


Determinants of Profitability in Bank Syariah Indonesia Post-Merger: an Empirical Analysis of CAR, BOPO, and NPF on ROA During 2021–2024

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Article Info	ABSTRACT
<p>Keywords: Profitability, Operational Efficiency, Financing Quality, Capital Strength, Islamic Banking, Post-Merger Performance</p>	<p>This study examines the profitability performance of Bank Syariah Indonesia during the post-merger period by analyzing the influence of capital strength, operational efficiency, and financing quality on the return generated from total assets. A quantitative approach is employed using secondary financial data obtained from official publications to evaluate the relationship among key internal banking indicators. The analysis reveals a consistent improvement in profitability that aligns with enhanced efficiency and stronger risk management practices. Operational efficiency demonstrates the strongest contribution to profitability, while financing quality also shows a substantial effect through its role in managing credit risk. Capital strength exhibits a positive yet relatively limited influence, suggesting that excess capital may not always translate into higher earning capacity. The findings highlight the importance of digital transformation, disciplined cost management, and prudent financing strategies in sustaining the financial performance of Islamic banks in a competitive environment.</p>
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INTRODUCTION

The development of Indonesia's Islamic banking industry over the past two decades has shown a consistently positive growth trend in terms of assets, customer base, and the expansion of Sharia-compliant financial innovations. As the country with the world's largest Muslim population, Indonesia holds strategic potential to strengthen the Sharia financial ecosystem at both regional and global levels. According to the 2024 report of the Financial Services Authority (Otoritas Jasa Keuangan), the Islamic banking industry recorded annual asset growth exceeding 15%, outpacing the growth of the conventional banking sector. In addition, the levels of Sharia financial literacy and inclusion have increased significantly due to the expansion of digital services and growing public confidence in the stability of the Sharia financial system. These developments indicate that Islamic banking is becoming increasingly relevant to the needs of society and the challenges of the modern economy.

Within this development trajectory, the establishment of Bank Syariah Indonesia (BSI) on 1 February 2021 marked a strategic milestone in strengthening the competitiveness of the

national Islamic banking industry. BSI is the result of a merger between three state-owned Sharia banks—Bank Syariah Mandiri, BNI Syariah, and BRI Syariah—making it the largest Islamic bank in Indonesia and one of the top ten globally based on total assets (Bank Syariah Indonesia, 2024). The merger was expected to enhance financing capacity, strengthen capital structure, and optimize operational efficiency.

Despite the opportunities created by the merger, BSI has faced complex post-merger integration challenges. These include the integration of information technology systems, alignment of organizational culture, harmonization of business processes, and human resource management. During the 2023–2024 period, BSI prioritized digital transformation to improve efficiency, expand service accessibility, and strengthen competitiveness.

Profitability is a key indicator of bank performance, reflecting the institution's ability to generate earnings from its assets. Within Islamic banking, Return on Assets (ROA) is the most relevant profitability measure. Previous studies commonly identify several internal determinants of profitability, such as Capital Adequacy Ratio (CAR), Operational Cost to Operating Income (BOPO), and Non-Performing Financing (NPF).

CAR serves as an indicator of a bank's ability to absorb risks. Intermediation theory suggests that higher CAR strengthens a bank's capacity for financing expansion and risk absorption (Athanasoglou et al., 2008). However, excess capital does not automatically improve profitability if not channeled into productive assets (Berger & Bouwman, 2013). For BSI, the challenge lies not only in maintaining strong capital but in ensuring that capital is utilized effectively to enhance ROA.

Operational efficiency, represented by BOPO, is another crucial factor. A high BOPO ratio signals operational inefficiency, which suppresses profitability. Empirical evidence shows that BOPO has a significant negative effect on ROA and is one of the most dominant determinants of profitability in Indonesian Islamic banks (Kosmidou, 2008; Pratiwi & Sukmana, 2020). This underscores the importance of BSI's digital transformation initiatives aimed at reducing operational costs and enhancing efficiency.

NPF reflects the quality of financing. High NPF increases provisioning expenses and reduces margin income. In Islamic banking, financing risks—especially in profit-and-loss sharing contracts—are more sensitive to the performance of customers' businesses. Studies highlight that NPF is a critical determinant of ROA stability in Islamic banks (Firmansyah, 2014). Hence, strengthening risk management remains essential for BSI.

Industry trends from 2023 to 2025 show that BSI has continued to expand its financing to strategic sectors such as halal MSMEs, renewable energy, and digital finance. Partnerships with Sharia fintech firms have broadened digital financing access and increased fee-based income (Otoritas Jasa Keuangan, 2024). These developments affirm that digitalization and financing quality are key drivers of BSI's profitability.

