

THE INFLUENCE OF NIM, NPL, BOPO TOWARDS ROA IN CONVENTIONAL BANKS LISTED ON THE IDX FOR 2018-2022

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ABSTRAK

Abstrak Penelitian ini bertujuan untuk mengetahui pengaruh net interest margin (NIM), non performing loan (NPL), dan Beban Operasional terhadap Pendapatan Operasional (BOPO) terhadap return on assets (ROA) pada bank konvensional yang tercatat di BEI periode 2018-2022. Metode penelitian yang digunakan dalam hal ini adalah metode kuantitatif. Sampel yang diamati dalam penelitian ini adalah bank konvensional yang terdaftar di BEI periode 2018-2022, dengan menggunakan purposive sampling. Jenis data yang digunakan adalah data sekunder berupa laporan keuangan tahunan. Metode yang digunakan adalah analisis regresi linier berganda yang diolah menggunakan SPSS 26. Hasil penelitian ini menunjukkan bahwa NIM dan BOPO memiliki efek positif yang signifikan terhadap ROA, sedangkan NPL tidak memiliki efek positif yang signifikan terhadap ROA. Kesimpulan dari penelitian ini menekankan pentingnya NIM dan BOPO dalam mempengaruhi kinerja keuangan perusahaan, sedangkan NPL tidak berdampak signifikan terhadap ROA. Saran untuk peneliti di masa depan, disarankan agar peneliti melakukan analisis yang lebih komprehensif dengan memperhatikan faktor-faktor yang dapat mempengaruhi kinerja bank. Penelitian dapat mencakup variabel makroekonomi, seperti inflasi, suku bunga, dan kondisi ekonomi global yang dapat memengaruhi rasio NIM, NPL, dan BOPO.

Kata Kunci: NIM, NPL, BOPO, ROA

ABSTRACT

Abstract This study aims to determine the influence of net interest margin (NIM), non performing loan (NPL), and Operating Expenses to Operating Income (BOPO) towards return on assets (ROA) in conventional banks listed on the IDX for the period 2018-2022. The research method used in this case is quantitative method. The samples observed in this study were conventional banks listed on the IDX for the period 2018-2022, using purposive sampling. The type of data used is secondary data in the form of annual financial reports. The method used is multiple linear regression analysis processed using SPSS 26. The results of this study indicate that NIM and BOPO have a significant positive effect on ROA, while NPL does not have a significant positive effect on ROA. The conclusion of this study emphasizes the importance of NIM and BOPO in influencing the company's financial performance, while NPLs do not have a significant impact on ROA. Suggestions for future researchers, it is recommended that researchers conduct a more comprehensive analysis by paying attention to factors that may influence of bank performance. Research may embrace macroeconomic variables, such as inflation, interest rates, and global economic conditions that may affect NIM, NPL, and BOPO ratios.

Keywords: NIM, NPL, BOPO, ROA

I. INTRODUCTION

Until now, banks are still the main sector driving the wheels of economy growth because they have an important role that cannot be ignored in a country. Financial institutions include banks provide services to gather money from the general population and then return them to the community with the goal of enhancing people's lives. Banking companies can be involved in an active role in supporting national development activities and helping people to achieve activities both in the short and long term (Setiyono et al., 2023) . As the main pillar in the economic system that has a crucial role in overall economic activity, the size or scale of a bank does not always guarantee good financial performance (Desiko, 2020). A depiction of a bank's financial situation over a specific time period, including features of money collection and distribution, is called financial performance (Manajemen et al., n.d.). Measurement of bank financial performance is an important indicator in assessing the degree to which banks are able to produce profits and manage risks. One of the performance indicators that is often used is return on assets (ROA), which describes the bank's efficiency in generating profits from its total assets. According to (Ramadanti & Setyowati, 2022) Factors that affect return on assets (ROA) or bank performance are NIM, NPL, and BOPO.

Net interest margin, is the ratio of bank interest earnings to average earning assets. The performance of the bank is better the higher the NIM value that is anticipated. According to research findings by (Setya Pratama et al., 2021) ROA is impacted by the NIM variable. Meanwhile, additional study

conducted by (Nufus & Munandar, 2021) concluded that the NIM variable has no significant effect on ROA either partially or simultaneously. Based on this description, there is an inconsistency between the effect of financial ratios on banking ROA, so this study aims to assess the impact between banking financial ratios which include NPL, BOPO and NIM on ROA at conventional banks listed on the IDX in 2018-2022.

