

Analysis Of the Effect of Internal Performance on Bank Profitability

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Abstract

This study aims to determine the effect of CAR, LDR, NPL, BOPO, and Bank Size. This study uses quantitative methods and panel data regression models to investigate how internal factors or bank ratios affect the profitability of KBMI 3 and 4 banks in Indonesia. The research sample consisted of 8 KBMI banks 3 and 4 using *Purposive Sampling* covering the 2015-2022 period. The estimation method in the selected panel data is the *Fixed Effect Model* approach. The results of this study show that the profitability of Bank KBMI 3 and 4, as measured by ROA, partially LDR variables have a significant positive influence, BOPO and Asset Size have a significant negative influence, CAR and NPL do not have a significant and negative effect, while simultaneously have a significant influence. The findings of this study provide empirical evidence regarding the effect of financial ratio variables or internal bank factors on the profitability of Bank KBMI 3 and 4, which in turn can be useful for policy makers, academics, and investors.

Keywords | profitability, internal bank, panel data, fixed effect model

INTRODUCTION

Bank is one of the financial institutions that has an important role in the economy of a country, including Indonesia. According to Law Number 10 of 1998, banks are financial intermediary institutions whose function is to collect funds from the public in the form of current accounts, savings and distribute these funds to the public in the form of loans or other forms with the aim of improving the standard of living of many people. Based on the definition above, it can be said that the role of the bank is to be a financial *intermediary* between parties who have excess funds (*fund surplus*) and those who need funds (*fund deficit*). The bank collects public funds in the form of savings, current accounts, and time deposits. The funds collected from the community are distributed to the community in the form of loans. Provide business loans to the business community and help the sustainable growth of the business community. When consumer credit distribution is controlled, public demand for a company's products and services increases. If economic growth is necessary to create jobs and increase the country's wealth, then the implementation of sound banking activities will boost the country's economic growth (Segara, 2019).

According to Alamsyah (2012) in (Faza, 2019), Bank Indonesia as the banking regulator that oversees banking operations can evaluate and measure the health or performance of banks based on their profitability. Profitability itself is the ability of the bank to generate or obtain profits which is used to assess the extent to which the bank can generate profits effectively and efficiently (Putri et al., 2022). In this case, *profitability* can be used as a benchmark for the performance of a company. Banking companies must be able to maintain good performance and maintain company stability to maintain public confidence in increasingly competitive market conditions (Anindiansyah et al., 2020).



The idea of a resource-based *review theory* has significance as an internal element (Mulyono, 2013). Internal resources serve as the foundation for the company's core goal of achieving competitive advantage in the market, thus enabling the company to compete effectively with competing firms. The competitive advantage of a banking company lies in its ability to achieve a high level of profitability. This profit comes from the focus of banking companies, which is to generate large financial returns.

According to the theory of the resource-based view, banking companies with large internal resources have greater potential to utilize their resources effectively, resulting in high levels of profitability. The ability to efficiently utilize resources can be a competitive advantage, which is the main goal of banking companies.

Based on previous research, there are several differences and similarities. Similarities with research conducted in several previous studies, namely the analysis of the bank's internal performance or the level of performance of the company. The method and object of research are regression of panel data and banking companies in the KBMI category 3 and 4 for the 2015-2022 period. The dependent variables used are ROA (*Return On Asset*) as an indicator of bank profitability, and the independent variables are: CAR (*Capital Adequacy Ratio*) is an indicator of capital/equity, LDR (Loan to Deposit Ratio) is an indicator of liquidity, NPL (Non-Performing Loan) is an indicator of credit risk, BOPO (Operating Costs and Operating Income) is an indicator of operational efficiency, and asset size or total assets is an indicator Bank size. Based on differences with previous studies, among others:

Research conducted by Mardin et al., 2021 in his article has differences in the object of his research, namely commercial banks, the method used multiple linear regression. The variables used in this study are NIM, while in this study the objects are KBMI banks 3 and 4, using multiple linear regression and not using NIM variables as independent variables.

Research conducted Putri et al., 2022 in their article has differences in factors that affect profitability, namely *green banking and financial performance*, while in this study does not use *green banking* as an influence on profitability. Variables that cannot be used in this study are NATMs and CSR Funds.

Research conducted by Akther et al., 2023 in their article has differences in factors that affect profitability, namely macroeconomic and bank-specific, while this study does not use macroeconomic factors to see profitability. Variables that are not used in this study are macroeconomic factors and there are also bank-specific factors such as bank branches, asset management and asset quality. The research objects used are different commercial banks, while this research is KBMI 3 and 4 banks.

