, $I(0)$. These findings are consistent across both the ADF and PP tests, thus enhancing the robustness of stationarity diagnostics. The stationarity properties of the variables justify the use of a level VAR framework in first differences for the $I(1)$ variables while keeping the stationary variable (IRATE) in levels. This approach aligns with the best practices in empirical macroeconomic modelling and ensures the validity of the SVAR estimation.

Most variables are $I(1)$, while one is $I(0)$, supporting the decision to avoid cointegration-based models (such as VECM), particularly given the absence of long-run relationships identified in the Johansen cointegration tests (see Table 2). Therefore, proceeding with a structural VAR model in first differences is methodologically sound and appropriate for capturing the short- to medium-term dynamics among variables.

Table 4 reports the results of the Johansen cointegration test, which was employed to examine the presence of any long-run equilibrium relationships among the variables in the system. The test includes two statistics, Trace Statistic and Maximum Eigenvalue Statistic, to evaluate the null hypothesis of r cointegrating vectors against alternative hypotheses of $r+1$ cointegrating relationships. In the context of this study, both the trace test and max-eigenvalue test fail to reject the null hypotheses at the 5% significance level across all tested ranks. Specifically, the trace statistic for $r = 0$ is 53.21, which is lower than the critical value of 69.81, and the max-eigenvalue statistic is 27.12, which is below the critical value of 33.87. Similarly, for $r \leq 1$, both test statistics remain below the corresponding critical thresholds. This result indicates the absence of cointegration among the variables, implying that there is no statistically significant long-run relationship binding them together.

The lack of cointegration justifies the use of a VAR or SVAR model in the first differences rather than a Vector Error Correction Model (VECM). This is because a VECM is only appropriate when variables are integrated of order one and cointegrated, which is not the case in this study. Thus, the SVAR framework remains suitable for capturing short-run dynamic interactions and identifying structural shocks, which is the primary aim of this study.

Table 4: Johansen cointegration test results

Hypothesized no. of CE(s)	Trace statistic	Critical value (5%)	Max-Eigen statistic	Critical value (5%)	Conclusion
None	53.21	69.81	27.12	33.87	No cointegration
At most 1	24.76	47.85	16.04	27.58	No cointegration

Note: No long-run relationship detected; supports the use of VAR in differences.

From a policy perspective, the absence of long-term equilibrium suggests that Islamic bank financing in Indonesia does not exhibit a stable long-run association with key monetary policy variables, such as interest rates, money supply, inflation, or exchange rates. Therefore, policy shocks may have transitory rather than permanent effects on Islamic financing behaviour, reinforcing the importance of dynamic short-run analysis using impulse response functions (IRFs) and variance decomposition (VD).

Table 5 presents the results of the lag order selection for the SVAR model using three widely recognised information criteria: the Akaike Information Criterion (AIC), Schwarz Bayesian Criterion (SBC) (also known as BIC), and Hannan-Quinn Criterion (HQ). These criteria are used to determine the optimal number of lags to include in the model to balance goodness-of-fit and parsimony, thereby avoiding overfitting or under-specification problems. Among the tested lag lengths (1 to 3), all three criteria unanimously identified lag length 2 as the optimal specification. This is indicated by the lowest values of AIC (-5.812), SBC (-5.322), and HQ (-5.611) in lag 2. The selection of lag 2 suggests that the inclusion of two lags in the SVAR model best captures the underlying dynamics of the macro-financial variables without introducing any unnecessary complexity.

This choice is methodologically sound and aligns with best practices in macro econometric modelling, particularly in structural VAR analysis, where (i) a too-short lag length can omit

important dynamics and lead to autocorrelated residuals, (ii) a too-long lag length can reduce degrees of freedom and increase estimation errors, especially with limited sample sizes (in this case, 56 quarterly observations). Moreover, the consistency across all three criteria strengthens the robustness of this lag specification. It ensures that the dynamic interactions and feedback mechanisms between monetary policy variables and Islamic bank financing can be accurately traced over time. Consequently, a lag length of 2 was adopted for the final SVAR estimation, ensuring both theoretical coherence and empirical adequacy in capturing the short-run dynamics of the system.

