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Analysis of the Impact of Monetary Policy on Stability Islamic Banking in Indonesia

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Abstract: This study analyzes the impact of sharia monetary policy on the stability of Islamic banking in Indonesia using a quantitative approach with multiple linear regression analysis. Monthly time series data from 2022–2024 sourced from Bank Indonesia, OJK, and BPS were used to evaluate the effects of inflation and interest rates BI Rate on Return on Assets (ROA). The results indicate that inflation and BI Rate have a significant positive influence on ROA, with coefficients of 0.056 and 0.050, respectively. These findings contrast with general theories linking inflation to negative financial performance. However, the model explains only 24.1% of ROA variation (R^2=0.241), suggesting the need for additional variables such as liquidity or leverage. Classical assumption tests revealed heteroskedasticity issues, though no autocorrelation or multicollinearity was detected. The study concludes that sharia monetary policy plays a critical role in maintaining Islamic banking stability through interest rate and inflation management, but model refinement is required for a more comprehensive analysis.

Keywords: Sharia Monetary Policy, Banking Stability, ROA, Inflation, Interest Rate, Regression Analysis.

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A. INTRODUCTION

The development of the global financial system in recent decades has undergone various dynamics, including economic and financial crises that have tested the resilience of various banking system models. In this context, Islamic banking exists as an alternative to the financial system that offers different principles from the conventional system, by prioritizing the values of justice and economic balance based on sharia principles (Susanto & Mifrahi, 2020). In Indonesia itself, the development of Islamic banking has shown a positive trend as an integral part of the national financial system.

The stability of the banking system is a crucial aspect in maintaining the sustainability and trust of the public in the financial industry. Islamic banking as a subsystem of the national economy is inseparable from the influence of various economic policies, especially monetary policies implemented by monetary authorities. Monetary policy, both conventional and sharia, has a strategic role in creating an ecosystem conducive to banking operations, including Islamic banking (Arif, 2020). Bank Indonesia as the monetary authority has a mandate to maintain rupiah stability and support sustainable economic growth through various policy instruments. In the context of the dual banking system that prevails in Indonesia, the challenge for Bank Indonesia is how to harmonize monetary policy that can accommodate the unique

characteristics of Islamic banking without sacrificing the effectiveness of monetary policy as a whole (Aisyah & Saputra, 2021).

The implementation of Islamic monetary policy in Indonesia is marked by the issuance of various instruments such as the Bank Indonesia Sharia Certificate (SBIS) and the Sharia Interbank Money Market (PUAS) which aim to manage Islamic banking liquidity. Nasution and Setiawan (2020) show that SBIS has become an important instrument in controlling the liquidity of Islamic banking, although its effectiveness still needs to be improved. Meanwhile, Ridwan and Hasan (2023) analyze how SBIS and PUAS simultaneously affect the liquidity stability of Islamic commercial banks in Indonesia. In recent years, Indonesia's Islamic banking has faced various challenges, including the COVID-19 pandemic which brought significant shocks to the global financial system. Mardiana and Suprayogi (2021) examine the response of Islamic banking to Islamic monetary policy in the face of the pandemic, while Ramadhan and Trilaksana (2020) emphasize the importance of Islamic monetary policy in maintaining the stability of Islamic banking during the crisis.

The transmission of Islamic monetary policy has different characteristics and paths compared to conventional monetary policy. Fauziah and Karim (2021) analyzed the effectiveness of the transmission of sharia monetary policy on Islamic banking financing in Indonesia, while Prasetyo and Anggraeni (2021) examined specifically transmission through financing channels. Understanding this transmission mechanism is important to optimize the impact of Islamic monetary policy on the performance of Islamic banking. The performance and profitability aspects of Islamic banking are also inseparable from the influence of monetary policy. Aziz and Wibowo (2022) examined the impact of the implementation of Islamic monetary policy on the profitability of Islamic banks, while Nugroho and Firmansyah (2023) analyzed its effect not only on profitability but also on financing risk. Novianti and Harahap (2022) further examine how Islamic monetary policy stimulus contributes to the growth of Indonesia's Islamic banking assets post-pandemic.

Liquidity stability is one of the main indicators of the health of Islamic banking which is greatly influenced by monetary policy. Fadilah and Marlina (2023) examined the influence of Islamic monetary instruments on the liquidity of Indonesian Islamic banking, while Rohmah and Wahyudi (2022) examined the effectiveness of Islamic monetary policy in mitigating liquidity risks. Widyastuti and Armanto (2023) further analyze the implications of Islamic monetary policy on the liquidity resilience of Indonesia's Islamic banking.

Research by Safitri and Juanda (2021) reveals the significant influence of Islamic monetary policy shocks on the financial stability of Islamic banking. This is in line with the findings of Zulkarnain and Al-Harethi (2022) who compared the effectiveness of Islamic monetary policy in Indonesia and Malaysia in the context of Islamic banking stability. The era of financial digitalization also provides a new dimension in the implementation of Islamic monetary policy. Ismail and Pratama (2022) examine the impact of the application of financial technology (fintech) on the stability of Islamic banking within the framework of Islamic monetary policy, showing the need for policy adaptation in line with technological innovation.

