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The Effect of Bank-Specific Factors on the Return on Asset (ROA) : Evidence from KB Bank Syariah (2018-2025)

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Abstract— This study aims to analyze the effect of CIR (Cost-to-Income Ratio), BOPO (Operating Cost-to-Operating Income Ratio), NPF (Non-Performing Financing), and FDR (Financing-to-Deposit Ratio) on ROA (Return on Assets) at Bank Bukopin Syariah for the period 2018–2025. This study employs a quantitative method using multiple linear regression analysis. The data used in this study are secondary data obtained from the official website published by Bank Bukopin Syariah for the period 2018–2025 on a quarterly basis. Data processing was performed using SPSS 26 software, employing a partial t-test, a simultaneous F-test, and a coefficient of determination test. The results indicate that, when analyzed individually, BOPO has a negative and significant effect on ROA, whereas CIR, NPF, and FDR do not have a significant effect. Simultaneously, these four variables have a significant effect on ROA with an adjusted R-squared value of 0.983, or 98.3%. This finding highlights the importance of bank efficiency in managing its operational activities so that the bank's revenue remains under control and ROA can be improved. These results can serve as strategic considerations for financial decision-making and as a reference for further research on the factors influencing bank profitability

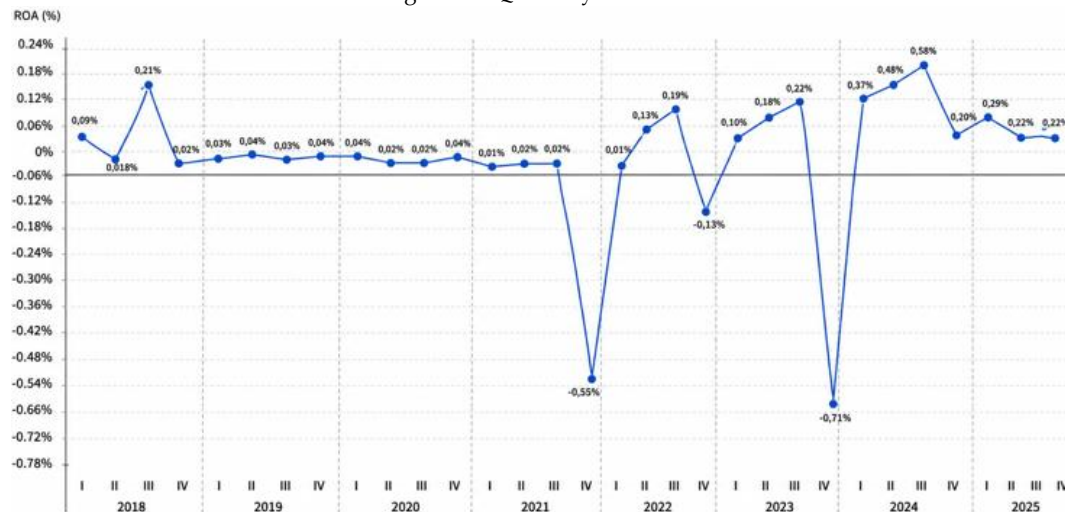
Keywords— CIR,BOPO,NPF,FDR,ROA,BANK

I. INTRODUCTION

Indonesia's economic development continues to progress, as evidenced by increased economic activity, investment, and public demand for financial services. These developments are driving the financial services sector to continue expanding its role in supporting economic activity through the provision of various financial services. In supporting economic development, the banking sector plays a crucial role as one of the financial institutions that contribute to a country's economic growth (Hakim, Pamikatsih, and Setiabudi, 2023). Essentially, banks function to mobilize funds from the public and channel them back to the public through lending and financing to their customers.

