



# The role of financial performance on the profitability of Indonesian Islamic banks

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## Abstract

**Purpose** – This study aims to analyse the effect of non performing financing (NPF), capital adequacy ratio (CAR), financing to deposit ratio (FDR), and Bank Indonesia shariah promissory notes (SBIS) on Islamic banks' profitability (ROA) in Indonesia.

**Methodology** – The data set consists of 10 Islamic banks operating in Indonesia between 2017—2021. The secondary data was collected from the Financial Services Authority (Otoritas Jasa Keuangan, OJK). A method of panel data is used for this study by using Stata 17 to process the data.

**Findings** – The estimation results showed that NPF partially has a significant negative relationship on ROA, both CAR and SBIS have a significant effect on ROA, while FDR does not affect ROA. Simultaneously, NPF, CAR, and FDR do not affect ROA. But NPF, CAR, FDR, and SBIS simultaneously have a positive and significant effect on the Islamic Bank's profitability (ROA) by the year 2017 – 2021.

**Implications** – Islamic banks need to be more selective in providing financing to customers so that financing risks can be minimized. In addition, CAR and SBIS need to be increased or maintained so that the profitability level of Islamic banks can be maximized.

**Originality** – This research tries to re-examine the effect of financial performance on the profitability of Islamic banks in 2017-2021.

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## Introduction

In Law No. 21/2008 concerning Islamic banking, banks are designated as intermediary institutions with the primary role of aggregating funds from the public who have surplus funds and channeling these funds to finance customers by Sharia principles. The distribution of financing inherently contains risks that can significantly impact a bank's financial performance. Therefore, banks must effectively assess and manage the risks associated with the financing they extend. With the increasing exposure to credit risk, there is an increased likelihood of banks encountering financial crises (Al-Homaidi et al., 2020; Ekinci & Poyraz, 2019). The Basel Committee on Bank Supervision (2000) has acknowledged that credit risk is a persistent challenge for global banking institutions, and Indonesia is no exception. Credit risk is generally considered the most substantial risk affecting a bank's performance since it can deplete the bank's capital and liquidity (Mason-Jones & Towill, 1995).

According to Handley-Schachler et al. (2007), a bank's financial performance is most accurately measured by its profit derived from its activities. A higher profit typically reflects better performance. One key profitability ratio used to gauge a bank's performance is ROA. Bank Indonesia assesses the profitability of Indonesian banks based on two main indicators, ROA and BOPO. The evaluation by Bank Indonesia gives priority to ROA, which is predominantly influenced by funds collected from the public in the form of deposits (Dendawijaya, 2009). Thus, this study employs ROA as a proxy for profitability. Return on Assets is one of the key metrics that can effectively demonstrate a bank's profitability (Ongore & Kusa, 2013).

The financial performance of Islamic Commercial Banks in Indonesia exhibits fluctuations from year to year. As per PBI No. 23/07/PADG/2021, the parameters for FDR should fall within the range of 84% - 94%, and CAR/CARM should be at least 14%. NPF ratio should be less than 5%, and the ROA ratio should exceed 1.5% (PBI No. 13/1/PBI/2011). Based on data released by the OJK from 2017-2021, the FDR of Islamic Commercial Banks in Indonesia displayed a decreasing trend, consistently falling below 84%, with a range of 79.61% in 2017 and continuing to decline to 74.92% in 2021. The CAR remained appropriate, surpassing BI regulations with an average of 22.881%. Similarly, the NPF of Islamic Commercial Banks stayed below 5%, even though it briefly touched 4.76% in 2017 due to inflation. Per OJK SPS data, in 2017, 2018, and 2020, the ROA of Islamic Commercial Banks in Indonesia fell below the requirements set by Bank Indonesia Regulation No. 13/1/PBI/2011, which mandates a minimum of 1.5%, with actual values of 0.63%, 1.28%, and 1.4%.