The research conducted by Haddad et al., 2022 in their article has differences in factors that affect profitability, namely macroeconomic and bank-specific, while in this study does not use macroeconomic factors to see profitability. Variables that were not used in this study, namely AQ, DP, NIM and macroeconomic variables (external bank). The research object used is also different, namely commercial banks in Jordan, while in this study KBMI 3 and 4 banks in Indonesia.

The research conducted by Afriyie, 2022 in his article has differences in the object of research, namely commercial banks in Sub-Saharan Africa, while in this study the objects

are KBMI 3 and 4 banks in Indonesia. The variables used in Afriye's study, namely CTI, NIM and NIC, while in this study did not use these variables.

Research conducted by Kotte et al., 2022 in their article has differences in factors that affect profitability, namely bank specifics and macroeconomics, while this study does not use macroeconomic factors to see profitability. The research objects used are also different, namely commercial banks in India, while in this study KBMI 3 and 4 banks in Indonesia. Variables that were not used in this study were NPA, RPSL, RII, COF, AM, DR, and macroeconomic factors.

The research conducted by Anindiansyah et al., 2020 in their article has differences in the methods, objects, and variables of the study, namely using multiple linear regression, examining *go-public* banks listed on the Indonesia stock exchange and NIM variables as intervening variables, while in this study using panel data regression analysis methods, the objects are KBMI 3 and 4 banks in Indonesia, the variables used are only ROA as the dependent variable for look at profitability.

The research conducted by Ken & Santioso, 2022 in its article has differences in the objects and variables used, namely banks listed on the Indonesia Stock Exchange and NIM variables as independent variables, while in this study the objects are KBMI 3 and 4 banks in Indonesia and do not use NIM variables as independent variables.

Research conducted by Jigeer & Koroleva, 2023 in their article has differences in factors that affect profitability, namely macroeconomic and bank-specific, while in this study does not use macroeconomic factors to see profitability. The object of research used, namely commercial banks in the city of China, while in this study the objects are KBMI 3 and 4 banks in Indonesia. Variables that cannot be used in this study, namely DATR, LLP, GDP Province, inflation. and, ROE as a dependent variable.

Research conducted by Supriyono & Herdhayinta, 2019 in their article has differences in factors that affect profitability, namely macroeconomic (*external* bank) and specific bank (*internal* bank), while in this study does not use macroeconomic factors to see profitability. The method and object of research, namely robust regression and examining BPD banks in Indonesia, while in this study using panel data regression and the objects KBMI 3 and 4 banks in Indonesia. Variables that cannot be used in this study, namely NIM and external factors of banks, and ROE as a dependent variable.

Based on the *gap* phenomenon discussed above, it can be concluded that not all observed events are consistent with existing theories, this is supported by *research gaps* in previous studies, such as those conducted by (Haddad et al., 2022) and (Ken & Santioso, 2022).

In addition, research on the impact of LDR on ROA also shows different results. In accordance with research conducted by (Putri et al., 2022) which shows that LDR has a positive and significant effect on ROA, while the results of the study (Mardin et al., 2021) LDR has a negative and significant influence on ROA.

The NPL ratio also has a different influence on ROA. In accordance with research conducted by (Afriyie, 2022) NPL has a negative and significant effect on ROA, while



research (Anindiansyah et al., 2020) shows that NPL has a positive but not significant effect on ROA.

Research conducted on the effect of BOPO on ROA. In accordance with research conducted by (Ken & Santioso, 2022) The results in his study identified that BOPO had a significant negative effect on ROA, while the results of the study (Suryadi et al., 2020) has a positive and significant influence on ROA.

In addition to the ratio of CAR, LDR, NPL and BOPO which have different influences. The ratio of asset size also has a different influence. In accordance with research conducted by (Haddad et al., 2022) The results in his research identified that asset size has a positive and significant influence on ROA, while the results of the study (Kotte et al., 2022) does not significantly and negatively impact ROA.

Given the unpredictable development of ROA, CAR, LDR, NPL, and asset size ratios over an 8-year period (2015-2022), there is one variable that can answer the theory, namely the BOPO ratio. However, in the *research gap* phenomenon mentioned above, there are still inconsistencies. Therefore, further research needs to be proposed to analyze whether there is an influence between CAR, LDR, NPL, BOPO and asset size on ROA in KBMI Bank categories 3 and 4.