The Indonesian public, the majority of whom are Muslim, has begun to utilize Sharia-based financial institutions in accordance with Islamic law, a trend that is driving the growth of Islamic banking. This is evidenced by the increase in financing assets and service innovations implemented by Islamic banks to meet the public's needs. One example of an Islamic bank already operating in Indonesia is KB Bank Syariah. This bank is a commercial Islamic bank that provides financial services in accordance with Islamic principles (Jaslyn et al., 2023). However, in conducting its operations, KB Bank Syariah must maintain its profitability to ensure its financial performance and business sustainability. The following are KB Bank Syariah's ROA figures for the 2018–2025 period:

Figure 1.1: Quarterly ROA Chart



Source: KB Bank Syariah Quarterly Report for the 2018–2025 Period

Based on BK Bank Syariah's chart, the ROA for the 2018–2025 period tends to increase in the first through third quarters of each year; in 2018, ROA moved from 0.09% in the first quarter, fell to 0.018% in the second quarter, rose to 0.21% in the third quarter, and then fell again to 0.02% in the fourth quarter. This situation indicates that the bank's ability to generate profit from its assets is not yet stable. In 2019, ROA remained at a relatively low level, at 0.03% in the first quarter, 0.04% in the second quarter, 0.03% in the third quarter, and 0.04% in the fourth quarter. These figures indicate that the bank's profitability has not yet shown a significant improvement. Furthermore, in 2020, ROA stood at 0.04% in the first quarter, then declined to 0.02% in the second quarter and remained at 0.02% in the third quarter, before rising again to 0.04% in the fourth quarter. In 2021, ROA fell to approximately -5.5% in the fourth quarter; in 2022, it followed a similar pattern, rising by about 0.6% in the third quarter before falling to -1.3% in the fourth quarter. In 2023, ROA rose again through the third quarter but experienced its sharpest decline in the fourth quarter to around -7.1%. Meanwhile, in 2024 and 2025, ROA increased by approximately 0.6% in the third quarter before declining by 0.2% in the fourth quarter. This indicates that profitability tends to weaken toward the end of the year.

This phenomenon of annual fluctuations indicates a situation that runs counter to theory; ideally, banks are required to maintain a positive and stable level of profitability above the OJK's regulatory minimum (1.25%) throughout the year in order to preserve customer trust and ensure business sustainability (Wulan, K. A. D., & Tristiarto, 2023). However, the actual performance of PT KB Bank Syariah for the 2021–2025 period actually shows a trend of weakening profitability and a sharp decline in the fourth quarter of each year.

These fluctuations in ROA indicate that the bank's profitability is continuing to decline. Profitability reflects a company's ability to generate profits from asset management, a metric known as Return on Assets (ROA); the higher the ROA, the greater the profit earned by the company (Sinambela & Nuraini, 2021) as cited in (Agung Panji Subekti and Kusuma Wardana, 2022); the ROA ratio indicates the bank's ability to achieve profitability.

The factor that influences ROA is the CIR. According to Salsabila, Malik, and Senjiati (2023), the CIR is used as an indicator of a bank's operational efficiency in generating revenue. This ratio shows how much the bank must spend to earn every one rupiah of operating revenue. The lower a bank's CIR, the greater the likelihood that the bank will achieve a higher ROA, as operational efficiency provides greater scope for increased profitability. (Yuniatin and Anisa, 2024)

In addition, a variable that influences ROA is the BOPO ratio, according to (Sitompul, 2019, 235) as cited in (Yuliana and Listari, 2021), an increase in operating expenses will lead to a decrease in pre-tax profit, which will ultimately reduce the profitability (ROA) of the bank in question. This ratio serves as a key indicator in assessing the bank's management's ability to control costs and maximize revenue. The lower the BOPO ratio, the more efficient the bank is in conducting its operations. (Faraaj, Akasyah, and Aguspriyani, 2026)

Meanwhile, a high NPF reflects poor loan quality and potential losses that lead to a decline in the bank's profitability (Mikky, 2025). Non-performing loans are loans disbursed by banks where customers are unable to make payments in accordance with the agreed-upon terms (Ismail, 2010) as cited in (Agung Panji Subekti and Kusuma Wardana, 2022); based on this explanation, the NPF ratio is crucial for maintaining the soundness of banking liquidity.

