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Analysis of Financial Ratio Determinants on the Profitability of Islamic Banking in Indonesia Period 2022-2024

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Abstract

The research subjects include Bank Syariah Indonesia (BSI), Bank Muamalat, BCA Syariah, and Bank Mega Syariah for the period 2022–2024, a period characterized by post-pandemic economic recovery dynamics in Indonesia. The research employs a quantitative approach using the Panel Vector Autoregression (PVAR) method, selected because no variables were found to be cointegrated in the cointegration test, based on secondary data from quarterly financial reports. Test results using EViews 13 indicate that, in the Panel VAR Estimates, the BOPO and CAR variables have no significant effect on NPM, while FDR has a significant positive effect on NPM. The findings of the Variance Decomposition confirm that FDR is the primary determinant in explaining fluctuations in NPM, with its contribution increasing progressively from 3.23% in the second period to 61.49% by the end of the observation period. These findings carry important managerial implications: Islamic bank practitioners and regulators should prioritize optimizing the intermediary function through financing disbursement strategies, as effective fund channeling in the real sector constitutes the primary driver of profitability in the post-pandemic environment.

Keywords: Financial Ratio; Capital Ratio; Deposit Ratio; Islamic Banking; Profitability

Abstrak

Penelitian ini bertujuan untuk menganalisis dampak BOPO, FDR, dan CAR terhadap Margin Laba Bersih (NPM). Subjek penelitian meliputi BSI, Bank

Muamalat, BCA Syariah, dan Bank Mega Syariah untuk periode 2022–2024. Metode penelitian menggunakan pendekatan kuantitatif dengan Panel Vector Autoregression (PVAR) dikarenakan saat uji kointegrasi menghasilkan bahwa tidak terdapat variabel yang terkointegrasi, berdasarkan data sekunder dari laporan keuangan triwulanan. Hasil pengujian menggunakan Eviews 13 menunjukkan bahwa, dalam uji Panel VAR Estimates, variabel BOPO dan CAR tidak memiliki pengaruh yang signifikan terhadap NPM, sedangkan FDR memiliki pengaruh positif yang signifikan. Berdasarkan analisis Variance Decomposition, variabel FDR terbukti menjadi faktor utama dalam memengaruhi fluktuasi NPM. Hal tersebut dibuktikan dengan meningkat secara bertahap pada awal periode hingga akhir periode

Kata kunci: *Rasio Keuangan; Rasio Modal; Rasio Deposito; Perbankan Syariah; Profitabilitas*

Introduction

The Islamic banking industry in Indonesia has undergone significant structural transformation following the economic disruptions caused by the COVID-19 pandemic. As the national economy entered a post-pandemic recovery phase beginning in 2022, Islamic commercial banks faced dual pressures: restoring profitability while managing elevated operational and credit risks. The Net Profit Margin (NPM), as the central measure of profitability, reflects a bank's financial health, operational resilience, and capacity to sustain its intermediary function in channeling funds from the public back into the real economy (Kasmir, 2014).

Despite a growing body of literature on Islamic bank performance, a notable research gap persists regarding the dynamic nature of profitability determinants specifically during the 2022–2024 post-pandemic recovery period. Prior studies have largely examined pre-pandemic or single-bank contexts, without capturing how internal financial ratios interact during an economic recovery cycle. This study therefore addresses that gap by analyzing how the Operational Efficiency Ratio (BOPO), Financing to Deposit Ratio (FDR), and Capital Adequacy Ratio (CAR) jointly determine the NPM of four major Indonesian Islamic commercial banks over this critical three-year window. The 2022–2024 timeframe is scientifically relevant

as it captures the stabilization of Islamic banking operations following the pandemic shock and the normalization of monetary policy by Bank Indonesia (Yunita, 2018). Net Profit Margin reflects a bank's net earnings as a proportion of total operating revenue; a higher NPM signals stronger income generation efficiency, greater customer confidence, and an overall indicator of institutional financial soundness.

A healthy bank is a bank that has sufficient capital to maintain the quality of its assets. Good capital and asset management can generate profits to cover operational and other costs. The transparency of banking institutions' financial reports can be used to evaluate bank performance, enabling banks to set new strategies for the future (Nugraha et al., 2017). Net Profit Margin shows the percentage of a bank's net profit, so that the higher the Net Profit Margin ratio percentage, the higher the net profit obtained. A high percentage can increase customer confidence and can be used as an indicator of a bank's health.