The ratio known as Non-Performing Loan (NPL) is used to assess how well bank management is handling non-performing loans that the bank has extended. The higher the NPL ratio indicates a rise in non-performing loans which has an impact on losses and poor bank credit quality. Vice versa, if the NPL ratio is lower, the lower the non-performing loans so that it can increase the profitability obtained by the bank. According to research conducted by (TANGNGISALU et al., 2020) shows the results that the NPL variable affects ROA. Meanwhile, other studies conducted by (Garuda1370966, n.d.) and (Konde et al., 2018) prove that the NPL variable has no effect on ROA. Like the phenomenon experienced by almost all banks in the world, including Indonesia, namely during covid 19 and after. Reporting from (www.cnbcindonesia.com) explained that several banks in Indonesia experienced an increase in NPLs, or non-performing loans. This increase is among the impacts of covid-19, which has hampered economic activity. As with BBRI and Mandiri banks that experienced an increase in NPLs, BNI also experienced the same thing in the midst of the pandemic at that time. In the first semester of 2020, BNI's NPL was increase at 3% from the previous

1.8% in the first semester of 2020. From BNI's increase, based on the segment, the largest NPL was by medium business customers 6.7%, then SMEs 3.3%, consumers 2.9%, and corporations 2.2%, with a total value of IDR 16.49 billion. From this phenomenon, it can be concluded that finance has a complex relationship with risk, especially in the context of companies and financial institutions. When the NPL rate increases, it indicates that more and more debtors fail to fulfill their debt payment obligations. This situation greatly affects the bank's overall financial performance (Dayana et al., 2019).

The ratio known as Operating Expenses on Operating Income, or BOPO, is used to assess how well bank management is able to keep operating expenses under control relative to operating income. The financial performance of banks is smaller or lower the higher the BOPO number. Conversely, if the BOPO value declines, the financial performance of banks will rise or get better (Ramadanti & Setyowati, 2022). According to research conducted by (Sudarmawanti & Pramono, 2017) found the results that the BOPO variable has an influence on ROA. Meanwhile, other research conducted by (Gustika, 2019) shows the result that the BOPO variable has no influence on ROA.

This study found that NIM has a significant positive effect on ROA, indicating that banks with higher interest margins tend to have better financial performance. Meanwhile, NPL has a negative effect on ROA, indicating that an increase in bad debts will reduce bank profitability. BOPO is also proven to have a significant positive impact on ROA, indicating that good operational efficiency will increase the bank's ability to generate

profits from its assets. This finding is different from previous research by (Dewi, 2018), which shows that only NPL and BOPO have a significant influence on ROA, while NIM has no significant effect. (Khamisah et al., 2020; Program et al., n.d.)

II. RESEARCH METHOD

Data Analysis Method

This study for quantitative methods, which involves collecting data in numerical form. The goal is to assess the extent of influence that independent variables have on the dependent variable. The study focuses on Conventional Banks listed on the IDX between 2018 to 2022. Sampling was conducted using a purposive sampling method. This study uses multiple regression analysis with the aid of SPSS software. Multiple regression is a statistical technique used to analyze the relationship between one dependent variable and two or more independent variables. In this analysis, the model formed is a linear equation that can be used to predict the value of the dependent variable based on the value of the independent variable (MARDIATMOKO, 2020). Data was collected by visiting the Stock Exchange of Indonesia website (www.idx.co.id) or visit the banks official websites to access their annual financial reports, with a sample data of 75. The analysis uses multiple linear regression techniques. Hypothesis testing includes the determination coefficient (R Square test), model feasibility test (F test), and the t test.

For this investigation, the regression equation is:

$$Y = a + bX1 + bX2 + bX3 + \epsilon$$

Description:

Y = Return on Assets (ROA)

X1 = Net Interest Margin (NIM)

X2 = Non-Performing Loan (NPL)

X3 = Operating Expenses Revenue Expense (BOPO)

Measurement of Variables

Net Interest Margin

Net Interest Margin (NIM) is the ratio of net interest income to average earning assets. Net interest income is calculated as the interest earned from lending minus the interest expenses on the funds obtained. To improve NIM, a bank should focus on reducing the cost of funds or the interest expenses associated with its sources of funding. (Program et al., n.d.).

