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The Effect of Non-Performing Loans (NPL) and Operational Expenditure on Operational Income (BOPO) on Return on Assets (ROA)

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Abstract: This study aims to determine the effect of Non-Performing Loans (NPL) and Operational Expenditure on Operational Income (BOPO) on Return on Assets (ROA) at Bank Mandiri. The population in this study consists of the financial reports of Bank Mandiri listed on the Indonesia Stock Exchange (IDX) for the period 2016-2023. This research employs a quantitative approach, and the research design utilizes multiple linear regression analysis. The results indicate that the NPL and BOPO variables simultaneously affect ROA. Based on the t-test results, it can be concluded that the NPL variable does not have a significant partial effect on ROA, while the BOPO variable has a significant effect on ROA.

Keyword: Non-Performing Loans (NPL), Operational Expenditure on Operational Income (BOPO), and Return on Assets (ROA)

INTRODUCTION

Maximizing profits is the primary objective of any company, whether it is a private enterprise or a state-owned enterprise. Profit is essential for ensuring the sustainability of the company. Similarly, banking institutions also have a long-term goal of generating profits, in addition to short-term objectives such as meeting minimum reserves and providing quality services to the public.

The banking sector in Indonesia plays a significant role in the country's economic development as it functions as an intermediary institution, capable of channeling funds from surplus economic units to deficit economic units. In addition to driving the national economy, the banking sector also participates in enhancing national development. The development of the banking sector in Indonesia has been very rapid, with an increasing number of national private banks and digital banks emerging, which further mobilizes the community and intensifies competition among banking sectors. This situation requires banks to continuously maintain their performance health to gain and retain the trust of the public as customers.

Banks that collect public funds must build trust with the community. Trust can be established through the bank's performance health. Generally, the health level of a bank is assessed through its performance evaluation. A bank's financial performance reflects its financial condition over a specific period, encompassing both the aspects of fund collection and distribution.

Performance evaluation is a crucial factor for banks to determine whether their operations are running well or not. Financial performance assessments can also measure the level of profitability generated and compare profitability over specific years. Typically, a bank's financial performance can be viewed through its financial statements derived from financial ratio calculations. The financial performance that generally indicates the health of a bank is its profitability performance. The health of a company or bank can be assessed through its financial performance, especially its profitability within that banking institution.

Bank Mandiri recorded a net profit of IDR 55.06 trillion in 2023, an increase of 33.73% year-on-year (YoY), while Bank BCA achieved a net profit of IDR 48.63 trillion in 2023, an increase of 19.4% YoY. The net profit performance of Bank BCA was supported by accelerated credit distribution, while PT Bank Rakyat Indonesia (Persero) Tbk (BBRI) recorded a consolidated net profit of IDR 60.09 trillion, up 17.43% YoY, supported by credit growth above the banking industry, low-cost third-party fund collection, and the increasing efficiency of BRI’s digital transformation. PT Bank Negara Indonesia (Persero) Tbk (BBNI) reported a consolidated net profit of IDR 20.9 trillion, an increase of 14.14% YoY. Thus, in terms of growth, Bank Mandiri recorded the fastest profit performance, growing by 33.73%, surpassing BCA, BRI, and BNI, which grew by 19.39%, 17.43%, and 14.14%, respectively.

Looking at profitability ratios in 2023, Bank Mandiri excelled in terms of Return on Assets (ROA). Bank Mandiri recorded an ROA of 4.03% in 2023, surpassing BCA, BRI, and BNI, which had ROAs of 3.63%, 3.12%, and 2.60%, respectively. The higher the ROA, the stronger the bank is in utilizing its assets to generate profits. Based on this, it is interesting to conduct research focusing on PT Bank Mandiri (Persero) Tbk.

An increase in asset growth positively impacts the company's profitability. Profitability is the most accurate indicator for measuring a bank's performance, and the profitability measure often used in the banking sector is Return on Assets (ROA) because ROA measures the effectiveness of a company in generating profits by utilizing its assets (dewi, 2018). An increase in ROA indicates that the company's profitability is increasing, leading to an overall improvement in profitability (Husnan, 2012). ROA is prioritized over ROE by Bank Indonesia because Bank Indonesia emphasizes the profitability of a bank measured by assets, the majority of which come from public deposits, making ROA more representative in measuring banking profitability levels.

A bank's financial performance can be evaluated using financial ratios such as Non-Performing Loans (NPL) and Operational Expenditure on Operational Income (BOPO). Non-Performing Loans (NPL) is a ratio that measures the bank management's ability to manage problematic loans given to debtors. A higher NPL ratio indicates an increase in problematic loans, resulting in losses and deteriorating credit quality for the bank. Conversely, if the NPL ratio decreases, problematic loans also decline, which can enhance the profitability of the bank. Research conducted by (Hartanti, 2017) and (Tangngisalu, J., 2020). shows that the NPL variable affects ROA. However, other studies by (Pratiwi, 2016). and (Konde, 2018). demonstrate that the NPL variable does not have a significant effect on ROA.