Literature Review

Operating Expenses to Operating Income to Net Profit Margin

Operating Cost to Operating Income (BOPO) is a ratio used in banking management to assess how well banks are able to manage operating expenses in order to turn a profit. Because it controls a bank's operating expenses, a bank's performance is better when its BOPO percentage is lower (Ummah & Suprapto, 2015) The low BOPO ratio indicates that the bank is becoming more efficient in managing its operating expenses relative to operating income, reflecting the optimization of its banking operations (Wibowo & Syaichu, 2013)

Theoretically, the Operating Expense to Operating Income Ratio (BOPO) has a significant negative correlation with banking profitability. Within the Islamic banking context, this relationship carries additional dimensions rooted in the principle of efficiency (kafalah) and the Islamic economic obligation of amanah (trusteeship). Unlike conventional banks that may rely on interest-based income to absorb cost inefficiencies, Islamic banks under the profit-and-loss sharing (mudharabah and musyarakah) framework are more directly exposed to operational cost pressures, as excessive overhead can erode the bank's distributable profit-sharing re-

turns to depositors (Fasa, 2020). If the BOPO value increases, the bank's profitability will be linearly squeezed due to inefficiency in cost management, which ultimately leads to a decline in reported net profit. Karim and Hanafia (2020), as well as Amalia and Diana (2022), confirm that BOPO has a significant negative impact on banking profitability. Based on this description, the proposed hypothesis 1 in this study is as follows:

H1: BOPO (X1) has a significant negative effect on the NPM of Islamic commercial banks for the 2022-2024 period (Y)

Financial Deposit Ratio to Net Profit Margin

The FDR is a ratio that measures a bank's ability to reinvest successfully mobilized third-party funds and allocate them to financing (Ardana, 2018) The banking sector uses the Financing to Deposit Ratio (FDR) to measure the quantity of credit funds that banks provide in relation to the amount of cash that they receive. A bank's overall profit relative to the amount of money it receives from third parties increases with its FDR percentage (Gusmawanti et al., 2020)

In Islamic banking theory, the FDR is not merely a liquidity indicator; it is fundamentally tied to the principle of barakah (productive blessing through circulation of wealth). Under Islamic economic law, idle capital (mal mawquf) is considered contrary to the tenet of productive resource use, and the mobilization of third-party funds into real-sector financing is both an economic and a Sharia-compliant imperative. An increase in the FDR ratio therefore signals the bank's effective performance of its intermediary (wasilah) function, which directly generates profit-sharing income for the bank and its depositors.

Theoretically, an optimal FDR ratio reflects the bank's effectiveness in performing these intermediary functions, and empirically, a study conducted by (Astuti, 2022), (Khasanah et al., 2022) found that the FDR ratio has a significant positive impact on profitability. This is consistent with the findings of this study, which indicate that an increase in the FDR ratio will improve the profitability of Islamic banks. Based on this description, the proposed hypothesis 2 in this study is as follows:

H2: FDR (X2) has a significant positive effect on the NPM of Islamic commercial banks for the 2022-2024 period (Y)

Capital Adequacy Ratio to Net Profit Margin

The CAR is a ratio that measures a bank's capital adequacy in providing capital to offset risks and cover potential declines in asset values resulting from operational losses (Mulya et al., 2024) In accordance with applicable banking regulations, every bank is required to maintain a minimum capital adequacy ratio (CAR) of 8%. Meeting this minimum standard is crucial for maintaining the stability of the banking system and ensuring that banks have the capacity to absorb potential losses arising from operational and credit risks (Chaerunisak et al., 2019)

Within the Islamic banking framework, the CAR functions not only as a regulatory buffer against financial losses, but also as a manifestation of the Islamic principle of ihraz al-mal (capital preservation). A well-capitalized Islamic bank is better positioned to expand its mudharabah (profit-sharing) and musyarakah (joint-venture) financing portfolios without violating the regulatory minimums set by the OJK and aligned with Basel III standards. A high CAR percentage reflects a robust capital structure, thereby providing banks with the flexibility to optimize financing disbursement in a more expansive manner. This increase in financing volume has the potential to linearly boost profit-sharing income, which ultimately contributes positively to the growth of the net profit margin (NPM). Research by (Yuliana & Listari, 2021) and (Septiani & Lestari, 2016) found that CAR has a significant positive effect on NPM, meaning that capital can offset a bank's financial risk of loss. Based on this description, the proposed hypothesis 3 in this study is as follows:

H3: CAR (X3) has a significant positive effect on the NPM of Islamic commercial banks for the 2022-2024 period (Y)

Research Methods

This study employs a quantitative approach using the Panel Vector Autoregression (PVAR) method to analyze the determinants of Islamic bank profitability. The selection of the PVAR model is based on its ability to maintain the integrity of dy-

namic relationships among variables and optimize degrees of freedom. Additionally, this method offers the advantage of capturing both cross-sectional variation and time-series dynamics simultaneously, thereby yielding more comprehensive and accurate estimates compared to standard time-series analysis.

This study utilizes secondary data sourced from credible academic literature, including peer-reviewed journals, authoritative books, and official financial statements pertinent to the research variables. The research population comprises 14 Islamic Commercial Banks (Bank Umum Syariah) registered with the Indonesian Financial Services Authority (OJK) as of August 2024. Data collection was conducted through indirect observation, leveraging official publications and secondary intermediaries to ensure the validity and reliability of the dataset for subsequent statistical estimation.

Table 1

Data on Indonesian Sharia Commercial Banks as of August 2024

Data of Indonesian Sharia Commercial Banks August 2024	
No.	**Name of Sharia Commercial Bank**
1	PT. Bank Aceh Syariah
2	PT. BPD Riau Riau Kepri Syariah
3	PT. BPD Nusa Tenggara Barat Syariah
4	PT. Bank Muamalat Indonesia
5	PT. Bank Victoria Sharia
6	PT. Jabar Banten Syaria
7	PT. Bank Syariah Indonesia, Tbk
8	PT. Mega Sharia
9	PT. Bank Panin Dubai Syariah, Tbk
10	PT. Bank Syariah Bukopin
11	PT. BCA Syariah
12	PT. Bank Tabungan Pensiunan Nasional
13	PT. Bank Aladin Syariah, Tbk
14	PT. Bank Nano Shariah

Source: (Otoritas Jasa Keuangan, 2024)

The sample used by the researcher was four Islamic banks, namely: Bank Muamalat, Bank Syariah Indonesia (BSI), BCA Syariah, and Bank Mega Syariah. This sample was selected using a purposive sampling technique, with the following objective and measurable criteria to ensure replicability: (1) the bank must be classified as a full-fledged Islamic Commercial Bank (Bank Umum Syariah) registered with the OJK throughout the entire 2022–2024 observation period; (2) the bank must have published complete quarterly financial reports (Laporan Keuangan Triwulanan) throughout all twelve quarters of the observation period; and (3) the bank must rank among the top five Islamic commercial banks by total assets as reported in the OJK Sharia Banking Statistics (Statistik Perbankan Syariah) as of December 2023, thereby ensuring that the selected banks represent systemically significant institutions with sufficient transactional data for robust PVAR estimation.

The four banks that satisfy all these criteria BSI, Bank Muamalat, BCA Syariah, and Bank Mega Syariah collectively account for the largest share of Islamic banking assets in Indonesia, providing a representative basis for generalizing findings to the industry (Zuraidah & Wahid, 2023)(Zuraidah & Wahid, 2023). The researcher uses observation techniques because one of the quantitative data collection techniques is to observe and record all the related needs. Using documentation techniques, the researcher collected data through journals, articles, books, quarterly reports of Bank Muamalat, Bank Syariah Indonesia, BCA Syariah, and Mega Syariah Bank. The primary objective of this analysis is to identify the impact of Operational Efficiency (BOPO), Financing to Deposit Ratio (FDR), and Capital Adequacy Ratio (CAR) on the Net Profit Margin (NPM) of Islamic commercial banks. The research covers the period from 2022 to 2024, with data processed using EViews 13 software.

Discussion

Analysis Result of Stationarity Test

The stationary test employed in this research is the individual unit root Fisher-ADF test. If the p-value resulting from the test is less than the significance level (α =

0,05), the data is considered stationary. The following are the results of the stationarity tests for the variables at the level stage.