$$NIM = \frac{\text{Net interest Income}}{\text{Avegare Earning Assets}} \times 100\%$$

Non Performing Loan

Non Performing Loan (NPL) is a ratio to measure the bank's ability to maintain the risk of credit failure repayment by debtors, the smaller the NPL, the less credit risk borne by the (Ramadanti & Setyowati, 2022).

$$NPL = \frac{\text{Non Performing Loans}}{\text{Total Loans}} \times 100\%$$

Operating Cost and Operating Income

Operating Expenses to Operating Income (BOPO) is the ratio of operating expenses to operating income. Operating costs include expenses that banks incur to conduct their core business activities, such as interest expenses, promotion expenses, labor expenses, and other operational expenditures (Matindas et al., 2015)

$$BOPO = \frac{\text{Operating Expenses}}{\text{Operating Income}} \times 100\%$$

Return On Asset

Return On Assets (ROA) Is a proportion of profit before tax in relation to total assets is known as Return on Assets (ROA). ROA measures how effectively bank management utilizes the bank's assets to

achieve operational efficiency. An increased ROA suggests that the bank is more effective in deriving profits from its assets. According to the Circular Letter No. 13/24/DPNP/2011 from Bank Indonesia, which outlines the codification for assessing the health of commercial banks.

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$$

III. RESULTS AND DISCUSSION

Descriptive Statistics

Table 1. Descriptive Statistic.

	N	Minimum	Maximum	Mean	Std. Deviation
NIM	75	0.05	6.62	4.2784	1.31048
NPL	75	0.18	5.49	1.9099	1.30221
BOPO	75	52.74	105.11	88.6420	10.64012
ROA	75	-0.30	3.97	0.9272	0.85797
Valid N	75				

Source: SPSS data, 2024

According to Table 1, the high mean NIM of 4.2784 indicates that the bank is able to generate relatively good interest income relative to the interest paid. The mean NPL of 1.9099, however, indicates credit risk, albe it within tolerable limits. The mean BOPO of 88,6420 indicates that the bank spent about 88.64% of its revenue on operating expenses. This indicates good efficiency, but still needs attention to reduce operating costs further. The mean ROA of 0,9272 indicates that there is profitability, although the figure is relatively low compared to the expected industry standard. Overall, the results show that while the bank performed well in NIM and operational efficiency levels, there are still challenges related to NPL and profitability levels that could be improved.

Normality Test

Table 2. Normality Test Result.

<i>One-Sample Test</i>	<i>K-S</i>	<i>Unstandardized Residual</i>
N		75
<i>Asymp.Sig (2-tailed)</i>		0.200

Source: SPSS data, 2024

According to Table 2, the results of the normality test using the Kolmogorov-Smirnov test indicate an Asymp Sig (2-tailed) value is 0.200, whose value is greater than 0.05 (0.200 > 0.05). Overall, it can be concluded that the data follows a normal distribution.

Multicollinearity Test

Table 3. Multicollinearity Test Result

No	Variabel	Tolerance	VIF
1	NIM	0.815	1.227
2	NPL	0.842	1.188
3	BOPO	0.703	1.422

Source: SPSS data, 2024

According to the table 3, the VIF value is below 10 (VIF < 10) and the tolerance value exceeds 0.10 (10%). Since these criteria are met, it can be concluded that the model does not exhibit symptoms of multicollinearity.

Heteroscedasticity Test

Table 4. Heteroscedasticity Test Result

Variabel	Sig.	Description
NIM	0.557	No heteroscedasticity
NPL	0.450	No heteroscedasticity
BOPO	0.065	No heteroscedasticity

Source: SPSS data, 2024

According to Table 4, all variables have a significance value greater than 0.05, indicating that this study is free from symptoms of heteroscedasticity.

Determination Coefficient Test

The Adjusted R Square value is 0.990 or ,990 with the independent variables, namely NIM, NPL, BOPO and the dependent, namely ROA. Then the contribution of NIM, NPL, and BOPO in explaining ROA is 99% and the remaining variation is explained by variables outside of those tested.

Capital Eligibility Test / F-Test

From the results that F reg = 2257.722 with a Sig value of 0.001.

According on these results, it can be concluded that the significance value of 0.001 is less than 0.05

(0.001 < 0.005), then the independent variables together have an effect on the dependent. Which

This means that the dependent variable, namely NIM, NPL, BOPO, simultaneously affects the dependent variable, specifically ROA for banking companies listed on the IDX.