The FDR is a ratio used to measure a bank's ability to maintain its liquidity level (Pravasanti, 2018). The FDR is determined by the ratio of the total amount of financing provided to the public funds mobilized, which include demand deposits, time deposits, and savings accounts (Alif Rana Fadhillah, 2019). Based on this explanation, the higher the FDR, the higher the ROA will be.

This study is an extension of the study by Mikky (2025), with the addition of the FDR variable as previously suggested. In addition, this study uses a different subject—KB Bank Syariah—covering the period 2018–2025, and incorporates the Financing-to-Deposit Ratio (FDR) as a liquidity indicator to supplement the model used in the previous study. This study also analyzes the simultaneous effects of operational efficiency, financing quality, and liquidity on Return on Assets (ROA), with the aim of providing a more comprehensive picture of the factors that influence the profitability of KB Bank Syariah.

The urgency of this study stems from the increasingly declining fluctuations in ROA. This situation indicates the presence of internal factors causing ROA to decline, such as operational efficiency, financing quality, liquidity, and asset management. Therefore, this study is necessary to analyze the extent to which the variables CIR, BOPO, NPF, and FDR influence ROA. The research findings are expected to help the bank evaluate its financial performance and improve its profitability.

II. METHOD

This study employs a quantitative research method. Quantitative research is referred to as a positivistic method because it is based on the philosophy of positivism. The quantitative method is referred to as a scientific method because it adheres to scientific principles, namely being concrete/empirical, objective, measurable, rational, and systematic. This method is also known as the discovery method, because it allows for the discovery and development of various new scientific and technological innovations. It is called a quantitative method because the research data consists of numbers and the analysis uses statistics (Sugiyono, 2017).

The independent variables in this study are CIR, BOPO, NPF, and FDR, while the dependent variable is ROA. Data collection for this study utilized secondary data obtained from the quarterly financial reports published by KB Bank Syariah for the 2018–2025 period. This study used a non-probability sampling technique, specifically purposive sampling. Purposive sampling is a technique for selecting a sample based on specific criteria (Sugiyono, 2017). A total of 32 research samples were obtained, based on the following criteria for selecting samples for data collection:

1. Bukopin Syariah Bank Financial Statements
2. Quarterly financial statements from 2018 to 2025.
3. Complete data on CIR, BOPO, NPF, FDR, and ROA, analyzed using SPSS software to perform multiple linear regression analysis.

According to Suharyadi (2004, 508) as cited in (Yuliana and Listari, 2021), multiple regression analysis is used to analyze the strength of the relationship and the influence of more than two independent variables. In this study, it was used to determine whether CIR, BOPO, NPF, and FDR have an effect on ROA (Return on Assets).

The regression equation is: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e$

Notes:

Y = Profitability (Return on Assets)

X1 = Cost-to-Income Ratio

X2 = Operating Expenses / Operating Revenue

X3 = Non-Performing Financing

X4 = Financing-to-Deposit Ratio

α = Constant

e = Error

β_1 = Regression Coefficient 1

β_2 = Regression Coefficient 2

β_3 = Regression Coefficient 3

β_4 = Regression Coefficient 4

hypothesis testing

t-Test (Partial) A partial or individual significance test is used to determine whether a particular independent variable has an effect on the dependent variable. This test also aims to determine whether an independent variable has a significant effect on its dependent variable. A variable is considered to have a significant effect if the calculated t-value is greater than the critical t-value or less than the negative critical t-value (Suharyadi, 2004, 525) in (Yuliana and Listari, 2021)

F-Test

The F-test is also known as the simultaneous significance test or the global test. The F-test assesses the combined effect of independent variables on the dependent variable. This test is intended to assess the overall ability of the independent variables to explain the behavior or variability of the dependent variable. It is also intended to determine whether all independent variables have regression coefficients equal to zero (Suharyadi, 2004, 523) as cited in (Yuliana and Listari, 2021) If the significance probability value is < 0.05 , then the independent variables collectively influence the dependent variable (Pravasanti, 2018)