Table 2

Level Test Result

Variable	Statistic	P-Value	Explanation
BOPO	8.42691	0.3929	Non-stationary
FDR	9.32992	0.3152	Non-stationary
CAR	6.98400	0.5384	Non-stationary
NPM	16.0187	0.0421	Stationary

Source: Processed by researchers with EViews 13

Based on Table 2, the ADF test results for the BOPO variable at the level stage indicate that the variable is non-stationary. This is evidenced by the p-value of 0,39, which exceeds the 0.05 significance level. The results of FDR variable show a probability of 0.31. With a p-value > 0.05, the FDR variable is not stationary at the level. The CAR variable with a probability value of 0.53. With a p-value > 0.05, the variable is not stationary at the level. The results of NPM variable at the level indicate that the probability value of the NPM variable is 0.04. With a probability value < 0.05, the variable can be said to be stationary at the level.

Table 3

First Difference Test Result

Variable	Statistic	P-Value	Explanation
BOPO	41.1033	0.0000	Stationary
FDR	28.1665	0.0004	Stationary
CAR	25.1555	0.0015	Stationary
NPM	32.3153	0.0001	Stationary

Source: Processed by researcher with EViews 13

It can be concluded that the results of the level stationarity test conducted by the researcher for the BOPO, FDR, and CAR variables show a probability value > 0.05, so a first difference level unit root test is required. Even though the NPM variable has a probability value < 0.05, the researcher must continue the stationarity

test at the first difference level as well because all variables must be stationary at the same level.

Table 3 shows the results of the unit root test using the ADF-Fisher type on the BOPO variable conducted by the researcher at the first difference level, with a probability result of 0.00. The p-value result is < 0.05, so it can be said that the BOPO variable is stationary at the first difference level. The FDR variable produced a probability of 0.00. The p-value < 0.05 indicates that the FDR variable is stationary at the first difference level. The results of CAR variable show a probability value of 0.00. With a p-value < 0.05, it can be concluded that the CAR variable is stationary at the first difference level. The results of NPM variable show a probability value of 0.00. With a p-value < 0.05, it can be said that the NPM variable is stationary at the first difference level.

Analysis Result of Stability Test

The stability test for a Panel VAR model is performed by evaluating the roots of the characteristic polynomial. This stability condition is crucial to ensure that the estimation results are unbiased and have valid interpretations (Was'an, 2022) A Panel VAR/Panel VECM model can be considered stable if the root table has a modulus value below one and the root graph has no roots outside the circle. The following are the stability test results.

Table 4

Stability Test Result

Root	Modulus
-0.542189	0.542189
0.100590 - 0.111025i	0.149817
0.100590 + 0.111025i	0.149817
0.099649	0.099649

Table 4 shows four roots originating from four variables, resulting in a modulus of less than one for each variable, indicating that all variables are stable. The roots graph shows a graph with all roots inside the circle; we can conclude that the model used meets the stability requirements.

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Analysis Result of Determining Optimal Lag Length

Determining the optimal lag length is a crucial step in VAR analysis to ensure that the model can accurately capture the dynamics of the relationships between variables in subsequent tests. The selection of the ideal lag length is based on the smallest (minimum) value of these criteria, which is typically identified by the highest number of asterisks (*) in the statistical output. The use of the appropriate lag serves to avoid autocorrelation issues while maintaining the efficiency of the degrees of freedom in the model (Iskandar, 2019)

Table 5

Optimal Lag Length Result

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-3.427.083	NA*	397.0046*	17.33541*	17.50430*	17.39648*
1	-3.326.174	1.765.903	5.362.605	1.763.087	1.847.531	1.793.619

Source: Processed by researchers with EViews 13

Within the Panel VAR/VECM model framework, the use of a zero lag is theoretically not feasible because this model is designed to capture the dynamics between variables through time-lagged relationships. The researcher determined that using a lag of 1 is the most efficient specification because it captures short-term interactions between variables without compromising the model's statistical validity. This minimal yet appropriate choice of lag ensures the model remains stable and meets the criteria. Conversely, using excessively high lags should be avoided as it risks introducing systematic issues.