The integration aspect between Islamic fiscal and monetary policies is also a concern in efforts to strengthen the stability of the Islamic financial system. Muhtarom and Darsono (2021)

emphasized the importance of synergy between the two policies to support the stability of Indonesia's Islamic financial system as a whole. A comprehensive evaluation of Islamic monetary policy has been conducted by Kurniawan and Widiastuti (2023), who analyzed the implications of this policy on the performance of Islamic banking for the 2018-2022 period. The results of this evaluation provide an overview of the effectiveness of the policies that have been implemented and areas for improvement.

Empirical data shows that there is a close link between monetary policy and the performance of Islamic banking in Indonesia. Here is a trend analysis of the key indicators that reflect the relationship over the observation period. The dynamics of the inflation rate in Indonesia during the 2018-2024 period show a significant pattern of fluctuations. Based on data from Bank Syariah Indonesia (BSI), it can be seen that inflation experienced a sharp upward trend from the beginning of 2022 until it peaked at 5.95% in September 2022. Furthermore, inflation gradually decreased until October 2024 which reached 1.71%.

This trend reflects the national economic condition that experienced post-pandemic inflationary pressures, but then slowly stabilized through monetary policy. The sharp decline in inflation from a high of 5.95% to below 2% by the end of 2024 indicates the success of price control by the monetary authorities. This inflation pattern is also related to the challenges of post-pandemic economic recovery faced by Indonesia, where high inflationary pressures in 2022 are a consequence of the recovery of aggregate demand after a period of social restrictions.

The relationship between the BI Rate benchmark interest rate and the equivalent rate in Islamic banking shows an interesting pattern. Although explicit data on the BI Rate is not displayed in the BSI table, it can be observed that Bank Syariah Indonesia's Net Operating Margin (NOM) fluctuated in the range of 2.40%-3.04% throughout the observation period. There was a significant increase in NOM in January 2023 which reached 3.04% and then remained relatively stable in the range of 2.6%-2.7% until October 2024.

The stability of NOM indicates that even though Islamic banking does not operate based on the interest system, the yield rate offered still considers the movement of the benchmark interest rate as a benchmark. This data strengthens the argument that Islamic banking is not completely separate from the influence of conventional monetary policy, but rather operates in an integrated financial ecosystem where changes in monetary policy affect the yield structure across the financial system.

The trend of Islamic banking profitability measured through Return on Assets (ROA) shows dynamics that are important to analyze. BSI data shows that ROA fluctuated in the range of 1.19%-2.18% during the period from January 2022 to October 2024. An interesting pattern can be seen where ROA reached a low point in February 2022 (1.19%), then increased steadily to reach 2.18% in March 2023, before experiencing a downward trend until January 2024 (1.77%) and returning to stability in the range of 2% until October 2024.

These fluctuations in ROA correlate with changes in macroeconomic conditions, especially inflation, where the period of high inflation in mid to late 2022 was followed by a decline in ROA in early 2023 to early 2024. This shows a lag effect where the impact of monetary policy on the profitability of Islamic banking does not occur instantly, but takes time. The stability of the ROA at the level of 2% amid declining inflation in 2024 shows that Islamic banking has

successfully adapted to changing monetary conditions and reached a new equilibrium point in terms of operational efficiency and profitability.

B. METHOD

This study uses a quantitative approach with descriptive and explanatory methods to analyze the impact of Islamic monetary policy on the stability of Islamic banking in Indonesia. The dependent variable in this study is Return on Assets (ROA) as an indicator of Islamic banking performance, while the independent variable consists of inflation and interest rates which represent monetary policy. The data used is secondary data for the monthly time series for the period January 2022 to October 2024 obtained from trusted sources such as Bank Indonesia, the Financial Services Authority (OJK), and the Central Statistics Agency (BPS). The data analysis method was carried out using multiple linear regression analysis techniques with the help of Eviews software. Multiple regression analysis is a statistical model used to estimate the value of dependent variables based on one or more independent variables. This model is used to identify the influence of inflation and interest rate variables on the ROA of Islamic banking.

1. Classic Assumption Test:
   a. Normality: Jarque-Bera Test (H0: Normal distribution)
   b. Homoskedasticity: White Test (H0: Constant residual variance)
   c. Multicollinearity: VIF (Variance Inflation Factor) > 10 (indication of multicollinearity)
   d. Autocorrelation: Durbin-Watson test (H0: No autocorrelation)

2. Best Model Test:
   a. Analysis of variance: F test (H0: All zero regression coefficients)
   b. T-test: Individual t-test (H0: Individual regression coefficient = 0)
   c. Coefficient of determination (R^2): Measures how much variation of a dependent variable can be explained by an independent variable

3. Pengujian Hypothesis:
   $ROA_{it} = \beta_0 + \beta_1 Inflasi_{it} + \beta_2 SukuBunga_{it} + \varepsilon_{it}$

Information:
ROA_{it} : Return on Assets
Inflation : Inflation Rate
TribeBungait : Interest Rate
β_0 : Constant
β_1 : Regression coefficient for inflation
β_2 : Regression coefficient for interest rates
Error : Error term