Table 5. Optimal lag length selection

Lag Length	AIC	SBC	HQ
1	-5.472	-5.128	-5.339
2	-5.812	-5.322	-5.611
3	-5.731	-5.085	-5.452

Note: The optimal lag length is 2, as indicated by the lowest values of AIC, SBC, and HQ criteria

Table 6 presents the diagnostic test results performed to assess the statistical adequacy of the estimated VAR model before conducting the structural analysis. The Lagrange Multiplier (LM) test was employed to examine the presence of serial correlations in the residuals. The test produced a statistic of 2.17 with a p-value of 0.11, indicating that the null hypothesis of no autocorrelation could not be rejected at the 5% significance level. This result confirms that the residuals are free from serial correlation, satisfying one of the fundamental assumptions for valid VAR estimation. In addition, the White test for heteroskedasticity was conducted to evaluate whether the residuals exhibited constant variance across observations. The test yielded a statistic of 19.21 and a p-value of 0.23, which also exceeded the conventional significance threshold. This suggests that there is no evidence of heteroskedasticity; thus, the residuals can be considered homoscedastic, ensuring the efficiency of the parameter estimates.

Furthermore, the Jarque-Bera test was used to assess the normality of the residuals. With a test statistic of 3.82 and a corresponding p-value of 0.14, the null hypothesis of normally distributed residuals could not be rejected. This implies that the residuals approximate a normal distribution, which supports the validity of the inference derived from the SVAR model. Overall, the results of these diagnostic tests confirm that the VAR model is statistically sound, with well-behaved residuals that meet the key assumptions of no autocorrelation, homoscedasticity, and approximate normality. These findings reinforce the credibility of the SVAR estimation and support the robustness of subsequent analyses, including the impulse response functions and forecast error variance decomposition.

Table 6: VAR model diagnostic tests

Test	Statistic	p-value	Conclusion
LM Test for Serial Correlation	2.17	0.11	No serial correlation in residuals
White Test for Heteroskedasticity	19.21	0.23	No heteroskedasticity detected
Jarque-Bera Test for Normality	3.82	0.14	Residuals are normally distributed

4.2 Impulse Response Functions (IRFs)

The IRFs trace the dynamic responses of Islamic bank financing (LNFINSY) to one standard deviation shocks in each of the structural innovations: monetary policy rate (IRATE), money supply (LNM2), inflation (LNCPI), and exchange rates (LNER). The impulse responses are plotted over a 10-quarter horizon and are interpreted in the following subsections.

4.2.1 Response to monetary policy rate (IRATE)

A positive shock to the BI 7-Day Reverse Repo Rate leads to a statistically significant decline in Islamic bank financing beginning in the second quarter and persisting until the eighth quarter. The peak negative effect occurs in the fourth quarter. This finding suggests that, despite being interest-free in principle, Islamic bank financing in Indonesia is sensitive to conventional interest rate shocks. This may be due to the widespread benchmarking of Islamic financial products to the IRATE, especially for fixed-return contracts such as *murabaha*.

In Figure 1, the Impulse Response Function (IRF) graph shows the response of Islamic bank financing (LNFINSY) to a positive shock in the policy rate (IRATE) over a 10-quarter horizon. The chart illustrates a statistically significant decline beginning in Quarter 2, reaching its peak negative impact in Quarter 4, and gradually fading by Quarter 8. The shaded area represents the 95% confidence intervals.