METHOD

The method used in this study is the panel data regression analysis method. Panel data is data that combines *time series* data and *cross-sectional* data. This study used *cross-sectional* data consisting of 8 KBMI Banks 3 and 4 (BRI, BCA, Mandiri, BNI, Danamon, CIMB Niaga, Panin, Maybank) and *time series* (2015 to 2022). It combines two pieces of data. The method used in this study is quantitative in the form of *numerical calculations* based on the scale studied with the aim of explaining or forecasting varibael relationships: compiling and evaluating theories (Hasan, 2020).

Regression analysis of panel data in this study uses the following analysis formula (Basuki, 2023):

$$ROA_{it} = \alpha + \beta_1 CAR_{it} + \beta_2 LDR_{it} + \beta_3 NPL_{it} + \beta_4 BOPO_{it} + \beta_5 SIZE_{it} + \epsilon_{it}$$

Information:

ROA : Return On Assets pada 8 bank KBMI 3 and 4

CAR : Capital Adequacy Ratio pada 8 bank KBMI 3 and 4

LDR : Loan to Deposit Ratio pada 8 bank KBMI 3 and 4

NPL : Non-Performing Loan pada 8 bank KBMI 3 and 4

BOPO : Operating Expenses Operating Income at 8 KBMI banks 3 and 4

SIZE : Bank Size or Asset Size at 8 KBMI banks 3 and 4

α = Konstanta

β_i = Regression coefficient of each independent variable

i = cross-sectional

t = time-series

ϵ = error term

RESULTS AND DISCUSSION

Best Model Selection

Based on panel data regression analysis, there are 3 choices of estimation models to be used, namely: CEM (*Common Effect Model*), FEM (*Fixed Effect Model*), REM (*Random Effect Model*). Furthermore, to choose the right type of model, the Chow Test, Hausman Test, and *Lagrange Multiplier Test must be carried out* (Widarjono (2005), Basuki & Parwoto (2016)).

Tabel 1. Hasil Regresi Data Panel

Dependent Variable: ROA?				
Variable	Information	CEM	FEM	REM
Constanta	Coefficient		19.672	-0.9206
	t-Statistic		4.97451	-0.311
	Prob.		0.0000	0.7569
CAR?	Coefficient	0.00155	-0.013	-0.0063
	t-Statistic	0.15251	-0.9736	-0.2423
	Prob.	0.8793	0.3348	0.8094
LDR?	Coefficient	0.01932	0.01877	0.02795
	t-Statistic	3.78151	2.90288	2.69589
	Prob.	0.0004	0.0054	0.0092
NPL?	Coefficient	-0.2559	-0.0925	-0.2265
	t-Statistic	-2.5754	-0.9033	-1.3727
	Prob.	0.0125	0.3706	0.1751
BOPO?	Coefficient	-0.0473	-0.0699	-0.047
	t-Statistic	-6.9456	-7.3678	-3.0783
	Prob.	0.0000	0.0000	0.0032
LOG(SIZE?)	Coefficient	0.37742	-1.0012	0.40019
	t-Statistic	11.9806	-3.908	3.08633
	Prob.	0.0000	0.0003	0.0031
R-squared		0.85651	0.93306	0.6336

Source: processed data (2024)

The selection of panel data testing models used in this study was determined by the Chow test, Hausman test, and Lagrange Multiplier test. After doing this test, the best model will be obtained, whether using the common effect model, fixed effect model, and random effect model.

The Chow test is used to determine which FEM (Fixed Effect Model) or CEM (Common Effect Model) is most suitable for estimating panel data. If the results of the Chow test show a probability value of cross section F statistic smaller than 0.05, then H_0 is rejected, and a fixed effect model is more appropriate to use. Conversely, if the results of the Chow



test show a probability value of cross section F statistic greater than 0.05, then H_0 is accepted, and the common effect model is more appropriate. The results of the Chow test can be seen in Table 2 below:

Table 2. Results of the Chow Test and the Hausman Test

Chow Test			
Effect Test	F Statistic	d.f.	Prob.
Period F	7.687072	(7,51)	0,0000
Hausman Test			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	18.134647	5	0.0028

Source: processed data (2024)

Based on Table 2 the results of the chow test show a probability value of cross-section $F < 0.05$ shows that the fixed effect model is more appropriate to use than the common effect model, so it can be concluded that H_0 is rejected and H_1 is accepted.