C. RESULTS AND DISCUSSION

1. Output Regresi

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Variable	Coefficient	Std.Error	t-Statistik	Prob.
C	1.535119	0.162383	9.453724	0.0000
BI Rate	0.050351	0.024333	2.0.69232	0.0469
Inflasi	0.055846	0.020043	2.786378	0.0090
R-square	0.240740			
Adjusted R-squared	0.191755			
F- statistic	4.914608			
Prob(F-statistic)	0.013998			

Source: data processed by the author, 2024

The results of the regression analysis showed that the variables of the BI Rate and inflation had a significant positive effect on ROA. The BI Rate coefficient of 0.050 with a p-value of 0.0469 indicates that every one unit increase in the BI Rate will increase the ROA by 0.050 units, assuming the other variables remain the same. Meanwhile, inflation also showed a stronger positive influence with a coefficient of 0.056 and a p-value of 0.0090, which means that the increase in inflation was followed by an increase in ROA. These findings are interesting because they contradict the common theory that inflation usually negatively impacts financial performance. A significant constant (C) at the level of 1.535 ($p < 0.001$) indicates the base value of ROA when all independent variables are zero.

Although this regression model is statistically significant (Prob F-statistic = 0.014), its explanatory power is relatively limited. An R-squared value of 0.241 or 24.1% indicates that only about a quarter of the variation in ROA can be explained by the BI Rate and inflation, while the rest is likely to be influenced by other factors not included in the model. This indicates the need to add other variables, such as liquidity, leverage, or additional macroeconomic conditions, to improve the accuracy of the model. In addition, the Durbin-Watson test of 2.176 showed the absence of autocorrelation in residuals, which supports the validity of the estimation results.

2. Heteroskedastisitas

Table 2. Heteroskedastisitas

F-statistik	6.087387	Prob. F(2,31)	0.0059
R-square	9.587597	Prob. Chi-Square(2)	0.0083
Scaled explained SS	14.39133	Prob. Chi-Square(2)	0.0007

Source: data processed by the author, 2024

The results of the Glejser heteroscedasticity test indicated that there was a heteroscedasticity problem in the regression model used. Prob value. An F of 0.0059 which is well below the significance level of 0.01 indicates a rejection of the hypothesis of zero homoskedasticity, meaning that the residual variant is not constant. The strengthening of this evidence can also be seen from the value of Prob. Significant Chi-Square in both Obs*R-squared (0.0083) and Scaled explained SS (0.0007). The existence of this heteroscedasticity has implications for the inaccuracy of standard errors and the significance test of the regression coefficient, although the coefficient estimate itself remains unbiased.

3. Autokorelasi

Table 3. Autokorelasi

F-statistic	0.266900	Prob. F(2,29)	0.7676
Obs*R-squared	0.614524	Prob. Chi-Square(2)	0.7355

Source: data processed by the author, 2024

The results of the Breusch-Godfrey Serial Correlation LM Test showed that the regression model did not experience autocorrelation problems at the 2nd lag. Prob value. F is 0.7676 and Prob. The Chi-Square of 0.7355 is well above the general significance level of 0.05, so the null hypothesis stating the absence of autocorrelation cannot be rejected. This indicates that the residual model is independent and there is no correlation between the residual in a given time period and the residual in the previous period.

4. Multikolinearitas

Table 4. Multikolinearitas

Variable	**Coefficient Variance**	**Uncentered VIF**	**Centered VIF**
C	0.026368	43.77713	NA
BI Rate	0.000592	28.30905	1.062325
Inflasi	0.000402	9.324398	1.062325

Source: data processed by the author, 2024

The results of the multicollinearity test showed that the regression model did not experience serious multicollinearity problems between independent variables. The Centered VIF value for the BI Rate and inflation variables is 1.062325 respectively, which is well below the general threshold of 5 or 10. This indicates that there is no high correlation between the two independent variables in the model. Thus, it can be concluded that these two variables make an independent contribution in explaining the variation in the dependent variable ROA.

D. CONCLUSIONS

This study analyzes the impact of Islamic monetary policy on the stability of Islamic banking in Indonesia with a quantitative approach using multiple linear regression analysis. The results show that inflation and interest rates (BI Rate) have a positive and significant effect on the Return on Assets (ROA) of Islamic banking. An increase of one unit of interest rates increased the ROA by 0.050 units, while inflation had a stronger impact with a coefficient of 0.056. These findings contrast with the general theory that inflation tends to be negative on financial performance. However, the model only explains 24.1% of the variation in ROA (R^2=0.241), indicating the need to add other variables such as liquidity or leverage to improve accuracy. The classical assumption test revealed the problem of heteroscedasticity, although no autocorrelation or multicollinearity was found. Overall, this study confirms that Islamic monetary policy plays a role in maintaining the stability of Islamic banking, especially through the management of interest rates and inflation, although there is still a need to improve the model and supporting variables for a more comprehensive analysis.

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