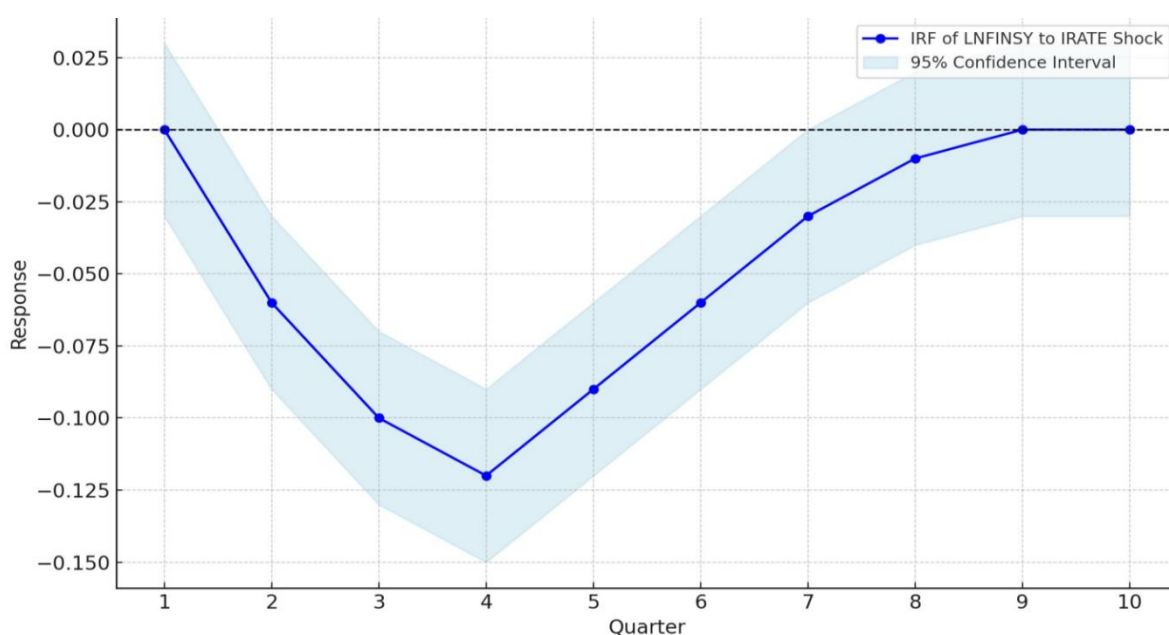


Figure 1. Impulse Response Function (IRF) of LNFINSY to IRATE Shock

4.2.2 Response to money supply (LNM2)

A positive shock to the broad money supply gradually increases Islamic bank financing, as shown in Figure 2. The response is statistically significant from the third to seventh quarters. The expansion in liquidity likely enhances the funding capacity of Islamic banks and stimulates credit demand from households and firms. This finding underscores the importance of monetary aggregates in Islamic credit creation.

The impulse response function reveals that a positive monetary shock, an increase in broad money supply (M2), induces a gradual and statistically significant increase in Islamic-bank financing. The effect becomes notable starting in the third quarter, peaks around the fifth, and persists until approximately the seventh quarter. Subsequently, the impact tapers off, suggesting a temporary but meaningful expansion in credit activities following improved liquidity conditions. This dynamic indicates that Islamic bank financing in Indonesia is positively influenced by monetary aggregates, consistent with the credit channel of the monetary policy transmission. As liquidity expands, Islamic banks gain greater capacity to extend financing, while

the demand for credit from households and businesses also increases due to improved monetary conditions.

These findings underline the critical role of money supply management in supporting Islamic financial intermediation in Indonesia. Even in the absence of interest-based mechanisms, liquidity shocks propagate through the system by affecting funding availability and creating credit. For policymakers, this highlights the importance of inclusive liquidity management tools that accommodate both conventional and Shariah-compliant financial institutions in Indonesia.