The Hausman test is a statistic test to determine whether FEM (Fixed Effect Model) or REM (Random Effect Model) is more appropriate to use. If the results of the Hausman test show the probability value of Chi-Sq. The statistic < 0.05 , means that H_0 is rejected, and the fixed effect model is more appropriate to use. Conversely, if the results of the Hausman test show a probability value of Chi-Sq. The statistic > 0.05 , meaning H_0 is accepted and a random effect model is more appropriate. Here are the results of the Hausman test in table 4.6 below:

Based on Table 2 the results of the hausman test show a probability value of random cross-section < 0.05 shows that the fixed effect model is more appropriate to use than the random effect model, so it can be concluded that H_0 is rejected and H_1 is accepted.

Based on the results of the Chow test and the Hausman test above, the *Fixed Effect* model was chosen consistently, so there is no need to do a *Lagrange Multiplier* test because the best model identified in this study is Fixed-Effect.

Table 3. Fixed Effect Model Estimation Results

Dependent Variable: ROA?				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	19.67203	3.954571	4.974505	0.0000
CAR?	-0.013034	0.013387	-0.973634	0.3348
LDR?	0.018767	0.006465	2.902882	0.0054
NPL?	-0.092545	0.102448	-0.903338	0.3706
BOPO?	-0.069949	0.009494	-7.367789	0.0000
LOG(SIZE?)	-1.001181	0.256185	-3.908039	0.0003
Fixed Effect (Cross)				

BRI—C	1.689653		
BCA—C	0.705410		
MANDIRI—C	0.934070		
BNI—C	0.854153		
DANAMON—C	-0.882929		
CIMBNIAGA—C	-0.857995		
PANIN—C	-1.128729		
MAYBANK—C	-1.313634		
R-squared	0.933061	Mean dependent var	3.617337
Adjusted R-squared	0.917311	S.D. dependent var	1.790082
S.E. of regression	0.477217	Sum squared resid	11.61456
F-statistic	59.24078	Durbin-Watson stat	1.877763
Prob (F-statistic)	0.000000		

Source: processed data (2024)

We can arrange the regression results into the following equation:

$$ROA_{it} = 19.67203 - 0.013034CAR_{it} + 0.018767LDR_{it} - 0.092545NPL_{it} - 0.069949BOPO_{it} - 1.001181SIZE_{it} + \epsilon_{it}$$

The fixed effect equation estimation model above can be interpreted as follows:

- The Constant Value of 19.67203 can be explained that all independent variables (CAR, LDR, NPL, BOPO and Bank Size) are considered constant or unchanged hence the ROA of 19.67203%.
- The value of the FEM coefficient of the CAR variable is -0.013034, this result shows that if CAR increases by 1%, the ROA will decrease by 0.013034%.
- The value of the FEM coefficient of the LDR variable is 0.018767, this result shows that if LDR increases by 1%, then ROA will increase by 0.018767%.
- The value of the FEM coefficient of the NPL variable is -0.092545, this result shows that if NPL increases by 1%, then ROA will decrease by 0.092545%.
- The value of the FEM coefficient of the BOPO variable is -0.069949, this result shows that if BOPO increases by 1%, the ROA will decrease by 0.069949%.
- The value of the FEM coefficient of the SIZE variable is -1.001181, this result shows that if the SIZE increases by 1%, the ROA will decrease by 1.001181%.

Based on the regression results of the fixed effect model in the table above, it shows that the LDR, BOPO and Asset Size variables have a significant influence on ROA with a prob value (< 0.05), but the CAR and NPL variables do not have a significant effect, while SIZE has a negative coefficient value. This is contrary to the hypothesis, which claims that CAR and SIZE have a positive correlation, while NPL has a negative correlation. The results of the regression equation of the panel data above, can be used with the analysis of factors that affect profitability in 8 banks in KBMI categories 3 and 4 as follows:



$$ROA_{BRI} = 19.67203 + 1.689653 = 21.361683$$

$$ROA_{BCA} = 19.67203 + 0.705410 = 20.37744$$

$$ROA_{MANDIRI} = 19.67203 + 0.934070 = 20.6061$$

$$ROA_{BNI} = 19.6203 + 0.854153 = 20.52618$$

$$ROA_{DANAMON} = 19.67203 + (-0.882929) = 18.78910$$

$$ROA_{CIMBNIAGA} = 19.67203 + (-0.857995) = 18.814035$$

$$ROA_{PANIN} = 19.67203 + (-1.128729) = 18.543301$$

$$ROA_{MAYBANK} = 19.67203 + (-1.313634) = 18.358396$$

The fixed effect equation estimation model *above* produces a constant coefficient value that varies in each KBMI category 3 and 4 banks, this shows that when the independent variables (CAR, LDR, NPL, BOPO, and Asset Size) are constants, then each KBMI category 3 and 4 banks experience different profitability changes.