A bank's ROA can be influenced by a variety of factors, both internal and external. Previous studies have explored internal factors such as CAR, FDR, NPF, and bank size (Purnamasari, 2019; Anggraini & Mawardi, 2020; Anisa & Anwar, 2021; Amrina et al., 2021; Maghfiroh et al., 2021; Syahputri et al., 2022; Patra & Padhi, 2022). Other studies have examined a combination of internal and external factors such as GDP, inflation, SBIS, and interest rates (Kawiryawan et al.; Sudarsono, 2017; Marginingsih, 2018; Ahmed & N'Dri, 2021; Derbali, 2021; O'Connell, 2022; Patra & Padhi, 2022).

The objective of this study is to analyze the factors affecting the profitability of Islamic Commercial Banks in Indonesia and identify the determinants that most significantly impact their profitability for the period 2017-2021. The study focuses on ROA as it is a crucial indicator of bank profitability. Banks, as financial institutions, primarily engage in credit provision and payment services. Therefore, they must generate profits to sustain their operations. Financing distribution carries inherent risks, with financing risk being the most substantial risk that can affect bank profits. To extend financing, banks must maintain sufficient capital reserves to mitigate losses associated with financing risk. Consequently, this study examines internal factors including NPF, FDR, and CAR, along with the external factor, Sharia Bank Indonesia Certificate (SBIS). The SBIS serves as a monetary policy instrument and investment vehicle, aligning with Sharia principles. It also aids in addressing the liquidity needs of Islamic Banks in Indonesia (Arifin, 2009).

## Literature Review

### Profitability

Profitability is a specific dimension of bank performance, representing a central objective of company management. This objective involves elevating the return levels, maximizing shareholder value, and mitigating existing risks (Alharbi, 2017; Sutojo, 2004). According to Brigham and Houston (2012), profitability encompasses a range of ratios that offer insights into the combined impact of liquidity, asset management, and debt on a company's operating outcomes. These profitability ratios serve as metrics to evaluate the overall effectiveness of a company's management, gauged by the amount of profit generated (Weygandt, 1996). Return on Assets (ROA) is the pivotal ratio characterizing profitability. This is because Bank Indonesia places significant emphasis on assessments anchored in the robust profitability signified by the ROA ratio, primarily sourced from public deposits (Dendawijaya, 2009). Furthermore, ROA zeroes in on a company's capacity to generate revenue by effectively utilizing all of its assets. It offers a reflection

of bank management's efficiency in asset management (Sutojo, 2004; Zarrouk et al., 2016). Therefore, this study employs ROA as the principal profitability indicator.

### **Return on Assets**

As per Lawrence G. (2009), ROA serves as a metric to gauge the overall effectiveness of management in generating profits with the available assets. ROA, defined as the ratio of net income after tax to total assets, assesses the rate of return (%) on owned assets. It quantifies the company's proficiency in utilizing its assets to generate profit (Marginingsih, 2018). A higher ROA signifies greater profitability for the bank, reflecting a more efficient use of assets (Dendawijaya, 2009). These profits can, in turn, be harnessed to foster the bank's growth. In accordance with Bank Indonesia Regulation No. 13/1/PBI/2011, a favorable ROA is typically in the vicinity of 1.5%. The calculation of ROA encompasses the following steps: Compute Earnings Before Tax (EBT), This represents the bank's profit prior to tax deductions, and determine the aggregate of current and fixed assets held by the bank.

### **Non Performing Financing and Return on Asset**

To fulfill its intermediary role, banks must efficiently manage the allocation of financing, a primary business activity of Islamic Commercial Banks. The effective management of receivables is crucial, particularly for businesses that extend credit, as higher receivables correspond to increased risk (Bank Indonesia Regulation No. 5/2003). Non-performing financing is a term used to categorize financing that falls within the substandard, doubtful, or bad financing bracket in terms of collectability (Dendawijaya, 2009). This metric evaluates the ability of bank management to handle non-performing loans with the productive assets owned by the bank (Mulyono, 1995). According to Bank Indonesia Regulation No. 13/3/PBI/2011, one of the sources of risk in a bank's health assessment arises from financing and credit. A bank is required to maintain a bad credit ratio below 5% (Sari, 2016). Multiple studies (Marginingsih, 2018) have identified a significant negative correlation between Non-Performing Financing (NPF/NPL) and Bank ROA. It is evident that an increase in NPF/NPL can lead to a reduction in bank income, ultimately impacting bank profitability (Musyokil & Kadubo, 2012). Based on the findings from the research mentioned above, we can formulate the first hypothesis as follows:

H<sub>1</sub>: NPF has a negative impact on ROA in Islamic commercial banks.