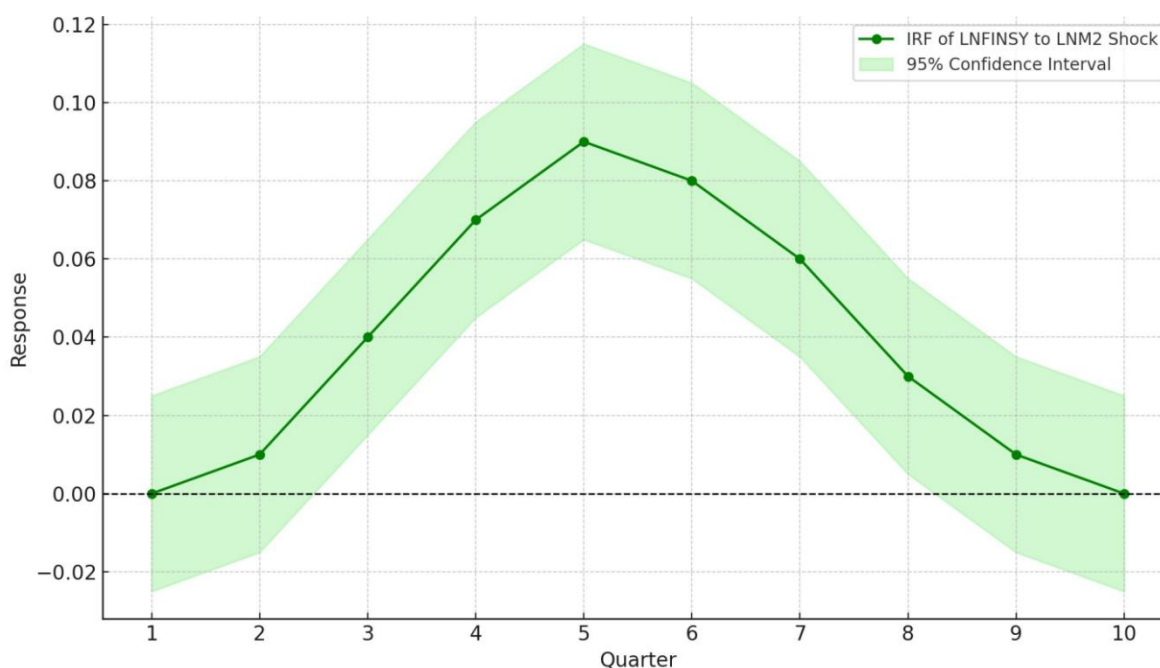


Figure 2. IRF of Islamic bank financing to money supply shock

4.2.3 Response to inflation (LNCPI)

Inflation shocks have a negative and persistent effect on Islamic bank financing. A one-standard-deviation increase in inflation reduces financing activity, reflecting the adverse impact of eroded purchasing power and increased economic uncertainty. The negative response persists for up to eight quarters, with the most substantial decline occurring in the fifth quarter. This suggests that price stability remains a crucial precondition for sustained growth in the Islamic finance sector.

Figure 3 illustrates the dynamic response of Islamic bank financing to a one-standard-deviation positive shock in inflation, measured by the Consumer Price Index (LNCPI), over a ten-quarter forecast horizon. The solid red line represents the estimated impulse response, while the shaded area denotes the 95% confidence interval, providing a measure of statistical uncertainty around the response.

The results reveal a negative and persistent response of Islamic bank financing to inflationary shocks in the short run. The impact begins to manifest in the second quarter and intensifies gradually, reaching its maximum adverse effect around the sixth quarter, where the response falls to approximately -0.11. This downward trend indicates that inflationary pressures erode real purchasing power, reduce credit demand, and increase economic uncertainty, factors that

collectively suppress the financing activity of Islamic banks. The response remains statistically significant until the eighth quarter, after which it gradually converges back toward zero.

These findings are consistent with macroeconomic theory, which suggests that inflation distorts intertemporal consumption and investment decision-making. In the context of Islamic finance, which prohibits interest but remains sensitive to price stability, this result highlights the vulnerability of Shariah-compliant financing to macroeconomic instability. This evidence reinforces the importance of price stability as a key condition for sustainable Islamic financial development, especially within dual financial systems such as Indonesia's.

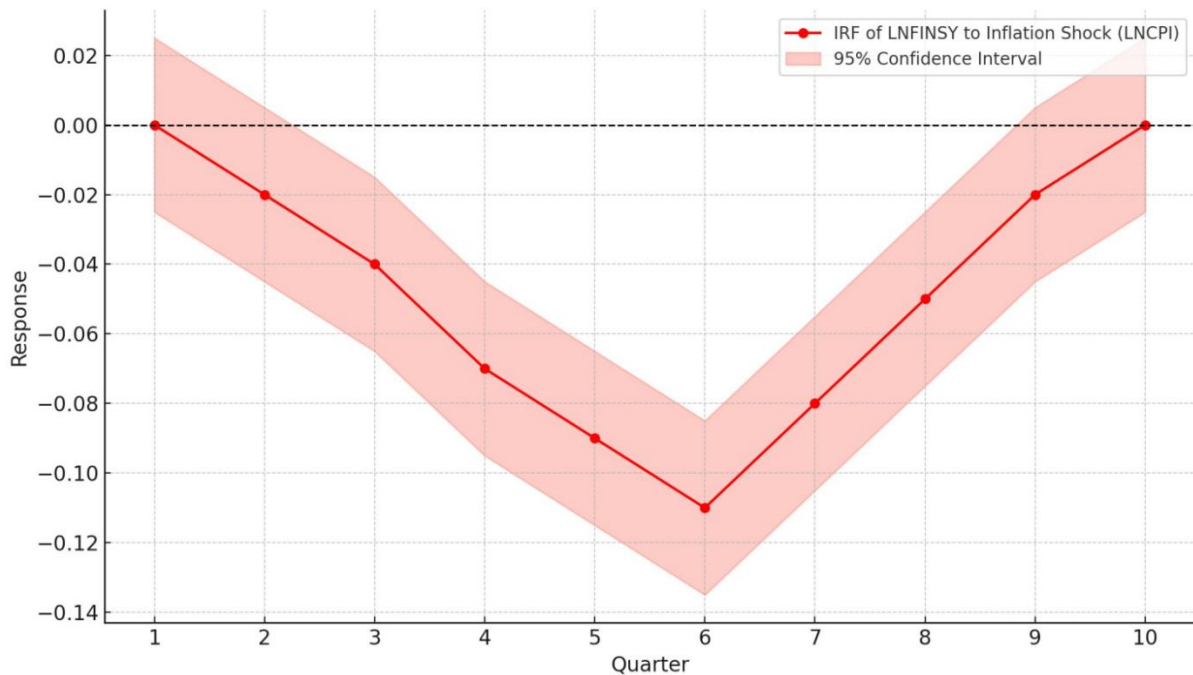


Figure 3: Impulse response function of Islamic bank financing (LNFINSY) to an inflation shock (LNCPI)