- a. The value of Bank BRI's coefficient is 1.689653 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will increase by 21.361683%.
- b. The coefficient value of Bank BCA is 0.705410 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will increase by 20.37744%.
- c. Bank Mandiri's coefficient value is 0.934070 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will increase by 20.6061%.
- d. The value of Bank BNI coefficient is 0.854153 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will increase by 20.526183%.
- e. Bank Danamon's coefficient value is -0.882929 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will decrease by 18.789101%.
- f. The coefficient value of Bank CIMB NIAGA is -0.857995 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will decrease by 18.814035%.
- g. The coefficient value of Bank PANIN is -1.128729 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will decrease by 18.543301%.
- h. The coefficient value of Bank MAYBANK is -1.313634 with a constant value of 19.67203, meaning that when all independent variables are constant, the ROA variable will decrease by 18.358396%.

The equation above shows that each KBMI category 3 and 4 bank has a different impact on profitability. Bank BRI, BCA, Mandiri, and BNI which have a positive impact on Profitability (ROA). Meanwhile, Bank Danamon, CIMB Niaga, Panin, and Maybank have a negative constant value, so that the Profitability (ROA) value decreases. Based on the

estimation results, Bank BRI's largest coefficient is 1.689653, meaning that without independent variables (CAR, LDR, NPL, BOPO, and Asset Size) or constant or zero values, Bank BRI will continue to be able to increase the value of profitability.

Classical Assumption Test

The Multicollinearity test determines the relationship between independent variables in the regression model. Researchers use partial techniques between independent variables to determine if there is multicollinearity in the model. The rule of thumb method says that if the correlation coefficient is high enough (above 0.85) then there is a possibility that there is multicollinearity in the model. Conversely, if the correlation coefficient is relatively low, then there may be an element of multicollinearity in the model (Gujarati, & Porter, 2009). The following are the results of the multicollinearity test in Table 4 below.

Table 4. Multicollinearity Test Results

	CAR	LDR	NPL	BOPO	SIZE
CAR	1.000000	-0.265974	-0.060315	-0.204520	-0.070981
LDR	-0.265974	1.000000	0.294939	0.471251	-0.429600
NPL	-0.060315	0.294939	1.000000	0.778018	-0.328378
BOPO	-0.204520	0.471251	0.778018	1.000000	-0.610969
SIZE	-0.070981	-0.429600	-0.328378	-0.610969	1.000000

Source: processed data (2024)

Based on Table 4 of the multicollinearity test results above, the correlation value between variables is not more than 0.85 so that it can be said that multicollinearity is free or passes the multicollinearity test.

Heteroscedasticity testing aims to analyze regression models against variances of accuracy of residual observations with other observations. In this study to detect the presence or absence of variance heterogeneity can use the glacier test by regressing the residual absolute value on the independent variable and if the probability value of the independent variable has a significance of less than 0.05, then this model does not escape heteroscedasticity. Conversely, if the probability value is greater than 0.05, then the model escapes heteroscedasticity. The following are the results of the heteroscedasticity test in Table 5.

Table 5. Heteroscedasticity Test Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-8.461795	5.034209	-1.680859	0.0989
CAR?	0.003937	0.017043	0.231010	0.8182
LDR?	0.010299	0.007803	1.319853	0.1928
NPL?	0.091837	0.135036	0.680091	0.4995
BOPO?	0.013598	0.009148	1.486392	0.1433
LOG(SIZE?)	0.498380	0.341426	1.459702	0.1505

Source: processed data (2024)



Based on Table 5 of the heteroscedasticity test results above, the probability values for all independent variables used in this study were CAR of 0.8182, LDR of 0.1928, NPL of 0.4995, BOPO of 0.1433, SIZE of 0.1505 ($p > 0.05$). It can be concluded that in the regression equation used heteroscedasticity does not occur or passes the heteroscedasticity test.

This test was conducted to determine the extent to which the independent variables (CAR, LDR, NPL, BOPO, Size) used in this study partially affect the dependent variable. Here are the partial test results in Table 5.