### **Capital Adequacy Ratio and Return on Asset**

Capital Adequacy Ratio (CAR) is a ratio that signifies the proportion of a bank's assets carrying risks (such as loans, investments, securities, and interbank bills) financed from the bank's own capital, in addition to external funds sourced outside the bank (Dendawijaya, 2009). Capital is deemed exceptionally crucial as it serves expansion purposes and acts as a financial "buffer" to absorb potential losses stemming from a bank's operational activities (Mahardian, 2008). Banks equipped with sufficient or adequate capital tend to exhibit higher profitability. This correlation underscores that bank profitability is directly linked to the level of bank capital. Research by O'Connell (2022), Marginingsih (2018), and Ekinci & Poyraz (2019) confirms a significant and positive relationship, indicating that banks with robust capital structures generate greater profits. Another rationale is that banks with substantial capital requirements rely less on external funding, resulting in lower funding costs and higher profits. However, findings from studies conducted by Ristia (2018), and Derbali (2021) have shown that CAR does not impact Bank ROA. According to Le & Ngo (2020), banks with substantial capital often choose to invest in higher-risk assets, leading to decreased profitability, thereby demonstrating a negative and significant effect. CAR is calculated by comparing own capital to Risk Weighted Assets (RWA) (Lawrence A. M., 2002). Based on the research outcomes mentioned above, we can formulate the second hypothesis as follows:

H<sub>2</sub>: CAR has a positive impact on ROA in Islamic commercial banks.

### **Financing to Deposit Ratio and Return on Asset**

Liquidity is the bank's capacity to furnish immediate and future funds, particularly to meet short-term obligations that require prompt settlement (Sudarini, 2005). As per Kasmir (2010), the Finance to Deposit Ratio (FDR) is a metric designed to gauge the composition of financing provided in comparison to the sum of public funds and proprietary capital utilized. FDR acts as a liquidity measure, assessing the amount of funds allocated in the form of loans originating from funds accumulated by banks, mainly from the public. A higher FDR is generally associated with increased company profits, provided that the bank effectively disburses loans, resulting in a minimal percentage of bad financing, as reflected in the NPF ratio. However, a higher FDR can also signify a reduction in bank liquidity (Mudrajat & Suhardjono, 2002), a consequence of a greater allocation of funds for financing, potentially diminishing bank profits. Conversely, a lower FDR indicates a more liquid bank, meaning it holds a surplus of idle funds, which can limit the bank's capacity to generate increased revenues. This is due to the bank's intermediation function not being executed effectively. Studies conducted by Marginingsih (2018) indicate that FDR has a positive and significant impact on the ROA of Islamic Commercial Banks in Indonesia. O'Connell (2022) suggests that banks maintaining adequate liquidity levels, in line with established standards, tend to achieve higher profitability compared to banks with substandard liquidity levels. This is because banks with ample liquidity can effectively mitigate liquidity risks that may arise at any time. However, research conducted by Ristia (2018) concludes that FDR does not significantly influence Bank ROA. Based on the research outcomes outlined above, we can formulate the third hypothesis as follows:

H<sub>3</sub>: FDR has a positive impact on ROA in Islamic commercial banks.