Although extensive research has examined profitability determinants in Islamic banks, most studies focus on the pre-BSI period or involve multiple Islamic banks. Research specifically examining BSI in the post-merger era remains limited, particularly in the context of digitalization, operational efficiency, and financing quality (Sulistiyo & Setiawan, 2023).

Furthermore, empirical findings on the effects of CAR, BOPO, and NPF on ROA remain inconsistent, indicating the need for updated and contextualized analysis.

Accordingly, this study aims to analyze changes in BSI's profitability during 2021–2024 and to examine the influence of CAR, BOPO, and NPF on ROA. The study contributes theoretically by enriching the post-merger Islamic banking performance literature, and practically by offering strategic recommendations for BSI's management to strengthen sustainable profitability in an increasingly digitalized banking landscape.

METHODS

This study employs a quantitative approach with a causal-associative research design to examine the effects of the Capital Adequacy Ratio (CAR), Operating Costs to Operating Income (BOPO), and Non-Performing Financing (NPF) on Return on Assets (ROA) at Bank Syariah Indonesia (BSI) during the period 2021–2024. The quantitative approach was selected because it allows objective testing of relationships among variables using numerical data, consistent with Creswell and Creswell's (2018) view that quantitative research emphasizes variable measurement and hypothesis testing through statistical procedures.

The research is *ex post facto* in nature, as all variables had already occurred and were documented in official financial reports; therefore, no manipulation was conducted. The study focuses on BSI as a single post-merger entity, with data drawn entirely from BSI's Annual Reports for 2021–2024 (Bank Syariah Indonesia, 2024) and the Islamic Banking Statistics published by the Financial Services Authority (Otoritas Jasa Keuangan, 2024).

The data consist of secondary financial ratios—CAR, BOPO, NPF, and ROA—over the 2021–2024 period. ROA serves as the dependent variable because it is a primary indicator of bank profitability, reflecting the institution's ability to generate earnings from total assets. This measure is widely acknowledged as the most relevant profitability indicator in both Islamic and conventional banking, as evidenced in prior studies by Athanasoglou et al. (2008), Kosmidou (2008), and Khan and Bhatti (2020).

ROA was calculated using the formula:

$$\text{ROA} = \left(\frac{\text{Net Income}}{\text{Total Assets}} \right) \times 100\%$$

The independent variables consist of three key ratios. CAR represents the bank's capital strength in absorbing financing risks; BOPO reflects operational efficiency; and NPF measures financing quality as indicated by the proportion of problematic financing. These variables are widely employed in profitability studies of Islamic banks across various countries and are consistently recognized as essential indicators of banking health (Alqahtani & Mayes, 2021; Hanif & Iqbal, 2017; Sholihin & Ayub, 2022; Sulistiyo & Setiawan, 2023).

The formulas used were:

$$CAR = \left(\frac{\text{Capital}}{\text{Risk-Weighted Assets}} \right) \times 100\%$$

$$BOPO = \left(\frac{\text{Operating Costs}}{\text{Operating Income}} \right) \times 100\%$$

$$NPF = \left(\frac{\text{Non-Performing Financing}}{\text{Total Financing}} \right) \times 100\%$$

The regression model applied in this study is expressed as:

$$ROA = \alpha + \beta_1(CAR) + \beta_2(BOPO) + \beta_3(NPF) + \varepsilon$$

Overall, this methodological design provides a rigorous foundation for analyzing the financial performance of BSI during its post-merger period and contributes to the growing body of literature on profitability determinants in Islamic banking, particularly in the context of digital transformation and modern operational efficiency.

RESULTS AND DISCUSSION

Research Data

The research data were obtained from the Published Financial Statements of Bank Syariah Indonesia (BSI) for the period two thousand twenty-one to two thousand twenty-four. The variables used in this study include the Capital Adequacy Ratio (CAR), Operating Expenses to Operating Income (BOPO), Non-Performing Financing (NPF), and Return on Assets (ROA).

Table 1. Trends in CAR, BOPO, NPF, and ROA of Bank Syariah Indonesia

Year	CAR (%)	BOPO (%)	NPF (%)	ROA (%)
2021	22.09	80.46	2.93	1.61
2022	20.29	75.88	2.42	1.98
2023	21.04	71.27	2.08	2.35
2024	21.4	69.93	1.9	2.49

The table illustrates the annual development of key financial indicators of Bank Syariah Indonesia during the post-merger period. CAR remained relatively stable, indicating consistent capital strength. BOPO showed a steady decline, reflecting improvements in operational efficiency. NPF experienced a gradual reduction, signaling enhanced financing quality and risk management. Meanwhile, ROA demonstrated continuous growth, suggesting stronger profitability and more effective utilization of assets over time.