Based on Table 5 of the partial test results above that the t-statistic value of CAR is -0.973634, so the t-count ($0.973634 < t\text{-table } (1.998972)$). Then the probability value is less than 5% ($0.3348 > 0.05$), then the hypothesis H_0 is accepted, and H_a is rejected which means that partially the CAR variable does not have a significant and negative influence on the ROA of KBMI bank 3 & 4.

Based on Table 5 of the partial test results above that the LDR t-statistic value is 2.902882, so the t-count ($2.902882 > t\text{-table } (1.998972)$). Then the probability value is less than 5% ($0.0054 < 0.05$), then H_0 's hypothesis is rejected, and H_a is accepted which means that partially the LDR variable has a significant and positive influence on the ROA of KBMI bank 3 & 4.

Based on Table 5 of the partial test results above that the NPL t-statistic value is -0.903338, so the t-count ($0.903338 < t\text{-table } (1.998972)$). Then the probability value is less than 5% ($0.3706 > 0.05$), then the H_0 hypothesis is accepted, and H_a is rejected which means that partially the NPL variable does not have a significant and negative influence on the ROA of KBMI bank 3 & 4.

Based on Table 5 of the partial test results above that the t-statistic value of BOPO is -7.367789, so the t-count ($7.367789 > t\text{-table } (1.998972)$). Then the probability value is less than 5% ($0.0000 < 0.05$), then the H_0 hypothesis is rejected, and H_a is accepted which means that partially the BOPO variable has a significant and negative influence on the ROA of KBMI bank 3 & 4.

Based on Table 5 of the partial test results above that the t-statistic value of SIZE is -3.908039, so the t-count ($3.908039 > t\text{-table } (1.998972)$). Then the probability value is less than 5% ($0.0003 < 0.05$), then the H_0 hypothesis is rejected, and H_a is accepted which means that partially the SIZE variable has a significant and negative influence on the ROA of KBMI bank 3 & 4.

Based on the first hypothesis above, it illustrates the findings of regression analysis, which shows that the value of the CAR variable coefficient is -0.013034, has a negative relationship and does not have a significant influence between CAR and ROA with t-count values ($0.973634 < t\text{-tables } (1.998972)$) and prob values ($0.3348 > (0.05)$). This shows that CAR has a negative impact that can be seen on the profitability (ROA) of KBMI 3 and 4 banks, thus contradicting the hypothesis, which claims that CAR has a positive and significant effect on the profitability (ROA) of KBMI 3 and 4 banks.

According to Sabir (2011) in (Fakhrudin & Purwanti, 2015) states that the results of this analysis show that the amount of capital adequacy or CAR of a bank does not always

determine the amount of profitability. Banks that have large capital but cannot utilize it efficiently to make profits will have little or no significant impact on bank profitability.

The increase in CAR in KBMI 3 and 4 banking is not the standard for achieving profitability (ROA), which is also growing. Banks that have high capital, but the capital cannot be utilized, can cause a decrease in bank profitability. Bank Indonesia also mandates that every bank has a CAR of at least 8%, so banks are trying to maintain their CAR in accordance with the rules. The results of this study are in accordance with the research of Ken & Santioso (2022) that the CAR variable does not have a significant and negative effect on ROA.

Based on the second hypothesis above, it illustrates that the findings of the regression analysis show that the value of the LDR variable coefficient is 0.018767 which shows a positive relationship and has a significant influence between LDR and ROA with t-count values (2.902882), t-table > (1.998972) and prob values (0.0054) < (0.05). This shows that LDR has a visible impact on the profitability (ROA) of KBMI 3 and 4 banks, so it is in accordance with the hypothesis that claims that LDR increases the profitability (ROA) of KBMI 3 and 4 banks.

The results of this study can be proven by *Resource Based View Theory* that banking companies that have a large LDR show their proficiency in utilizing internal resources effectively, namely in the form of external funds from third parties. This is evidenced by *Signalling-Theory* where a high and effective LDR (*Loan to Deposit Ratio*) value can provide positive indicator signals to investors and other parties. Assuming credit distribution does not experience congestion, it can generate income in the form of interest rate increases. If the company can utilize funds provided by third parties, then this will motivate investors to channel their capital to the company. The results of this study are in accordance with the research of Haddad *et al.* (2022) and Supriyono & Herdhayinta (2019) that LDR variables have a positive and significant effect on ROA.