### **Bank Indonesia Sharia Certificate and Return on Asset**

As per PBI No. 10/11/PBI/2008, which addresses Bank Indonesia Sharia Certificates (SBIS), SBIS are defined as short-term securities denominated in Indonesian Rupiah issued by Bank Indonesia, adhering to Sharia principles. Additionally, the fatwa of the National Sharia Council (DSN) No. 63/DSN-MUI/XII/2007 elaborates on SBIS, stating that they are short-term securities denominated in Rupiah issued by Bank Indonesia, in compliance with Sharia principles. Bank Indonesia Sharia Certificates employ a *ju'alah* contract, as stipulated in PBI No. 10/11/PBI/2008, featuring an auction mechanism won by one of the participating Islamic Commercial Banks (BUS) or Islamic Business Units (UUS). The winning entities must adhere to the regulations set by Bank Indonesia, including maintaining a sufficient FDR and avoiding any sanctions. The utilization of a return system with guaranteed short-term receipts benefits Islamic Banks, ultimately leading to increased profitability, thereby positively impacting ROA. In line with this, research by Kawiryawan et al. (2015) suggests the increase in ROA may occur because the placement of funds in SBIS can provide income to Islamic banks without causing losses due to the certainty of payment of rewards in accordance with the agreement at the auction. However, Sudarsono (2017) found in his research that SBIS did not exert a significant influence on BUS ROA. This discrepancy can be attributed to the fact that SBIS may not directly impact ROA; rather, its influence on ROA is mediated by the percentage of profit-sharing rates. In light of the research findings discussed above, we can formulate the fourth hypothesis as follows:

H<sub>4</sub>: SBIS has a positive impact on ROA in Islamic commercial banks.

### **Research Methods**

This quantitative research relies on secondary data obtained from reports published by authoritative sources such as Bank Indonesia (BI), the Financial Services Authority (OJK), and the Central Statistics Agency (BPS) through their official websites. Since there are 10 registered Islamic banks within the timeframe of 2017 to 2021, this study utilizes the financial statements of these 10 Islamic banks. The chosen timeframe of January 2017 to December 2021 was selected to explore potential disparities in bank ROA before and during the pandemic, given variations in regulations enforced during the pandemic period.

Quantitative research is a method employed for examining specific populations or samples by collecting data through research instruments, followed by quantitative and statistical data analysis aimed at testing predetermined hypotheses (Sugiyono, 2012). The analytical tool used in this research is panel data regression. According to Gujarati (2004), panel data combines both time series and cross-sectional data to enhance data quality and quantity, yielding more informative results while minimizing collinearity between variables and enhancing efficiency. The general form of panel data regression is as follows:

$$ROA = \alpha + \beta_1 NPF_1 + \beta_2 CAR_2 + \beta_3 FDR_3 + \beta_4 SBIS_4 + \varepsilon$$

Where ROA stands for return on assets, NPF represents non-performing financing, FDR indicates finance to deposit ratio, and SBIS is the Bank Indonesia sharia certificate.

## Result

The study utilized a total of 200 samples, encompassing 10 Islamic Commercial Banks in Indonesia. These banks include Bank Aceh Syariah, Bank Jabar Syariah, Bank Muamalat, Bank Victoria Syariah, Bank Syariah Indonesia, Bank BTPN Syariah, Bank Mega Syariah, Bank Panin Dubai, Bank BCA Syariah, and Bank Bukopin Syariah. The data collected for analysis is based on quarterly observations spanning from 2017 Q1 to 2021 Q4. A summary of the descriptive statistics is presented in Table 1.

**Table 1.** Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROA	200	1.657	3.547	-10.77	13.58
NPF	200	2.085	1.64	0	4.98
CAR	200	22.881	9.472	3	58.1
FDR	200	86.884	19.013	38.33	196.73
SBIS	200	5.003	1.276	2.61	6.78

Table 1 provides a summary of descriptive statistics for the independent variables and dependent variables utilized in this study. It includes measures such as the mean, standard deviation, minimum and maximum values, as well as the sample size used to elucidate the data. During the period from 2017 to 2021, the average ROA ratio for Islamic Commercial Banks in Indonesia exceeded the regulatory requirement set by Bank Indonesia, which is 1.55%, as indicated by the 1.6% shown in Table 1. The observed range for ROA fluctuates from a minimum of -10.77% to a maximum of 13.58%.

Moreover, the NPF ratio remains below 5%, specifically at 2.08%. In contrast, the CAR exhibits an average exceeding the minimum threshold set by Bank Indonesia, standing at 22% in Table 1, while the regulatory requirement is at least 14%. Additionally, the FDR maintains an average of 86%, well within the standard limits established by Bank Indonesia, which specify a range of 84% to 94% for the FDR of Islamic Commercial Banks. As for SBIS from 2017 to 2021, the average is recorded at 5%, with a minimum value of 2.61% and a maximum of 6.78%.