Analysis Result of Cointegration Test

The results of the cointegration test conducted cointegration test show that there is a cointegration relationship in the variables used by the researcher in this study, with a probability value of < 0.05, indicating that the variables are cointegrated with a long-term relationship.

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Probability values greater than the significance level of 0.05. These results indicate that there is no cointegration or stable long-run relationship among the variables NPM, BOPO, FDR, and CAR during the 2022–2024 period. Therefore, this study remains consistent in using the Panel Vector Autoregression (PVAR) model in first-difference form to analyze the relationships between variables.

Table 6

Cointegration Test Result

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	00.05 Critical Value	Prob.** Critical Value
None	0.476575	4.579.854	4.785.613	0.0771
At most 1	0.286075	1.990.408	2.979.707	0.4293
At most 2	0.148311	6.424.975	1.549.471	0.6453
At most 3	9.02E-05	0.003610	3.841.465	0.9510

Source: Processed by researcher with EViews 13

Analysis Result of Panel VAR Estimates Test

Table 7

Panel VAR Estimates Test Result

	NPM	BOPO	FDR	CAR
NPM(-1)	0.679562	-0.591976	-0.558464	0.166270
	(0.27887)	(0.32816)	(0.75946)	(0.18362)
	[2.43683]	[-1.80391]	[-0.73534]	[0.90549]
BOPO(-1)	-0.120572	0.362042	-0.615221	0.081950
	(0.22393)	(0.26351)	(0.60984)	(0.14745)
	[-0.53844]	[1.37392]	[-1.00883]	[0.55579]
FDR(-1)	0.081379	-0.105601	0.896395	-0.024720
	(0.02373)	(0.02793)	(0.06463)	(0.01563)
	[3.42916]	[-3.78142]	[13.8698]	[-1.58194]

CAR(-1)	-0.085817	0.108163	0.168104	0.934269
	(0.05775)	(0.06795)	(0.15726)	(0.03802)
	[-1.48610]	[1.59172]	[1.06894]	[24.5709]
C	11.39411	64.16244	60.22859	-5.510986
	(22.2682)	(26.2042)	(60.6438)	(14.6626)
	[0.51168]	[2.44856]	[0.99315]	[-0.37585]
R-squared	0.950089	0.956464	0.914805	0.956156
Adj. R-squared	0.944970	0.951999	0.906067	0.951659
Sum sq. resids	157.8766	218.6196	1170.903	68.44959
S.E. equation	2.011993	2.367621	5.479339	1.324809
F-statistic	185.5973	214.2027	104.6930	212.6299
Log likelihood	-90.54102	-97.70246	-134.6228	-72.15527
Akaike AIC	4.342774	4.668294	6.346491	3.507058
Schwarz SC	4.545523	4.871042	6.549239	3.709807
Mean dependent	14.33795	81.06045	69.39205	28.79500
S.D. dependent	8.576814	10.80653	17.87799	6.025550

Determinant resid covariance (dof adj.)	263.8254
Determinant resid covariance	162.8412
Log likelihood	-361.7742
Akaike information criterion	17.35337
Schwarz criterion	18.16437
Number of coefficients	20

Source: Processed by researcher with EViews 13

To determine the results of Panel VAR testing, check whether the T-statistic > the T-table value; if so, it has an effect, but if the T-statistic < the T-table value, it has no effect. In this test, using the T-table is 2.036933. Based on the Panel VAR estimation above, the BOPO variable has an estimated t-statistic of -0.53844, which is lower than the T-table value of 2.03, indicating BOPO was found to have no

significant effect on NPM. The FDR variable has an estimated t-statistic of 3.42916, which is greater than the critical t-value of 2.03, indicating that FDR has a significant positive effect on NPM. The CAR variable has an estimated t-statistic of -1.48610, which is lower than the critical t-value of 2.03, indicating that CAR does not have a significant effect on NPM

Analysis Result of Impulse Response Function Test

Analysis of the Impulse Response Function (IRF) within the Panel Vector Autoregression (PVAR) model framework serves as an analytical tool to isolate and track the transmission of a one-standard-deviation shock in an endogenous variable to other variables within the system (Arianty & Dawood, 2023)

Meanwhile, the Capital Adequacy Ratio (CAR) variable also exhibited an initial negative response to the NPM shock, but subsequently showed a progressive recovery towards the positive zone. On the other hand, the Financing to Deposit Ratio (FDR) variable exhibited a relatively longer and more persistent negative response to shocks from NPM. However, the FDR variable began to show signs of gradual strengthening in periods 9 and 10, with a stable movement towards zero.