Based on the third hypothesis above, it illustrates the findings of regression analysis which shows that the value of the NPL variable coefficient is -0.092545, has a negative and insignificant relationship between NPL and ROA with t-count values (0.903338) t-table < (1.998972) and prob values (0.3706) > (0.05). This shows that NPLs have a negative impact that can be seen on the profitability (ROA) of KBMI 3 and 4 banks, thus contradicting the hypothesis that claims that NPLs have a significant negative effect on the profitability (ROA) of KBMI 3 and 4 banks.

The findings of this study show less than optimal management of internal resources, namely the allocation of cash funds in the form of credit and will provide negative information to managers or investors. According to Dewi (2016) in (Putri *et al.*, 2022) investigating that the higher the NPL, the bank shows that the level of bad loans is also high, this will erode the bank's profit. Therefore, banks must keep the NPL rate below 5%. The results of this study are in accordance with the research Ken & Santioso (2022) that NPL variables have no significant and negative effect on ROA.

Based on the fourth hypothesis above, it illustrates the findings of regression analysis which shows that the value of the BOPO variable coefficient is -0.069949, has a negative



relationship and has a significant effect between BOPO and ROA with t-count values (7.367789) > t-tables (1.998972) and prob values (0.0000) < (0.05). This shows that BOPO has a visible impact on the profitability (ROA) of KBMI 3 and 4 banks, so it is in accordance with the hypothesis that claims that BOPO has a significant negative effect on the profitability (ROA) of KBMI 3 and 4 banks.

The findings of this study can be proven by *Resource-Based View Theory* which states that if bank managers can manage resources optimally in carrying out their business activities, the value of the company's operational efficiency ratio will be lower. This has an impact on increasing the company's profitability. The increase in profitability of banking companies was due to a decrease in BOPO. Therefore, this shows a decrease in operational costs that can increase the company's operating income and can be used as a competitive advantage for banking companies. The results of this study are in accordance with the research of Supriyono & Herdhayinta (2019), Anindiansyah *et al.* (2020), Kotte *et al.* (2022), Ken & Santioso (2022) and Jigeer & Koroleva (2023), that BOPO variables have a negative and significant effect on ROA.

Based on the fifth hypothesis above, it illustrates the findings of regression analysis which shows that the value of the SIZE variable coefficient is -1.001181, has a negative relationship and has a significant influence between SIZE and ROA with t-count values (3.908039), t-table > (1.998972) and prob values (0.0003) < (0.05). This shows that SIZE has a negative impact that can be seen on the profitability (ROA) of KBMI 3 and 4 banks, thus contradicting the hypothesis that claims that SIZE has a positive and significant effect on the profitability (ROA) of KBMI 3 and 4 banks.

This result may be caused by the addition of assets due to debt so that the company is obliged to pay interest, where this interest expense can affect a company's income. This is because the factors that affect ROA growth are not only calculated or viewed based on total assets, but are influenced by several factors, one of which is the CAR ratio. Therefore, total assets are not the only indicator used to measure or determine ROA growth. The results of this study are in accordance with the research of Kotte *et al.* (2022) and Jigeer & Koroleva (2023) that the SIZE variable has a negative and significant effect on ROA.

CONCLUSION

This study provides empirical evidence on the effect of financial ratio variables or bank specifics on the profitability of KBMI 3 & 4 banks. These results suggest that bank-specific factors such as capital adequacy (CAR) have a negative and insignificant effect on ROA. The deposit loan ratio or LDR has a significant and beneficial positive impact on ROA. Non-performing loans (NPLs) have a negative coefficient value and have no significant effect. The Operational Efficiency Ratio (BOPO) is coefficient negative and has a significant impact on ROA. The size of the bank has a negative coefficient and has a significant effect on ROA.

Some banks have poor performance, as seen from the low ROA. This condition needs special attention, especially related to bank resilience and banking stability in general. Banks should put their capital or CAR on profitable investments and supervise bank management

in managing the capital channeled in the form of productive assets such as credit and other forms. KBMI banks 3 and 4 must maintain higher LDR ratios and lower BOPO so that it will increase profitability. The NPL ratio must be maintained so that it does not exceed 5%, one way that can be done is that banks need guarantees from customers when providing credit.