The Chow and Hausman tests were conducted to determine the most suitable regression model. The Chow test led to the selection of the fixed effect model, followed by the Hausman test to decide between the fixed effect and random effect models. The chosen model was the Random Effect model based on the Hausman test results, where the p-value was greater than 0.05%, specifically 0.265. Therefore,  $H_1$  was accepted, and the random effect model, also referred to as the Generalized Least Square (GLS) technique, was chosen as the preferred model for the subsequent stages, including the panel data regression.

**Table 2.** Random Effect Model (REM) Regression Result

ROA	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
NPF	-.139	.034	-4.11	0	-.205	-.073	***
CAR	.011	.007	1.46	.144	-.004	.025	
FDR	-.01	.002	-4.47	0	-.014	-.006	***
SBIS	-.027	.023	-1.16	.247	-.072	.019	
Constant	2.113	.382	5.54	0	1.365	2.86	***
Mean dependent var		1.061	SD dependent var			1.098	
Overall r-squared		0.497	Number of obs			200	
Chi-square		57.234	Prob > chi2			0.000	
R-squared within		0.216	R-squared between			0.613	

\*\*\*  $p < .01$ , \*\*  $p < .05$ , \*  $p < .1$

Source: (Data processing)

According to the outcomes derived from our analysis employing the Random Effect Model, a comprehensive breakdown is presented in Table 5. The Random Effect Model (REM) Regression findings reveal a notable R-squared value of 0.49. This indicates that our model is capable of elucidating a significant portion, approximately 49%, of the variance in the dependent variable, specifically ROA, attributed to the influence of the independent variables. The remaining 51% of the variance can be attributed to other factors not considered within the scope of this model.

## Discussion

The regression findings underscore the significant adverse influence of NPF on ROA of Islamic Commercial Banks in Indonesia. It's evident that NPF exerts a partially significant negative effect on bank profitability, resulting in reduced earnings for these financial institutions. To mitigate this impact, banks must rigorously implement effective credit and financing risk management strategies. This conclusion is further corroborated by research conducted by Ahmed and N'Dri (2021), which similarly highlights the negative effect of NPL on bank profitability in Ghana. Furthermore, Ekinci and Poyraz (2019) study revealed that credit risk has a significant negative effect on Bank ROA in Turkey, emphasizing the importance of prudent lending practices and debtor monitoring. Notably, the Bank managed to keep NPF levels below 5% in 2020-2021, primarily due to the extension of financing restructuring measures prescribed by Financial Services Authority Regulation (POJK) No. 17/2021, in effect until March 2023. This extension is predicted to bolster the resilience of banks against credit risk.

The analysis suggests that CAR has no significant influence on the ROA of Islamic Commercial Banks in Indonesia, with a probability of 0.144, surpassing the conventional threshold of 0.05. This aligns with research by Derbali (2021) and Maghfiroh et al. (2021), all asserting that CAR's impact on ROA is negligible. One possible explanation for this result is the decrease in the debt portion of banks' financial structures, resulting in lower profits due to reduced tax exemptions on debt, as indicated by Derbali (2021). The challenging economic climate driven by the Covid-19 pandemic contributed to a decline in Indonesia's economy, resulting from extensive restrictions. The repercussions were widespread, particularly affecting micro, small, and medium enterprises, as they struggled with declining income and insufficient capital to cover operational costs. Given banks' symbiotic relationship with businesses, they needed to take proactive steps to stimulate economic recovery.

Additionally, banks faced the obligation of returning third-party funds (DPK) channeled into financing. Some Islamic commercial banks maintained CAR levels exceeding Bank of Indonesia regulations, forming a crucial buffer for credit restructuring policies (POJK No. 11/POJK.03/2020 and POJK No. 48/POJK.03/2020) implemented by OJK. This move aimed to preserve the bank's liquidity, in line with Bank Indonesia regulation No. 17/22/PBI/2015,

which defines the capital conservation buffer and countercyclical buffer. In response, Bank Indonesia employed a monetary policy easing strategy to bolster the national economy, injecting bank reserves into the economy, which in turn lowered interest rates, offered liquidity to the banking sector, and facilitated easier lending terms. This approach enabled businesses to access affordable capital, further supported by interest subsidies for micro, small, and medium enterprises, fostering productive financing growth.

