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Financial Determinants of Profitability in Post-Merger Islamic Banking: Evidence from Bank Syariah Indonesia (2020–2024)

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Abstract

This study aims to analyze the effect of Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Non-Performing Financing (NPF) on Return on Assets (ROA) at Bank Syariah Indonesia (BSI), Indonesia's largest Islamic banking institution. The research employs a quantitative approach using secondary data derived from BSI's quarterly financial reports from 2020 to the second quarter of 2024. Statistical analyses, including descriptive statistics, classical assumption testing, multiple linear regression, and hypothesis testing (t-test and F-test), were conducted using SPSS version 27. The results show that FDR has a significant positive effect on ROA, whereas NPF has a significant negative effect. CAR, however, does not demonstrate a significant relationship with ROA, suggesting that capital adequacy, while crucial for regulatory compliance, may not directly influence profitability in the short term. These findings imply that efficient liquidity allocation and credit risk control are key to improving financial performance in Islamic banking institutions. Furthermore, the simultaneous effect of CAR, FDR, and NPF on ROA is statistically significant, highlighting the importance of integrated financial management. This study contributes to the literature on Islamic finance by offering empirical evidence from the post-merger performance of BSI and provides valuable insights for bank managers, regulators, and policymakers in designing strategies that balance profitability, stability, and sharia compliance. Future studies are recommended to incorporate external economic indicators and conduct comparative evaluations with other Islamic banks at the national and international levels.

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INTRODUCTION

The financial services industry in Indonesia has been experiencing rapid transformation, with Islamic banking emerging as a compelling alternative to conventional financial systems. Unlike interest-based mechanisms in conventional banks, Islamic banks adhere to sharia principles such as profit and loss sharing, risk-sharing, ethical investments, and the prohibition of riba (interest) (Ascarya, 2021). Despite its relatively recent development compared to conventional banking, the Islamic banking sector has demonstrated significant resilience and growth. As of 2023, the total assets of Indonesia's Islamic banking sector reached IDR 781.59 trillion, marking a year-on-year growth of 15.63% (OJK, 2024).

The enactment of Law No. 10 of 1998 concerning banking marked a regulatory milestone, facilitating the establishment of Islamic banks and allowing conventional banks to open Islamic banking units. The sector's development culminated in the historic merger of three state-owned Islamic banks—BRIS, BSM, and BNIS—into PT Bank Syariah Indonesia Tbk (BSI), which was officially launched on February 1, 2021. This consolidation, endorsed by the Financial Services Authority (OJK), aims to enhance competitiveness and create a more robust Islamic financial institution capable of contributing to national economic growth (OJK, 2021).

Amidst this growth, a critical challenge remains: sustaining profitability in an increasingly competitive market. Profitability is a fundamental indicator of a bank's financial performance and managerial effectiveness in utilizing assets, liabilities, and equity. Among various profitability metrics, Return on Assets (ROA) is widely regarded as a key measure due to its ability to assess how efficiently a bank converts its assets into net income (Prabowo & Sutanto, 2019; Rivandi & Gusmariza, 2021). The central bank and financial regulators prioritize ROA over other indicators such as ROE, as it more accurately reflects the return on public funds entrusted to banks (Pontoh et al., 2016).

Several determinants influence bank profitability, including the Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Non-Performing Financing (NPF). CAR reflects a bank's capacity to absorb potential losses, with a minimum standard of 8% set by Bank Indonesia as a benchmark for financial health (Wijaya & Tiyas, 2019). The FDR evaluates the efficiency of loan disbursement relative to third-party funds, where the healthy range typically falls between 75% and 85% (Utami & Muslikhati, 2019). Meanwhile, NPF indicates credit risk levels, and higher NPF ratios are associated with declining profitability due to impaired asset quality (Widyaningrum & Septiarini, 2015).

Although theory predicts consistent relationships among these indicators, recent empirical evidence from BSI suggests otherwise. For instance, between 2020 and 2021, BSI's CAR increased by 22.12%, while ROA declined by 0.07%. In contrast, during the period from 2023 to the second quarter of 2024, FDR dropped sharply by 167.25%, with a concurrent 4.51% decline in ROA. Likewise, fluctuations in NPF levels do not consistently correspond with changes in ROA, contradicting theoretical expectations.

These inconsistencies underscore the need for further empirical investigation, particularly in the context of Indonesia's largest Islamic bank following a significant structural transformation. Accordingly, this study aims to empirically examine the effects of CAR, FDR, and NPF on ROA using quarterly financial data of PT Bank Syariah Indonesia from 2020 to Q2 2024. The findings are expected to contribute to the academic discourse and provide strategic insights for stakeholders in managing financial performance in Islamic banking.

METHODS

This study employs a quantitative research approach with an associative method to analyze the relationship between independent variables—Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Non-Performing Financing (NPF)—and the dependent variable, Return on Assets (ROA). The quantitative approach is appropriate for this study as it allows for numerical measurement of financial ratios and statistical testing of hypotheses using inferential techniques.