REFERENCES

- Afriyie, E. Y. (2022). Profitability Determinants of Commercial Banks: Empirical Evidence from Sub-Saharan Africa. *African Journal of Business & Economic Research*, 17(3), 7–25.
- Akther, T., Rahman, M., & Rahman, Md. M. (2023). Factors influencing commercial bank profitability in Bangladesh: a panel data approach. *Future Business Journal*, 9(1),
- Anindiansyah, G., Sudiyatno, B., Puspitasari, E., & Susilawati, Y. (2020). Pengaruh CAR, NPL, BOPO, dan LDR Terhadap ROA Dengan NIM Sebagai Variabel Intervening (Studi Pada Bank yang Go Publik di Bursa Efek Indonesia Periode Tahun 2015-2018). 560–567.
- Basuki, A. T. (2023). Analisis Data Panel dalam Penelitian Ekonomi dan Bisnis. *PT Rajagrafindo Persada*, 160.
- Basuki, A. T., & Parwoto, N. (2016). Analisis Regresi dalam Penelitian Ekonomi dan Bisnis (Dilengkapi Aplikasi SPSS dan Eviews). Edisi satu. Cetakan satu. Rajawali Pers. akarta. *BPFE. Yogyakarta*.
- Fakhrudin, I., & Purwanti, T. (2015). Pengaruh Rasio Kesehatan Bank Terhadap Kinerja Keuangan Bank Syariah Periode 2010-2013. *Kompartemen: Jurnal Ilmiah Akuntansi*, 13(2), 116–131.
- Faza, C. (2019). Analisis Pengaruh Makroekonomi Dan Rasio Keuangan Terhadap Profitabilitas Bank Umum Syariah di Indonesia Periode 2011 - 2018. *Universitas Muhammadiyah Yogyakarta*.
- Gujarati, D. N., & Porter, D. C. (2009). *Basic econometrics*. McGraw-hill.
- Haddad, H., Al-Qudah, L., Almansour, B. Y., & Rumman, N. A. (2022). Bank Specific and Macroeconomic Determinants of Commercial Bank Profitability: in Jordan from 2009-2019. *Montenegrin Journal of Economics*, 18(4), 155–166.
- Hasan, F. (2020). METODE RISET BISNIS. *Madura: UTM Press Universitas Trunojoyo Madura*.
- Jigeer, S., & Koroleva, E. (2023). The Determinants of Profitability in the City Commercial Banks: Case of China. *Risks*, 11(3), 53.
- Ken, G., & Santioso, L. (2022). Determinan profitabilitas perbankan yang terdaftar di BEI periode 2018-2020. *Jurnal Ekonomi*, 27(03), 358–378.
- Kotte, S., Reddy, I. L., & Bolagani, S. (2022). Influence of Bank-Specific and Macroeconomic Factors on the Profitability of Indian Commercial Banks. *IUP Journal of Applied Economics*, 21(4), 59–76.



- Mardin, M., Haanurat, A. I., & Syafaruddin, S. (2021). Pengaruh Rasio Keuangan Terhadap Kinerja Bank Umum Konvensional Periode 2014-2019. *COMPETITIVENESS*, 10(1), 59–71.
- Mulyono, F. (2013). Firm capability dalam teori resource-based view. *Jurnal Administrasi Bisnis*, 9(2).
- Putri, P. I., Rahayu K, N., Rahmayani, D., & Siregar, M. E. S. (2022). The Effect of Green Banking and Financial Performance on Banking Profitability. *Quality - Access to Success*, 23(191), 38–45. <https://doi.org/10.47750/QAS/23.191.05>
- Segara, T. D. (2019). *Buku 2 Perbankan Seri Literasi Keuangan Perguruan Tinggi*. Jakarta: Anggota Dewan Komisioner Bidang Edukasi dan Perlindungan Konsumen.
- Supriyono, R. A., & Herdhayinta, H. (2019). Determinants of Bank Profitability: The case of the regional development bank (BPD Bank) in Indonesia. *Journal of Indonesian Economy and Business*, 34(1), 1-17.
- Suryadi, N., Mayliza, R., & Ritonga, I. (2020). Pengaruh Inflasi, Biaya Operasional Terhadap Pendapatan Operasional (Bopo), Dan Pangsa Pasar Terhadap Profitabilitas Bank Umum Syariah di Indonesia Priode 2012-2018. *Jurnal Tabarru': Islamic Banking and Finance*, 3(1), 1–10.
- Widarjono, A. (2005). *Ekonometrika: Teori Dan Aplikasi Untuk Ekonomi Dan Bisnis (Pertama)*. Ekonesia.