Analysis Result of Variance Decomposition Test

Variance Decomposition is a method within the Vector Autoregression (VAR) model framework that decomposes the variance of a variable's forecast error into contributions from shocks to the variable itself and from shocks to other variables in the system (Rahayu et al., 2021)

At the beginning of the period, the BOPO was influenced by the NPM by 69.99%, while the BOPO itself accounted for only 30% as the primary factor in changes in operating costs. At the end of the period, fluctuations in BOPO were more heavily influenced by BOPO itself at 73.48%, indicating that the operational costs of the Islamic banks studied were not significantly influenced by the variables of profitability (NPM), financing (FDR), and capital adequacy (CAR).

The results of the variance decomposition analysis indicate that the FDR variable exhibits a very high degree of autonomy within the system. At the beginning of the period, fluctuations in the FDR were dominated by shocks from the variable itself, accounting for 86.09%. This dominance continued to increase, reaching 89.21% by the end of the observation period. These findings indicate that movements in the financing ratio at the Islamic banks under study tend to be self-explained and are not significantly influenced by the variables of profitability (NPM), cost efficiency (BOPO), or capital adequacy (CAR). Thus, it can be concluded that the dynamics of the FDR are largely determined by internal banking factors or other variables outside the scope of this research model.

The results of the variance decomposition analysis on the CAR variable indicate that fluctuations in the capital adequacy of Islamic banks are predominantly influenced by shocks from the variable itself by 65.54%. On the other hand, FDR was the external variable with the most significant contribution, reaching 24.70%. The consistent increase in FDR's contribution from the beginning to the end of the period indicates that financing disbursement policies are the primary external factor influencing the bank's capital risk profile. Additionally, the NPM variable also showed an increasing contribution trend, reaching 9.58% by the end of the period. This demonstrates that a bank's ability to generate profits effectively helps strengthen its capital structure through the mechanism of long-term retained earnings accumulation.

Table 8

Variance Decomposition of NPM:

Period	S.E.	NPM	BOPO	FDR	CAR
1	2.011993	100.0000	0.000000	0.000000	0.000000
2	2.527188	96.36679	0.221905	3.238451	0.172849
3	2.856278	88.72249	0.540225	10.25279	0.484486
4	3.141383	78.82006	0.876834	19.48839	0.814724
5	3.423212	68.56762	1.187105	29.16942	1.075.863
6	3.709734	59.21771	1.451436	38.09473	1.236.125
7	3.998206	51.27291	1.667991	45.75583	1.303.266
8	4.283660	44.75732	1.843369	52.09846	1.300.850

9	4.561867	39.48671	1.986220	57.27355	1.253.516
10	4.830042	35.22673	2.104359	61.48766	1.181.257

Source: Processed by researcher with EViews 13

The results of the analysis show that in the first period, fluctuations in NPM were entirely (100%) driven by shocks to the variable itself. This suggests that in the very short term, bank profitability is independent and not yet influenced by the dynamics of other variables in the system. However, from the second to the tenth period, a significant shift in determinants occurred, with the contribution of FDR to NPM increasing progressively. From a marginal contribution of 3.23% in the second period, this figure rose sharply to reach 61.49% by the end of the observation period. This phenomenon demonstrates a transition in roles, wherein FDR replaces internal factors as the primary driver of NPM fluctuations. Thus, the banking intermediation strategy through the channeling of financing proves to be a far more dominant engine of profitability growth compared to the influence of operational efficiency or capital adequacy.

Discussion

Based on the results of the VAR panel estimation of BOPO, a t-statistic value of -0.53 was obtained, which is smaller than the t-table value of 2.03. This finding indicates that the BOPO variable does not have a significant effect on NPM. Thus, the first hypothesis, which states that BOPO has a negative and significant effect on NPM, is rejected in this study.