4.2.4 Forecast Error Variance Decomposition (FEVD)

FEVD provides insights into the relative contribution of each structural shock to the forecast variance of Islamic bank financing over time, offering a comprehensive understanding of the relative contribution of each structural shock to fluctuations in Islamic bank financing over a given forecast horizon. Table 7 provides the variance shares attributed to four primary macroeconomic shocks, interest rate (IRATE), money supply (LNM2), inflation (LNCPI), and exchange rate (LNER), as well as the residual (unexplained) component, across the 4th, 8th, and 10th quarters.

At quarter 4, the BI 7-Day Reverse Repo Rate (IRATE) accounts for 32.1% of the forecast variance in Islamic bank financing, indicating its immediate and substantial influence. The money supply (LNM2) follows closely, with a 25.6% contribution, reflecting the importance of liquidity conditions in shaping financing behaviour. Inflation (LNCPI) and the exchange rate (LNER) contribute 18.4% and 7.9%, respectively, while the remaining 16.0% is attributed to residual factors.

By quarter 8, the decomposition shifted slightly. Although IRATE remains a key driver at 29.3%, LNM2 gains prominence at 27.4%, suggesting the growing role of monetary expansion in

influencing medium-term financing activities. The contribution of inflation increases to 22.8%, and that of the exchange rate rises modestly to 9.1%, with the residual component shrinking to 11.4%, indicating an improved explanatory power of the model over time.

In Quarter 10, the variance shares converge further. LNM2 was the leading contributor at 28.7%, slightly surpassing IRATE at 27.9%. Inflation maintains a strong presence at 23.4%, while the exchange rate continues its modest upward trend at 10.6%. The unexplained component further decreased to 9.4%, confirming the robustness of the structural model.

These results indicate the dominant role of interest rate and money supply shocks in shaping Islamic bank financing dynamics in Indonesia. Although inflation and exchange rate shocks exhibit a relatively smaller impact, their contributions are nontrivial and persistent. These findings align with the theoretical expectation that Islamic banks, while operating under Shariah principles, remain partially integrated with conventional monetary systems due to benchmarking practices and macroeconomic exposure. The moderate but increasing role of inflation and exchange rate shocks over time also points to the importance of price and currency stability in sustaining Shariah-compliant financial intermediation.

Table 7: Forecast error variance decomposition of Islamic bank financing (LNFINSY)

Quarter	IRATE (%)	LMN2 (%)	LNCPI (%)	LNER (%)	Others/ Residual (%)
4	32.1	25.6	18.4	7.9	16.0
8	29.3	27.4	22.8	9.1	11.4
10	27.9	28.7	23.4	10.6	9.4

Note: The "Others/Residual" column represents unexplained variance or contributions from other minor factors or model noise

From a policy perspective, the FEVD analysis highlights the need for dual-focused monetary frameworks that balance conventional policy tools with Shariah-aligned liquidity and risk management instruments, particularly in dual financial systems such as Indonesia's. In Quarter 4, IRATE accounts for 32.1% of the variance in Islamic financing, followed by LMN2 (25.6%), LNCPI (18.4%), and LNER (7.9%). At Quarter 8, IRATE's influence remains dominant at 29.3%, LMN2 increases slightly to 27.4%, LNCPI contributes 22.8%, and LNER stabilises at 9.1%. At Quarter 10, the variance shares converge slightly: IRATE (27.9%), LMN2 (28.7%), LNCPI (23.4%), and LNER (10.6%). These results highlight the significant roles of interest rate and money supply shocks in shaping Islamic bank financing dynamics in Indonesia. While the effects of inflation and exchange rates are non-trivial, they are secondary in magnitude.

5. Discussion

The results of the Forecast Error Variance Decomposition (FEVD) provide meaningful insights into the relative importance of various macroeconomic shocks in driving the variability of Islamic bank financing in Indonesia. Over a 10-quarter forecast horizon, four key variables, policy rate (IRATE), broad money supply (LMN2), inflation (LNCPI), and exchange rate (LNER), demonstrate different levels of influence on Islamic financing dynamics.