The analysis reveals that FDR has a negative impact on the ROA of Islamic commercial banks in Indonesia. With a probability of less than 0.05, a 1% increase in FDR is associated with a 0.01% reduction in ROA. This outcome is in harmony with prior research by Derbali (2021), O'Connell, (2022), and Sudarsono (2017), which similarly affirm the detrimental effect of FDR/LDR on Bank ROA. Derbali's research attributes this effect to the substantial idle funds, incurring additional costs for the bank. During the period from 2017 to 2021, FDR for Islamic Commercial Banks in Indonesia exhibited a consistent decline, with some banks falling below the Bank of Indonesia's requirements. This trend reflects the prudent allocation of idle funds into investment in Government Securities, including Islamic based government securities (*Surat berharga syariah negara, SBSN*) for Sharia compliance. These investments serve as a form of banking liquidity security sanctioned by the government. To boost productive financing, Bank Indonesia introduced PBI No. 23/13/PBI/2021, incrementally requiring banks to meet the macroprudential inclusive financing ratio up to 30% by 2024, encouraging economic growth.

The analysis concludes that the Sharia business income sharing (SBIS) variable does not have a direct influence on the ROA of Islamic Commercial Banks. This finding aligns with research conducted by Sudarsono (2017), suggesting that SBIS does not directly impact ROA but rather influences it through changes in the percentage rate of profit sharing. Although Kawiryawan, Naroh, and Hapsari (2015) research indicates that SBIS affects ROA due to its predictable percentage yield and minimal risk, the banking sector's investment in SBIS often leads to a decrease in financing, a primary source of bank income. Bank Indonesia implemented measures to address liquidity concerns amid weakening productive financing growth during the Covid-19 pandemic. This included increasing the ratio of liquid assets in the form of SBI/SBIS ownership by 50 basis points for BUS/UUS, ensuring a balanced flow of funds, and maintaining the bank's financial health.

## **Conclusion**

Several key financial ratios of Islamic banks serve as tangible evidence of their circumspect lending practices during the pandemic. Islamic banks, cognizant of the heightened risk, prudently curtailed their financing activities. Consequently, FDR decreased, and NPF also receded. Though this prudent approach saw a dip in ROA, CAR remained steady. The situation, however, engendered a scenario of surplus liquidity, owing to the underutilization of funds procured from third-party sources. To address this issue, Bank Indonesia implemented a policy for Islamic banks, compelling them to augment their holdings of liquid assets in the form of government securities (SBN) and sharia business income sharing (SBIS). This strategic move was anticipated to fortify ROA as the surplus liquidity was effectively channeled into earning assets. This strategy is exemplified by the fact that several Islamic banks exhibited low FDR ratios while simultaneously surpassing the regulatory benchmark for ROA.

Islamic banks predominantly rely on financing as their primary income source. Notably, the empirical link between increasing FDR and a simultaneous rise in NPF underscores the imperative for an astute risk management framework in Islamic banks. These institutions face relatively higher financing risk while maintaining capital adequacy remains a challenge. Thus, the government, working in concert with OJK and BI, must diligently execute its regulatory role, safeguarding the financial system's stability. These regulatory bodies must remain vigilant, ever-ready to deploy mitigative measures to counteract any potential financial or economic upheaval in the future.

Furthermore, it is imperative for Islamic banks to diversify their revenue streams, reducing their reliance on the financing sector. To achieve this, they can boost their earnings through service

activities, particularly those yielding fee-based income. Additionally, Islamic banks should channel their efforts into continual innovation, creating distinctive products and services to differentiate themselves from their conventional counterparts. By doing so, they can bolster their competitiveness and adapt to evolving market dynamics.

### Author Contributions

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Formal analysis: Lidia Sjarief

Investigation: Lidia Sjarief

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