The results of the VAR panel estimation indicate that the FDR variable has a t-statistic value of 3.42, which is greater than the critical t-value of 2.03. This empirical finding suggests that the FDR variable has a significant positive effect on NPM. Thus, the second hypothesis, which states that FDR has a significant positive effect on NPM, is accepted in this study.

Meanwhile, the results of the VAR panel test for the CAR variable show a t-statistic value of -1.48, which is absolutely smaller than the critical t-value of 2.03. This empirical finding indicates that capital adequacy (CAR) does not have a significant effect on the profitability (NPM) of Islamic banks during the observation

period. Thus, the third hypothesis, which states that CAR has a positive and significant effect on NPM, is rejected.

The rejection of the first hypothesis is consistent with the findings of Natanael and Mayangsari (2022), who stated that BOPO does not have a significant effect on profitability. From an institutional management perspective, this result is economically explicable within the Islamic banking context. During the 2022–2024 post-pandemic recovery period, Islamic banks faced relatively rigid cost structures including personnel costs, technology infrastructure investments for digital banking expansion, and Sharia supervisory compliance costs that did not fluctuate proportionally with changes in profit-generating activity. In Islamic banks operating under the mudharabah model, operating expenses are often treated as fixed administrative overhead rather than as variable costs directly linked to financing volume. Consequently, marginal changes in BOPO did not translate into statistically significant shifts in NPM. Furthermore, variance decomposition results reveal that FDR is in fact the primary factor influencing fluctuations in BOPO, suggesting that the efficiency of cost management is itself downstream of the bank's intermediary performance, rather than being an independent driver of profitability (Fasa, 2020).

The non-significant effect of CAR on NPM is consistent with the findings of Amalia and Diana (2022). This result is economically interpreted as follows: the four banks in this study maintain CAR levels significantly above the 8% minimum threshold required by the OJK throughout the observation period. Under these conditions, the marginal utility of additional capital on profit generation becomes negligible. In Islamic banking theory, capital that is held in excess as a regulatory buffer (without being channeled into productive mudharabah or musyarakah financing) remains dormant and generates no profit-sharing return. The variance decomposition analysis further reveals that FDR exerts a growing influence on CAR fluctuations, reinforcing the interpretation that a bank's productive financing decisions — not its capital reserves per se are the primary mechanism through which profitability and capital utilization are optimized. This underscores the critical importance of active balance-sheet management in Islamic banks (Firdaus & Ariyanti, 2021).

The variance decomposition analysis confirms that FDR is the dominant determinant of NPM fluctuations, with its explanatory contribution rising progressively from 3.23% in period two to 61.49% by the end of the observation period. This finding is economically coherent from an Islamic banking institutional management standpoint. The primary revenue-generating mechanism of Islamic banks is profit-sharing income derived from productive financing (mudharabah, musyarakah, murabahah), rather than interest income as in conventional banks. An increase in the FDR therefore represents an expansion of the revenue base itself as more depositor funds are channeled into real-sector financing, the bank earns higher profit-sharing returns that directly flow into NPM. This dynamic, particularly its progressive strengthening over the observation period, suggests that the economic recovery environment of 2022–2024 created conditions favorable to financing expansion, with growing demand for Islamic financing products from the productive sector. Bank management and regulators should therefore prioritize policies that optimize financing quality and disbursement efficiency, including through strengthening credit risk frameworks in the mudharabah portfolio, to sustain this profitability trajectory (Firdaus & Ariyanti, 2021; Fasa, 2020).

CONCLUSION

This study yields three main findings. First, BOPO has no significant effect on profitability (NPM), indicating that operating cost efficiency was not the primary determinant of Islamic bank profitability during the post-pandemic recovery period. Second, FDR has a positive and significant effect on NPM and emerged as the dominant source of profitability fluctuations, with its contribution increasing to 61.49% in the Variance Decomposition analysis. This finding highlights that effective financing intermediation is the key driver of profitability in Islamic banks. Third, CAR does not significantly affect NPM, suggesting that maintaining capital above the regulatory minimum alone does not improve profitability unless it is translated into productive financing.

These findings imply that Islamic banks should prioritize improving the quality and expansion of financing portfolios rather than relying solely on capital

accumulation or operational cost reductions. Regulators should also encourage financing directed toward productive sectors to strengthen the profitability and resilience of the Islamic banking industry while ensuring compliance with Sharia principles.

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