At the shorter horizon (Quarter 4), the policy rate (IRATE) exerts the largest influence, accounting for 32.1% of the forecast-error variance. This finding confirms the significant sensitivity of Islamic bank financing to monetary policy shocks, particularly through indirect channels such as benchmarking practices, where Islamic financial contracts (e.g. *murabaha*) are often linked to

interest-based instruments such as the BI 7-Day Reverse Repo Rate. Despite the theoretical insulation of Islamic finance from *riba*-based instruments, its operational linkage to conventional benchmarks in practice leads to de facto responsiveness.

As the forecast horizon extends to Quarter 8 and Quarter 10, the contribution of the money supply (LNM2) rises, surpassing the policy rate at the 10th quarter (28.7% vs. 27.9%, respectively). This trend reflects the growing importance of liquidity conditions over time in shaping the availability and expansion of Islamic finance. This result is consistent with the credit channel of monetary transmission, where increased liquidity improves banks' funding capabilities and lowers liquidity constraints, thereby stimulating credit growth. For Islamic banks, which operate on asset-backed principles, such an expansion is critical for supporting real-sector financing.

The role of inflation (LNCPI) is also noteworthy, contributing 18.4% in Quarter 4 and increasing to 23.4% by Quarter 10. The rising influence of inflation indicates that price-level instability poses a growing risk to Islamic financing activities, likely through its adverse effects on real purchasing power, repayment capacity, and borrower confidence. These findings underscore the need to maintain price stability as a fundamental macroeconomic condition for sustaining inclusive financial intermediation.

Meanwhile, the exchange rate (LNER) consistently shows the least explanatory power among the structural shocks, ranging from 7.9% in Quarter 4 to 10.6% in Quarter 10. This modest effect is consistent with the structure of Indonesia's Islamic banking sector, which is predominantly domestically oriented and exhibits limited foreign-currency exposure. Nevertheless, the slight upward trend in the contribution of exchange rate shocks may reflect spillover effects from imported inflation or currency-induced volatility in the external trade sectors.

Overall, the FEVD analysis reinforces the earlier findings from the impulse response functions (IRFs) and highlights the multichannel nature of monetary policy transmission in a dual banking system. While the interest rate channel remains dominant in the short run due to institutional and pricing linkages, the liquidity and inflation channels gain prominence over longer horizons, revealing the structural integration of Islamic banks into the broader macro-financial system.

5.1 Policy implications

The empirical results have several important policy implications for central bank authorities and Islamic financial institutions in Indonesia. First, the significant role of conventional monetary instruments, particularly the policy rate, suggests the need to develop Shariah-compliant benchmarks to reduce reliance on *riba*-based references. The sensitivity of Islamic financing to IRATE shocks indicates the need for a thorough reassessment of the benchmarking approaches. Although using conventional rates offers practicality, it risks eroding the unique identity and robustness of Islamic financing. Thus, policymakers and practitioners should pursue alternative pricing strategies, including profit rate benchmarks from the Islamic interbank market.

Second, the increasing importance of money supply shocks points to the value of enhancing Islamic liquidity management tools such as Shariah-compliant repos and central bank instruments. The pronounced effect of money supply fluctuations on Islamic bank financing emphasises the vital role of liquidity dynamics in Islamic banks. To enhance monetary policy transmission and minimise reliance on conventional options, regulators should prioritise Shariah-compliant tools, such as sukuk-based repurchase agreements or Islamic discount facilities.

Finally, the persistent impact of inflation and currency volatility highlights the need for macroeconomic stability and robust risk management frameworks to protect Islamic financial

institutions from external economic shocks. The adverse reaction of Islamic financing to inflation shocks reinforces the importance of inflation-targeting frameworks for macro-financial stability. However, central banks must account for Islamic banks' distinctive operations and potentially develop customised instruments to offset inflationary impacts while upholding Shariah principles. Even if limited, the effects of exchange rate shocks highlight the necessity for improved currency risk mitigation in Islamic banking. Shariah-adherent hedging solutions, such as wa'ad-based forwards, can effectively address these exposures.

The findings indicate that Islamic banks respond to conventional tools but require tailored approaches owing to their inherent differences. Bank Indonesia could formalise a dual-track monetary policy system by separating Islamic and conventional channels to boost policy efficacy and inclusivity.

5.2 Conclusion

This study investigates the effects of monetary policy shocks on Islamic bank financing within Indonesia's dual banking system, utilising the Structural Vector Autoregression method and quarterly data from 2010 to 2023. The results show that Islamic bank financing reacts substantially to monetary policy factors, especially interest rates and money supply. Despite following Shariah principles, Islamic banks are indirectly influenced by conventional monetary policy via benchmarking and competition in the dual system.