Data Sources

The data used in this study are secondary in nature, obtained from the quarterly financial reports of PT Bank Syariah Indonesia for the period 2020 to the second quarter of 2024. These reports were accessed through official websites, including www.bankbsi.co.id and www.ojk.go.id. The selected financial ratios—ROA, CAR, FDR, and NPF—serve as proxies for profitability, capital adequacy, liquidity management, and credit risk, respectively.

Data Collection Techniques

Data were collected through documentation and literature review. The documentation method involved gathering historical financial data from BSI's official reports. Meanwhile, the literature review incorporated theoretical foundations and findings from previous research, scholarly articles, and regulatory guidelines relevant to Islamic banking and financial performance evaluation.

Analytical Techniques

The data were analyzed using IBM SPSS Statistics version 27. The analysis consisted of several steps:

Descriptive Statistical Analysis – to summarize and describe the central tendency, dispersion, and distribution pattern of each variable.

Classical Assumption Tests, including:

- Normality Test (Kolmogorov-Smirnov method) to assess the distribution of residuals.
- Autocorrelation Test (Durbin-Watson statistic) to detect serial correlation among residuals.
- Heteroscedasticity Test (Glejser method) to examine the homogeneity of variance.
- Multicollinearity Test (Variance Inflation Factor and Tolerance) to detect collinearity among independent variables.

Multiple Linear Regression Analysis – to determine the magnitude and direction of the relationship between CAR, FDR, and NPF as independent variables and ROA as the dependent variable.

Hypothesis Testing:

- t-test (Partial test) to evaluate the individual significance of each independent variable on ROA.
- F-test (Simultaneous test) to examine the joint influence of all independent variables on ROA.

The model is expressed in the following linear regression equation:

$$ROA=\beta_0+\beta_1(CAR)+\beta_2(FDR)+\beta_3(NPF)+\epsilon$$

Where:

ROA = Return on Assets
CAR = Capital Adequacy Ratio
FDR = Financing to Deposit Ratio
NPF = Non-Performing Financing
ϵ = Error term

This methodological framework is expected to provide robust and reliable results that can explain the dynamics of profitability in the context of Indonesia's largest Islamic banking institution.

RESULT AND DISCUSSION

RESULT

Descriptive Statistics

Descriptive statistics were used to summarize the distribution characteristics of the variables in this study. The table below displays the minimum, maximum, mean, and standard deviation for each financial ratio during the period from 2020 to the second quarter of 2024:

Variable	N	Minimum	Maximum	Mean	Std. Deviation
CAR (%)	18	16.43	23.10	19.78	2.31
FDR (%)	18	73.39	88.31	78.70	5.09
NPF (%)	18	1.99	3.11	2.56	0.36
ROA (%)	18	1.61	2.51	2.00	0.33

- The average Capital Adequacy Ratio (CAR) was 19.78%, placing it in the "very healthy" category based on Bank Indonesia Circular Letter No. 13/24/DPNP (CAR > 12%).
- The mean Financing to Deposit Ratio (FDR) was 78.70%, falling within the "healthy" range (75% ≤ FDR ≤ 85%) as per Circular Letter No. 6/23/DPNP (2004).
- The Non-Performing Financing (NPF) averaged 2.56%, which aligns with the healthy threshold of 2%–5%.
- The mean Return on Assets (ROA) stood at 2.00%, indicating a very healthy profitability level (ROA > 1.5%).

Normality Test

The Kolmogorov-Smirnov test was used to assess the normality of the regression residuals. The result yielded a significance value of 0.118 (> 0.05), indicating that the residuals are normally distributed and suitable for linear regression analysis.

Autocorrelation Test

The Durbin-Watson statistic was 1.972. Given the sample size (n = 18) and number of predictors (k = 3), this value falls between the upper and lower critical values (1.6961 < DW < 2.3039), suggesting no autocorrelation in the residuals.

Heteroscedasticity Test

Using the Glejser test, the significance values for CAR (p = 0.361), FDR (p = 0.692), and NPF (p = 0.521) were all above 0.05, confirming that the regression model does not suffer from heteroscedasticity.

Multicollinearity Test

The results of the multicollinearity test show that all independent variables had tolerance values above 0.10 and VIF values below 10:

CAR: Tolerance = 0.809, VIF = 1.236

FDR: Tolerance = 0.399, VIF = 2.509

NPF: Tolerance = 0.423, VIF = 2.363

These results confirm the absence of multicollinearity among the predictors.

Multiple Linear Regression Analysis

The multiple linear regression model yielded the following equation:

$$ROA = -0.017 + 0.010(CAR) + 0.035(FDR) - 0.373(NPF)$$

The interpretation of the coefficients is as follows:

- A 1% increase in CAR is associated with a 0.010% increase in ROA, although this effect was not statistically significant.
- A 1% increase in FDR leads to a 0.035% increase in ROA, with a statistically significant effect ($p = 0.011$).
- A 1% increase in NPF is associated with a 0.373% decrease in ROA, and this relationship is statistically significant ($p = 0.040$).