Regression Test

The regression analysis equation can be taken as follows.

$$ROA = 7.805 + 0.026 NIM + 0.002 NPL - 0.079 BOPO + e$$

From the results of data processing obtained the significance value of NIM is 0.004 < 0.05. Based on these results, it can be concluded that NIM has a significant positive effect on ROA. In the NPL significance value of 0.801 > 0.05, which means that the NPL variable has no significant effect on ROA. Meanwhile, the significance value of BOPO is 0.001 < 0.05. From these results, it can be concluded that BOPO has a significant positive effect on ROA.

From the analysis of the research results, we can draw the following conclusions. The influence of NIM on ROA

Considering the statistical findings of the data processing, it is evident that the Net interest Margin (NIM) obtained a relevant value less than 0.05 (0.004 > 0.05) by

0.004. This indicates that NIM has a significant positive impact on ROA. NIM has a notable positive impact for ROA because if NIM is greater, the more interest earnings on productive assets handled by the bank increases so that the level of bank problems is reduced. The findings of this study consistent with research conducted by (Setyarini, 2020) and (Jahrotunnupus & Manda, 2021) which concluded that NIM has a substantial impact on ROA. Therefore, the formulated hypothesis is in accordance with the research results that H1 is accepted / proven.

The Influence of NPL on ROA

Based on the statistical results data processing, can be in the observed that Non-Perfoerming Loan (NPL) possesses a noteworthy value of 0.801 over 0.05 ($0.801 > 0.05$). NPL does not have a significant effect on ROA. Because if the NPL ratio is higher, the worse the credit quality in order for the quantity of non-performing loans will be higher and can cause the possibility of a bank in problematic conditions. The hypothesis that explains the NPL variable has a significant effect on ROA is not tested. The results of this study support research (Mukaromah & Supriono, 2020) which shows credit risk has no significant effect on financial performance. The findings of this study are supported by research from (Rusiati & Lestari, 2023) which found that NPL does not have a significant effect on ROA. So that the hypothesis formulated is not in accordance with the research results that H2 is not accepted.

The Influence of BOPO on ROA

Based on the statistical results data processing, it can be observed that Operating Expenses of Operating Income (BOPO) obtained a significant 0.001 value that is less than 0.05 ($0.001 < 0.05$). BOPO a significant positive effect on ROA. Therefore the higher the operational risk,

the lower the return obtained. This research aligns with earlier findings reported by several researchers, namely (Romansyah Sahabuddin et al., 2022) and (Komalasari & Guscanda Suria Manda, 2022) which convey that BOPO significantly has a favorable impact on ROA. Thus, the formulated hypothesis is in accordance with the research results that H3 is accepted / proven.

IV. CONCLUSIONS AND SUGGESSTIONS

The research findings indicate that both net interest margin (NIM) and operating expenses to operating income (BOPO) have a significant and positive effect on a bank's return on assets (ROA). The significance value of NIM of 0.004 indicates that an increase in NIM, which reflects the bank's capacity to generate greater interest income than interest expenses, actually contributes to better financial performance represented by ROA. Similarly, BOPO has a significance value of 0.001, indicating that effective operational cost management is critical in improving bank profitability. In contrast, non-performing loan (NPL) with a significance value of 0.801 indicates that credit risk as measured by NPL has no significant influence on ROA in the context of this study. This indicates that while NPL is an important indicator of credit health, in this study, poor loan quality does not directly impact the overall financial performance of the bank. The conclusion of this study emphasizes the importance of NIM and BOPO in influencing the company's financial performance, while NPLs do not have a significant impact on ROA.

Suggestions for future researchers, it is recommended that researchers conduct a more comprehensive analysis by paying attention to factors that may influence of bank perfomance. Research may embrace macroeconomic variables, such as inflation,

interest rates, and global economic conditions that may affect NIM, NPL, and BOPO ratios. In addition, longitudinal research can provide deeper insights into how the dynamics of these factors are affected over time and under various economic conditions. Given the growing digital technology in the banking sector, researchers are also advised to explore the impact of fintech innovations on risk management and bank profitability. Expanding the scope of the analysis by comparing banks in different countries could also provide perspectives around the differences in risk management practices implemented and the resulting performance. With a more holistic and interdisciplinary approach, it is hoped that future study can offer deeper insight into the relationship between risk and bank financial performance.

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