Operational risk, measured by BOPO (Operational Costs to Operational Income), is an efficiency ratio used to assess a bank's management capability in controlling operational costs relative to operational income. A higher BOPO value indicates poorer financial performance for the bank. Conversely, a lower BOPO value suggests improved financial performance. Various studies examining the effect of BOPO on ROA yield differing results. For instance, (Muhammad, N., 2023).found that the BOPO variable affects ROA, while (Roza Gustika., 2015). concluded that BOPO does not influence ROA and ROE profitability.

METHOD

According to (Sugiyono, 2016), research methodology is fundamentally a scientific approach to obtaining data for specific objectives and purposes, based on scientific characteristics, which are rational, empirical, and systematic. This research employs an empirical scientific approach, where the study is conducted with specific and valid criteria. The research method used is a quantitative approach with a descriptive method.

The data source for this study is secondary data. The data collected includes the financial statements of Bank Mandiri from 2016 to 2023, sourced from the Indonesia Stock Exchange, accessible at (www.idx.co.id), along with banking financial reports and relevant literature.

A study is bound to a population and sample.

According to (Sugiyono, 2016), the population is the generalization area consisting of objects or subjects with specific qualities and characteristics determined by the researcher for study and conclusion. In this study, the population consists of the financial statements of Bank Mandiri from the Indonesia Stock Exchange, accessible at (www.idx.co.id). Meanwhile, the sample represents a portion of the total and characteristics of that population. In this study, the financial statements from 2016 to 2023 are used, resulting in a sample size of 8.

The data collection method for this research involves secondary data obtained through literature study from books, economic and business journals, and other related readings that support this research. This secondary data is collected using the documentation method, which involves recording or documenting data relevant to the study.

In this research, the dependent variable is Return on Assets (Y). Return on Assets is one of the profitability ratios used to measure the effectiveness of a company in generating profits by utilizing its total assets. ROA is calculated by dividing pre-tax profit by average total assets. Pre-tax profit is the net profit from operational activities before tax, while average total assets represent the average volume of business or assets.

The independent variables in this study are as follows: Non-Performing Loan (NPL) as X1 represents the ratio of total non-performing loans to total loans granted. NPL can be measured by dividing non-performing loans by total loans granted. BOPO (X2), as the next independent variable, is an efficiency ratio used to measure a bank's management capability in controlling operating expenses relative to operating income. BOPO can be measured by dividing operating expenses by operating income. This study employs multiple linear regression analysis to assess the impact of the variables under investigation.

RESULTS AND DISCUSSION

Using a sample of 8 financial statements from Bank Mandiri for the period 2016-2023 that have been publicly published.

Table 1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
NPL	8	.26	1.06	.5657	.30071
BOPO	8	51.88	80.03	66.0314	9.20445
ROA	8	1.64	4.03	2.9157	.74000
Valid N (listwise)	8				

Source: Processed by the author (2024)

Based on the table above, it can be observed that ROA, NPL, and BOPO have means greater than their standard deviations, which indicates that the data for these variables are clustered or do not vary significantly.

Multiple Regression Analysis

Table 2. Multiple Regression Analysis
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	6.283	.589		10.673	.002
	NPL	-.403	.168	-.164	-2.406	.095
	BOPO	-.083	.004	-1.038	-19.819	.000

a. Dependent Variable: ROA

Source: Processed by the author (2024)

The resulting regression equation is:

$$\mathbf{Y = 6{,}283 - 0{,}403NPL - 0{,}083BOPO}$$

The regression equation formed is as follows: From the multiple linear regression equation above, it can be interpreted as follows:

1. The constant of the multiple linear regression equation in Table 2 is 6.283 and has a positive sign, indicating that if the values of NPL and BOPO are 0 (zero), the ROA will increase by 6.283.
2. The regression coefficient for the NPL variable is -0.403 and has a negative sign, which indicates that for every one percent change in NPL, while assuming BOPO remains constant, the ROA will decrease by 0.403. This also shows a negative relationship between NPL and ROA.
3. The regression coefficient for the BOPO variable is -0.083 and has a negative sign, which indicates that for every one percent change in BOPO, while assuming NPL remains constant, the ROA will decrease by 0.083. This also indicates a negative relationship between BOPO and ROA.

Statistical F-Test

Table 3. Simultaneous Hypothesis Testing (F-Test)
ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.266	2	1.089	168.108	.001[b]
	Residual	.019	2	.006		
	Total	3.286	4			

a. Dependent Variable: ROA
b. Predictors: (Constant), NPL, BOPO

Source: Processed by the author (2024)

Based on Table 3 above, the results indicate that the independent variables (X) have a significant ability to influence the dependent variable (Y) simultaneously. This result is evidenced by the calculated F-value of 168.10 and a significance value of 0.001, which is less than the significance threshold ($\alpha = 0.05$).