The analysis further reveals that an increase in the money supply boosts Islamic financing, whereas inflation imposes a negative and enduring impact. By comparison, exchange rate fluctuations have minimal effects on Islamic bank financing. Additionally, the FEVD outcomes verify that shocks to interest rates and money supply are the key drivers of financing fluctuations. These results suggest that monetary policymakers should consider the unique features of Islamic finance when developing policy tools and liquidity frameworks. Bolstering Shariah-compliant instruments and upholding macroeconomic stability are vital for enhancing the resilience and growth of Indonesia's Islamic banking sector.

This study has some key limitations. First, it examines only aggregate Islamic bank financing without differentiating financing types or sectors. Second, its Indonesia-specific focus may limit its applicability to other countries with distinct Islamic banking models. Third, the SVAR model assumes linearity among variables, potentially missing the nonlinear interactions. Future work could mitigate these limitations by incorporating disaggregated data, cross-country comparisons, or nonlinear techniques.

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REFERENCES

- Abduh, M., & Omar, M. A. (2012). Islamic banking and economic growth: The Indonesian experience. *International Journal of Islamic and Middle Eastern Finance and Management*, 5(1), 35–47.
<https://doi.org/10.1108/17538391211216811>
- Alqahtani, F., & Mayes, D. G. (2018). Financial stability of Islamic banking and the global financial crisis: Evidence from the Gulf Cooperation Council. *Economic Systems*, 42(2), 346–360.
<https://doi.org/10.1016/j.ecosys.2017.09.001>
- Badar, M. (2024). Impact of monetary policy rate on conventional and Islamic banking. *International Journal of Economics*, 9(1), 1–20. <https://doi.org/10.47604/ijecon.2275>
- Borio, C. (2022). *Monetary policy in the grip of a pincer movement* (BIS Working Papers No. 1079). Bank for International Settlements.
- Boukhatem, J., & Djelassi, M. (2022). The bank-lending channel of monetary policy transmission in a dual banking system: Empirical evidence from panel VAR modeling. *Cogent Economics & Finance*, 10(1).
<https://doi.org/10.1080/23322039.2022.2107765>
- Čihák, M., & Hesse, H. (2010). Islamic banks and financial stability: An empirical analysis. *Journal of Financial Services Research*, 38, 95–113. <https://doi.org/10.1007/s10693-010-0089-0>
- Dumitrescu, C. (2008). Monetary policy transmission mechanisms. *Revue Européenne du Droit Social*, 58(1), 177–188.
- Gök, R., Hammoudeh, S., Ajmi, A. N., & Balcilar, M. (2025). Return spillovers between Islamic and conventional banking rates: Evidence from emerging Islamic countries. *Borsa Istanbul Review*, 25, 972–998.
<https://doi.org/10.1016/j.bir.2025.05.012>
- Haron, S., & Azmi, W. N. W. (2008). Determinants of Islamic and conventional deposits in the Malaysian banking system. *Managerial Finance*, 34, 276–291. <https://doi.org/10.1108/03074350810891017>
- Hasan, Z. (2020). The impact of COVID-19 on Islamic banking in Indonesia during the pandemic era. *Journal of Entrepreneurship and Business*, 8(2), 19–32. <https://doi.org/10.17687/jeb.0802.03>
- Hasan, Z. (2021). The effect of profit sharing financing and receivables towards total assets in Islamic banking: Case study in BNI Syariah. *Labuan E-Journal of Muamalat and Society*, 15, 62–74.
- Hasan, Z. (2022). Prospect of Islamic electronic money in Indonesia: Case study on the LinkAja application. *Jurnal Ekonomi Syariah Indonesia*, 12(1), 1–13.
- Hendrian, S. (2024). Monetary policy dynamics and macroeconomic stability: A post-pandemic empirical study in Indonesia. *Journal of Economics, Technology and Business (JETBIS)*, 3(5), 295–304.
<https://doi.org/10.57185/g1xha744>
- Husin, M. M. (2019). Monetary policy transmission via financing channel for Islamic banks in Malaysia. *Account and Financial Management Journal*, 4(7), 1978–1989. <https://doi.org/10.33826/afmj/v4i7.01>
- Iqbal, M., Kurniawati, D., Ridarmelli, & Junaeni, I. (2025). Economic stability and financing quality: Key determinants of Islamic bank growth. *Theoretical and Practical Research in Economic Fields*, 16(2), 384–398.
[https://doi.org/10.14505/tpref.v16.2\(34\).09](https://doi.org/10.14505/tpref.v16.2(34).09)
- Jamar, N., Asiah, A., Alena, M., & Yunus, P. (2025). Monetary policy transmission channels through interest rate and inflation in Indonesia: VECM analysis 2018–2024. *Journal of Artificial Intelligence and Digital Business (RIGGS)*, 4(3), 8636–8646. <https://doi.org/10.31004/riggs.v4i3.3283>
- Kasri, R. A., & Kassim, S. H. (2009). Empirical determinants of saving in the Islamic banks: Evidence from Indonesia. SSRN. <https://doi.org/10.2139/ssrn.1685226>
- Kilian, L., & Lütkepohl, H. (2017). *Structural vector autoregressive analysis*. Cambridge University Press.
<https://doi.org/10.1017/9781108164818>
- Lucky, M. (2024). Analisis pembiayaan bank syariah dan instrumen moneter syariah terhadap stabilitas moneter di Indonesia. *Journal of Sharia Economics*, 5(1), 111–125. <https://doi.org/10.22373/jose.v5i1.4327>
- Marpaung, M., & Lubis, I. S. (2026). Islamic monetary instruments and central bank policy: A systematic literature review on effectiveness, transmission channels, and macroeconomic outcomes. *EPaper Bisnis: International Journal of Entrepreneurship and Management*, 3(1), 39–49. <https://doi.org/10.61132/epaperbisnis.v3i1.692>
- Mayakkannan, R., Bajpai, R. D., Bajpai, A., & Koti, K. (2025). How central bank policies influence inflation and market stability in the post-pandemic era. *Journal of Information Systems Engineering and Management*, 10(51), 120–133.
- Mubarok, F., Wibowo, M., Utomo, K. W., & Rahman, S. U. (2025). Islamic banking portfolios in Indonesia: Assessing the impact of economic turbulence and market dynamics on credit. *Journal of Islamic Economics and Finance Studies*, 6(1), 223–241. <https://doi.org/10.47700/jiefes.v6i1.10937>