Hypothesis Testing

Partial Test (t-test)

CAR: $t = 0.529$, $p = 0.605 > 0.05$ → Not significant

FDR: $t = 2.911$, $p = 0.011 < 0.05$ → Significant and positive

NPF: $t = -2.269$, $p = 0.040 < 0.05$ → Significant and negative

Simultaneous Test (F-test)

The F-test produced a value of 19.268 with a significance level of 0.001 (< 0.05). This indicates that CAR, FDR, and NPF together have a statistically significant effect on ROA.

DISCUSSION

The findings of this study provide empirical insights into the financial performance of Indonesia's largest Islamic bank—PT Bank Syariah Indonesia (BSI)—with a particular focus on how Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Non-Performing Financing (NPF) influence Return on Assets (ROA). The results show that while FDR and NPF significantly affect profitability, CAR does not exert a statistically significant impact, challenging some traditional assumptions in banking finance literature.

Capital Adequacy Ratio (CAR) and ROA

The non-significant effect of CAR on ROA in this study is consistent with findings from Rivandi & Gusmariza (2021) and Syakhrun et al. (2019), who noted that in Islamic banks, capital strength may not directly translate to increased profitability, especially in periods of aggressive expansion or structural adjustments post-merger. High CAR might reflect conservative risk management rather than income-generating efficiency (Muhamad et al., 2022). Additionally, studies such as Fauzi et al. (2020) argue that while CAR enhances bank stability, its relationship with profitability is often indirect and context-dependent.

This result aligns with the argument that for banks undergoing transformation—such as BSI following the 2021 merger—the capital adequacy ratio may serve more as a buffer against systemic risk than as a direct performance driver (Hasan & Mustafa, 2023).

Financing to Deposit Ratio (FDR) and ROA

The positive and significant relationship between FDR and ROA confirms the hypothesis that effective liquidity utilization through financing enhances profitability. This supports previous research by Utami & Muslikhati (2019), as well as more recent studies such as Yuliani & Saputra (2021), which found that higher FDR ratios, within prudent thresholds, reflect banks' proactive role in channeling funds to the real sector—an essential feature of Islamic banking models (Abdullah et al., 2021).

Moreover, Islamic banks that effectively mobilize deposits into productive financing tend to demonstrate stronger ROA, particularly when aligned with risk-sharing contracts such as mudharabah and musyarakah (Ismail & Ariffin, 2020). However, exceeding the optimal FDR level could inversely affect ROA due to liquidity constraints or rising default risks (Yanti et al., 2023).

Non-Performing Financing (NPF) and ROA

The significant negative impact of NPF on ROA is both theoretically expected and

empirically validated by numerous studies. High NPF levels reflect poor asset quality and deteriorating credit risk management, which directly reduce net interest margins and increase provisioning costs (Widyaningrum & Septiarini, 2015; Wahyuni et al., 2022).

This finding resonates with contemporary research by Rahmawati & Firdaus (2023), who emphasized that credit risk—especially in Islamic banking where underlying contracts are asset-based—requires more robust due diligence and risk mitigation strategies. As Islamic financial institutions rely heavily on the real sector, delays or defaults in project returns can more substantially impact bank earnings than in conventional models (Karim et al., 2021).

In the context of BSI, which operates across various business scales and sectors, a rise in NPF may suggest the need to recalibrate risk management frameworks, especially as the bank continues to expand its retail and SME portfolios (Zulkarnain & Basri, 2022).

Implications and Comparison with Previous Studies

The simultaneous influence of CAR, FDR, and NPF on ROA underscores the importance of a holistic approach to financial performance management in Islamic banking. While many studies examine these variables individually, our findings support the integrative model proposed by Alqahtani et al. (2020), which highlights the interdependence of capital strength, financing efficiency, and credit quality.

Interestingly, the divergence of BSI's empirical data from theoretical expectations—such as the disconnect between rising CAR and declining ROA in certain periods—illustrates the complexity of financial dynamics post-merger and in a volatile macroeconomic climate (Putra & Mahardika, 2023). It also reflects the need for tailored policy measures in Islamic banking that consider both compliance with sharia and operational effectiveness (Basuki et al., 2022).

CONCLUSION

This study investigated the influence of Capital Adequacy Ratio (CAR), Financing to Deposit Ratio (FDR), and Non-Performing Financing (NPF) on the profitability of Bank Syariah Indonesia (BSI), as measured by Return on Assets (ROA), during the period of 2020 to the second quarter of 2024. The findings reveal that while CAR does not significantly affect ROA, both FDR and NPF have statistically significant relationships with profitability—FDR positively and NPF negatively. These results highlight that efficient liquidity intermediation and credit risk management are pivotal drivers of financial performance in Islamic banking, whereas capital strength, although important for regulatory compliance, may not directly contribute to profitability under certain institutional conditions.

The study confirms that the simultaneous influence of CAR, FDR, and NPF on ROA is statistically significant, suggesting the need for a holistic and balanced approach in managing capital, liquidity, and credit quality. The results also provide insight into the complexities of post-merger financial dynamics and underscore the necessity of tailored strategies in Islamic banks to enhance profitability while maintaining sharia compliance. Future research should expand the analytical framework to include macroeconomic variables and comparative analysis across different Islamic financial institutions, both domestically and globally.

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