These findings suggest that to explain ROA, the variables NPL and BOPO can be used together. Therefore, this indicates that the first hypothesis proposed is accepted, and there is a simultaneous effect of the NPL and BOPO variables on ROA.

Statistical T-Test

Table 4. Partial Hypothesis Testing (T-Test)

	Model	t	Sig.
1	(Constant)	10.673	.002
	NPL	-2.406	.095
	BOPO	-19.819	.000

a. Dependent Variable: ROA

Source: Processed by the author (2024)

The results of the T-test show that the regression coefficient for the NPL variable is 2.406, with a significance value of 0.095, which is not significant at the 0.05 significance level because it is greater than 0.05. The negative regression coefficient for the NPL variable indicates that NPL has a negative influence on ROA. Therefore, the second hypothesis stating that NPL has a significant effect on changes in ROA can be rejected.

Based on the results of the T-test, the regression coefficient for the BOPO variable is -19.819, with a significance value of 0.000, which is significant at the 0.05 significance level because it is less than 0.05. The negative regression coefficient for the BOPO variable indicates that BOPO has a negative influence on ROA. Therefore, the third hypothesis stating that BOPO has a negative and significant effect on changes in ROA can be accepted.

Discussion

The Effect of NPL and BOPO on ROA

Based on the calculations, it was found that NPL and BOPO have a significant effect on ROA. In the F-test, the significance value obtained was 0.001, which is less than 0.05, allowing us to conclude that this model is suitable for use in the study. This means that there is an effect between the independent variables, namely the level of NPL and BOPO, simultaneously on the dependent variable ROA, which indicates that hypothesis H1 is accepted.

The Effect of NPL on ROA

Based on the calculations, it was found that NPL does not have a significant effect on ROA. This can be observed from the calculated t-value of -2.406 with a significance level greater than 0.05, specifically 0.095, indicating that there is no significant effect of NPL on Return on Equity (ROE) in a partial manner. Thus, hypothesis H2 is rejected. This suggests that NPL in the banking sector at Bank Mandiri does not influence Return on Equity. The uncertainty surrounding the increase and decrease of NPL, which is accompanied by fluctuations in ROA, results in the insignificant effect of NPL on ROA. The findings of this study indicate that NPL has a negative and insignificant effect on ROA. This negative effect suggests that the NPL variable has an inverse relationship with profitability (ROA); that is, as the risk of credit default by debtors decreases, profitability will increase, or conversely, a higher risk of non-performing loans will reduce the company's profits. This study aligns with previous research conducted by Rembet & Baramuli (2020), which found no effect of NPL on ROA, and is also supported by Tami & Riska Kumala Dewi (2022), which explained the negative and insignificant relationship between NPL and ROA. However, it differs from the research conducted by Lestari & Setianegara (2020), which stated that NPL affects ROA, as well as the research by Peling & Sedana (2018), which indicated that NPL has a negative and significant relationship with ROA.

The Effect of BOPO on ROA

Based on the findings of the study, it was discovered that BOPO has a negative relationship and significantly affects ROA. This can be observed from the calculated t-value of -19.819. The significance value obtained is 0.000, which is less than 0.05. According to the decision-making criteria, H3 is accepted, indicating that BOPO has a significant effect on ROA in a partial manner. The negative coefficient value of BOPO indicates that the relationship between the BOPO variable and ROA is inverse; in other words, banks that can control operational costs effectively will perform more efficiently, avoiding potential issues. Thus, as BOPO decreases, profits or ROA will increase. This finding is supported by the research of (Sadi'yah, 2021), which showed that the BOPO variable has a negative and significant effect on ROA, and the empirical study conducted by (Pinasti,2018) explains that BOPO negatively and significantly affects profitability. However, this is not supported by the research conducted by(Nurul Ichsan, 2020), which indicated that BOPO has a negative and insignificant effect on ROA.

CONCLUSION

Based on the discussion presented in the previous chapter, it can be concluded that simultaneously, the NPL (X1) and BOPO (X2) variables both significantly affect the ROA (Y) variable. The results of the t-test show that, in a partial manner, the NPL variable (X1) has a negative and insignificant effect on the ROA variable (Y). This means that the business risk of the bank does not significantly affect ROA, even though the risk level continues to increase. It can also be concluded that there is a negative relationship between NPL (X1) and ROA (Y); if NPL increases, then ROA will decrease, or conversely, if NPL decreases, ROA will increase. The results of the T-test indicate that, in a partial manner, the BOPO variable (X2) has a negative and significant effect on the ROA variable (Y). This means that if BOPO increases, ROA will decrease, or conversely, when BOPO decreases, ROA will increase. Therefore, we can conclude that banks are capable of conducting their operational activities in a manner that influences ROA.

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