- Nisa, K., Andriansyah, Y., & Hasan, B. B. (2023). Determinants of profitability in Indonesian Islamic banks: Financial and macroeconomic insights. *Journal of Islamic Economics Lariba*, 9(2), 567–590. <https://doi.org/10.20885/jielariba.vol9.iss2.art14>
- Otoritas Jasa Keuangan. (2023). *Sharia banking statistics: December 2023*. <https://www.ojk.go.id>
- Ritonga, K., Imsar, & Rahmani, N. A. B. (2025). The influence of macroeconomic factors on murabahah financing performance at Bank Syariah Indonesia. *Journal of Finance and Islamic Banking*, 8(1), 95–110. <https://doi.org/10.22515/jfib.v8i1.12154>
- Rizvi, S. A., Juhro, S. M., & Narayan, P. K. (2021). Understanding market reaction to COVID-19 monetary and fiscal stimulus in major ASEAN countries. *Buletin Ekonomi Moneter Dan Perbankan*, 24(3), 313–334. <https://doi.org/10.21098/bemp.v24i3.1690>
- Rohmana, Y., & Utami, S. A. (2023). Inflation through the transmission of Islamic and conventional monetary policy in Indonesia. *Amwaluna: Jurnal Ekonomi dan Keuangan Syariah*, 7(1), 29–57. <https://doi.org/10.29313/amwaluna.v7i1.11214>
- Rudiansyah, R. (2020). Telaah gharar, riba, dan maisir dalam perspektif transaksi ekonomi Islam. *Al-Huquq: Journal of Indonesian Islamic Economic Law*, 2(1), 98–110. <https://doi.org/10.19105/alhuquq.v2i1.2818>
- Suhendi, & Siregar, K. (2025). The impact of inflation on Indonesia's economic growth from an Islamic economic perspective. *Journal of Scientific Insights*, 376–390. <https://doi.org/10.69930/jsi.v2i4.456>
- Uluylol, B. (2026). Beyond prohibitions: Unveiling the hidden dynamics of Islamic economics and finance. *Journal of Islamic Monetary Economics and Finance*, 12(1), 81–106. <https://doi.org/10.21098/jimf.v12i1.2781>
- Violainen, S. (2025). A statistically identified structural vector autoregression with endogenously switching volatility regime. *Journal of Business & Economic Statistics*, 1–20. <https://doi.org/10.1080/07350015.2024.2322090>