Uji Koefisien determinasi

The coefficient of determination is defined as the proportion of the total variance in the dependent variable Y (the variable being influenced) that can be explained or accounted for by the variance in the independent variable X (the influencing variable) (Yuliana and Listari, 2021). The coefficient of determination ranges from zero to one. A low value indicates that the independent variables have a very limited ability to explain the variation in the dependent variable (Pravasanti, 2018)

III. RESULTS AND DISCUSSION

1. Multiple linear regression test

From the linear regression analysis, the following equation was obtained:

$$Y = 674.972 + 0.001 - 0.068 - 0.001 - 0.001$$

From this equation, we can conclude that:

1. The coefficient +0.001 means that a 1-unit increase in X1 will increase Y by 0.001
2. The coefficient -0.068 means that a 1-unit increase in X2 will decrease Y by 0.068
3. The coefficient of -0.001 means that a 1-unit increase in X3 will decrease Y by 0.001
4. The coefficient of -0.001 means that a 1-unit increase in X4 will decrease Y by 0.001
5. The constant is 674.972, meaning that if X1, X2, X3, and X4 are all 0, then the value of Y is 674.972

1. Uji t parsial

Tabel 2.1
Results of the Partial t-Test
Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta	T	Sig.
1 (Constant)	674.972	44.905		15.031	.000

1	CIR	.001	.005	.014	.305	.763
1	BOPO	-.068	.002	-1.000	-35.462	.000
1	NPF	-.001	.001	-.053	-.968	.342
1	FDR	-.001	.002	-.021	-.338	.738

a. Dependent Variable: ROA

1. The Effect of the Cost-to-Income Ratio (CIR) on ROA (Return on Assets) at KB Bank Syariah for the Period 2018–2025

Based on the results of the t-test, the CIR variable showed a significance value of 0.763, which is greater than the significance level of 0.05 (i.e., $0.763 > 0.05$). This means that the CIR variable did not have a significant effect on ROA at Bank Bukopin Syariah during the 2008–2018 period. [i-[6.1] This situation indicates that banks must pay attention to their asset management, according to (Mikky, 2025). Investments in fixed assets that are not used productively can lower a bank's profitability ratios; therefore, asset management in the banking sector must be carefully managed to improve profitability. The higher the CIR, the lower the bank's operational efficiency, and thus profitability—as measured by ROA—tends to decline. Conversely, a lower CIR indicates that the bank is able to manage its operating costs efficiently, thereby increasing profits and raising ROA. This finding is consistent with a study conducted by Yuni (2024), which concluded that CIR has no effect on ROA, based on a t-test with a significance level of $0.427 > 0.05$.

2. The Effect of BOPO (Operating Expenses to Operating Revenue) on ROA (Return on Assets) at KB Bank Syariah for the 2018–2025 Period

Based on the results of the t-test for the BOPO variable, the significance value was 0.000—which is below 0.05 (i.e., $0.000 < 0.05$)—indicating that the BOPO variable has a significant negative effect. The higher the operating costs incurred by the bank, the more the revenue or profitability of Bukopin Syariah Bank for the 2018–2025 period will decline; the higher the BOPO value, the more the profitability of the Islamic bank will decline due to the high operating costs the company must bear. This finding is consistent with a study conducted by Umilia Audina and Novien Rialdy (2024), which found that the BOPO variable has a significant negative effect based on the t-test. The calculated t-value for the BOPO variable (X1) was 12.471, which is greater than the critical t-value of 2.03 ($12.471 > 2.03$). Furthermore, the significance value (Sig.) was found to be 0.000, which is less than 0.05 ($0.000 < 0.05$).

3. The Effect of NPF on ROA (Return on Assets) at KB Bank Syariah for the 2018–2025 Period

The t-test results show that the NPF value has a significance level of 0.342, which is above 0.05 (i.e., $0.342 > 0.05$), meaning that the NPF variable does not have a significant effect on Bukopin Syariah Bank's ROA for the 2018–2025 period. Ideally, an increase in the NPF ratio would lead to higher provisioning costs for non-performing loans, thereby reducing the bank's profitability; however, these findings suggest that the bank is able to control the level of non-performing loans and the effectiveness of its loan risk management, so that these factors do not affect profitability. This finding is consistent with research conducted by Litriani and Lemiya (2016) With a t-test significance value of $0.876 > 0.05$, H_0 is accepted and H_a is rejected, meaning that, partially, there is no effect of NPF on ROA.