Trend Analysis of Variable Developments

Return on Assets (ROA)

Based on Table 1, BSI's ROA shows a consistent upward trend from 1.61% in 2021 to 2.49% in 2024. This increase indicates that the bank's ability to generate profit from its managed assets has steadily improved. The improvement in ROA is particularly evident during the 2022–2024 period, driven by higher operational efficiency and a decline in financing risk. This upward trend also reflects BSI's success in optimizing its financing portfolio and strengthening its post-merger business model.

Capital Adequacy Ratio (CAR)

BSI's CAR remained within the range of approximately 20 to 22 percent, a level that demonstrates strong capitalization and compliance with the minimum standards set by the Financial Services Authority. Although a slight decline occurred in 2022, the CAR improved again in the following years, indicating the bank's ability to maintain capital resilience against risk exposures. This stability suggests that BSI holds an adequate capital buffer, even though its effect on profitability may appear limited due to relatively small fluctuations.

Operating Expenses to Operating Income (BOPO)

BOPO experienced a substantial decrease from 80.46% in 2021 to 69.93% in 2024. This downward trend demonstrates significant improvements in operational efficiency, directly contributing to higher profitability. A declining BOPO reflects the bank's ability to control operational expenses relative to rising operating income. This improvement serves as an important indicator of the success of BSI's digitalization efforts, cost-management initiatives, and internal process optimization.

Non-Performing Financing (NPF)

NPF declined from 2.93% in 2021 to 1.90% in 2024. This downward trend signals better financing quality and more effective risk-management practices. Lower NPF indicates reduced problematic financing, which increases income from performing financing and reduces the burden of loss provisioning. This improvement has contributed positively to the rise in ROA throughout the study period.

Discussion

A multiple linear regression model was employed to analyze the influence of Capital Adequacy Ratio, Operating Expenses to Operating Income, and Non-Performing Financing on Return on Assets. The resulting regression equation is as follows:

$$ROA = 6.1682 + 0.0233(CAR) - 0.0500(BOPO) - 0.3590(NPF)$$

Effect of CAR on ROA

CAR carries a positive coefficient (0.0233), indicating that an increase in CAR is associated with an increase in ROA. However, the magnitude of its effect is relatively small and economically insignificant. This result contrasts with several previous studies, such as Sulistiyo and Setiawan (2023), which found that capitalization positively influences the profitability of Islamic banks both before and after the merger. The discrepancy may stem from the stability of BSI's CAR throughout the observation period, which shows limited variability and therefore provides minimal explanatory power for changes in ROA.

Effect of BOPO on ROA

BOPO exhibits the most substantial negative coefficient (-0.0500). This finding aligns with prior research by Sholihin and Ayub (2022) and Hanif and Iqbal (2017), which emphasized operational efficiency as a key determinant of Islamic bank profitability. The consistent decline in BOPO across the 4-year period reflects BSI's ability to enhance operational efficiency sustainably, directly contributing to the observed improvement in ROA.

Effect of NPF on ROA

NPF has the largest negative coefficient (-0.3590), indicating that increases in problematic financing exert significant downward pressure on ROA. This finding is consistent

with the results of Athanasoglou et al. (2008) and Khan and Bhatti (2020), who demonstrated that credit risk and non-performing financing have a strong negative effect on banking profitability. The steady reduction in BSI's NPF during the study period parallels the rise in ROA, reinforcing the conclusion that financing quality is a crucial driver of profitability in Islamic banks.

Coefficient of Determination (R^2)

The R-squared value of 1.00 indicates that all independent variables mathematically explain the entire variability in ROA within the dataset. However, this value should be interpreted cautiously, as the model is based on only 4 annual observations, resulting in a perfect-fit condition. Such a situation is relatively common when sample size is very small. Nonetheless, the regression results still provide a useful depiction of the relational patterns among the variables based on the available empirical evidence.

CONCLUSION

This study provides an integrated assessment of the profitability dynamics of Bank Syariah Indonesia during the post-merger period by examining the combined effects of capital strength, operational efficiency, and financing quality. The findings reveal that profitability has strengthened steadily as the bank advanced through its consolidation phase, supported by improvements in internal efficiency and more disciplined risk management. Capital adequacy remained consistently strong, yet its contribution to profitability was relatively limited, reflecting the tendency of highly stable capitalization to generate only modest variation in returns. In contrast, operational efficiency emerged as the most influential factor, demonstrating that sustained cost discipline and digital transformation efforts play a decisive role in enhancing financial performance. Financing quality also proved essential, as declining levels of problematic financing reduced the burden of loss provisioning and supported healthier earning capacity. Overall, the results highlight that the profitability of Bank Syariah Indonesia is shaped more by its ability to operate efficiently and manage financing risk than by the size of its capital buffer. These findings provide both theoretical insight for Islamic banking literature and practical guidance for strengthening long-term performance. Future strategies should emphasize continuous efficiency enhancement, rigorous credit evaluation, and deeper integration of digital capabilities to sustain competitive advantage in an increasingly dynamic financial landscape.

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