4. The Effect of FDR on ROA (Return on Assets) at KB Bank Syariah for the 2018–2025 Period

Based on the results of the t-test, the FDR variable showed a significance value of 0.738, which is greater than the significance level of 0.05 (i.e., $0.738 > 0.05$); therefore, the FDR variable does not have an effect on ROA. A bank's success in performing its intermediation function will influence its ability to generate profits. The more optimally the funds collected are channeled to the public, the greater the income earned by the bank, and thus profitability, as measured by Return on Assets (ROA), will increase. However, the findings indicate that the level of third-party funding disbursement has not yet been able to improve the profitability of KB Bank Syariah. This situation may occur because the disbursed financing has not yet generated optimal revenue or due to an increase in financing risk; these findings are consistent with research conducted by (Hakim, Pamikatsih, and Setiabudi, 2023), which states that the FDR does not affect the ROA value because the significance level is > 0.05 or $0.297 > 0.5$. Therefore, it is concluded that the FDR has no effect on Return on Assets.

2. Uji f

**Table 2.3 F-Test
(Simultaneous)**

		ANOVAa				
	Model	Sum of Squares	df	Mean Square	F	Sig.
1	Regression	794953.589	4	198738.397	445.089	.000b
1	Residual	12055.880	27	446.514		
1	Total	807009.469	31			

Based on the results of the F-test from the ANOVA table, the calculated F-value is 445.089 with a significance level of 0.000. Since the significance level is less than 0.05 (i.e., $0.000 < 0.05$), H_0 is rejected and H_1 is accepted; this means that the variables CIR, BOPO, NPF, and FDR have a significant effect on ROA. The regression model is suitable for explaining the effects of these four independent variables on the dependent variable (ROA).

3. Uji Koefisien Determinasi

**Tabel 2.4
Test of the Coefficient of Determination**

Model Summaryb					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.993a	.985	.983	21.131	1.114

The coefficient of determination test is used to determine the extent to which independent variables explain the dependent variable. Based on the results of the coefficient of determination test above, the adjusted R-squared value is 0.983, or 98.3%. This means that the ROA variable is influenced by the CIR, BOPO, NPF, and FDR variables by 98.3%, and the remainder is influenced by other variables not examined in this study[i]

IV. CONCLUSIONS

The research findings indicate that KB Bank Syariah's profitability fluctuated during the 2018–2025 period, particularly in the fourth quarter of several years. The research results indicate that operational efficiency, financing quality, and

liquidity management need to be continuously improved to maintain profitability stability. Therefore, KB Bank Syariah is expected to strengthen its management of operating costs, maintain financing quality, and optimize fund disbursement so that its financial performance and profit-generating capacity can continue to improve. In addition, banks are also expected to improve the effectiveness of their risk management, strengthen their strategies for mobilizing and channeling funds, and conduct periodic evaluations of their operational performance to ensure sustainable profitability. These efforts are expected to enhance the banks' competitiveness and build greater trust among the public and stakeholders.

The data used is limited to secondary data sourced from KB Bank Syariah's quarterly financial reports for the 2018–2025 period, obtained through the official websites of Bank Bukopin Syariah and the Financial Services Authority (OJK). Therefore, the research results are highly dependent on the completeness, precision, and accuracy of the published data. Should there be any errors, changes, or revisions to the data by the relevant parties, these are beyond the researcher's control and may affect the analysis results. For future research, the study could be expanded by including variables that influence profitability, such as third-party funds (DPK) or net operating margin (NOM). In addition, future research could extend the observation period, expand the scope of the study to include other Islamic banks, and incorporate additional variables related to profitability so that the findings can provide a more comprehensive picture of the factors that influence the profitability of Islamic banks.

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