

DETERMINANTS OF PROFITABILITY IN REGIONAL DEVELOPMENT BANKS: CASE STUDY IN 2019 – 2021

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Abstract. This study aims to analyze financial performance based on profitability disclosures at Regional Development Banks (BPD) in Indonesia. The object of research is the annual financial statements of companies with a population of 27 Regional Development Banks operating in 2019 – 2021. Determination of the sample using documentation techniques and the number of samples (n) that meet the criteria as many as 81 samples. The research uses a quantitative approach with secondary data sources in the form of annual reports. The data analysis method used is the normality test, classical assumption test, multiple linear regression, hypothesis testing, and coefficient of determination test at a significance level of 5%, the data is processed using the SPSS version 24 application. The statistical test results show the independent variable Capital Adequacy Ratio, Non -Performing Loan, Good Corporate Governance, Institutional Share Ownership, Operating Expenses on Operating Income, and Earnings Management together affect the dependent variable Return on Assets and Return on Equity. The contribution levels of the two regression models are 83.70% and 86.50%. The determinant factors that influence fluctuations in profitability (ROA and ROE) are Capital Adequacy Ratio, Non-performing Loan, Operating Expenses to Operating Income, and Earnings Management.

Keywords: regional development bank; profitability; multiple linear regression analysis

I. INTRODUCTION

Profitability is the main goal that must be achieved by every bank in carrying out banking business activities. The phenomenon of the global economic crisis due to the COVID-19 pandemic in Indonesia in 2019-2021 has an impact on the decline in the Return on Assets (ROA) of Regional Development Banks (BPD) from 2.17% (2019), 2.04% (2020) to 1.98% (2021). Not only that, but the achievement of the Return on Equity (ROE) ratio in 2019 – 2020 was also recorded below the standard ratio set by Bank Indonesia, namely 12.50%, 12.41% (2019), and 12.43% (2020).

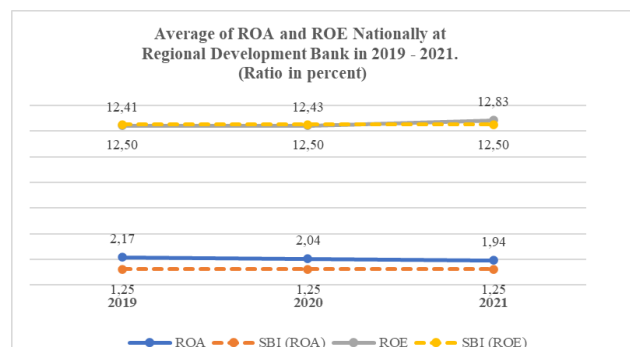


Figure 1. Disclosure of ROA and ROE at BPD in Indonesia in 2019 – 2021

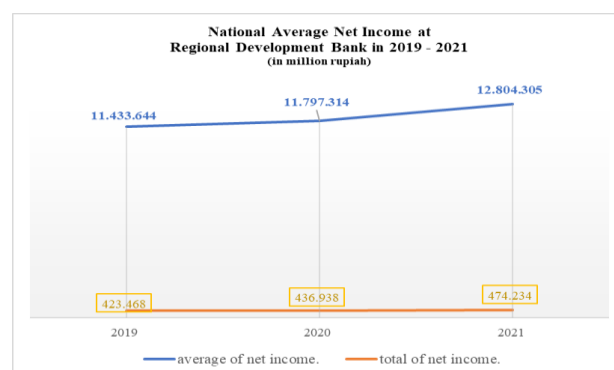


Figure 2. Achievement of Net Profit at BPD in Indonesia in 2019 – 2021. (Source. Processed from bank financial statements).

Although net profit growth recorded a positive performance (Fig. 2), the ROA and ROE achievements were not optimal, indicating that the profitability of Regional Development Banks in Indonesia was impacted by the economic crisis due to the COVID-19 pandemic in 2019 - 2020, so it is necessary to know the determining factor. Profitability is the company's ability to seek profit, the

company is required to be in a favorable condition so that the company's operations continue. Without profit, it will be difficult for companies to attract capital from outside (Puspitasari et al. [1]). Profitability plays a very important role in maintaining the survival of the company in the long term because profitability shows whether the company has good prospects in the future. Sutrisno [2] states that the level of bank profitability can be influenced by internal and external factors. To measure the profitability of banks using various financial ratios, some of which are the ratio of Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM), and Operating Expenses to Operating Income (BOPO). Puspitasari et al. [3] stated that the measurement of a company's ability to generate profits (profitability) in the banking industry generally uses the ratio of Return on Equity (ROE) and Return on Assets (ROA). The study also found that the company's performance appraisal for management can be interpreted as an assessment of achievement.

Table 1. Previous Research

Researcher (year)	Country	Variabel independen					
		CAR	NPL	GCG	SI	BOPO	EM
Rahmani (2017)	Indonesia	(+sign)					
		(+sign)					
Batani et al. (2015)	Iran	(+sign)					
		(+sign)					
Giwaz et al. (2015)	Ethiopia	(+sign)					
			(-sign)				
			(-sign)				
Tesfai (2015)	Switzerland	(+sign)					
		(+sign)					
			(-sign)				
			(-sign)				
Hallunovi and Berdo (2018)	Albania	(+sign)					
		(+sign)					
			(-sign)				
			(-sign)				
Vu and Dang (2020)	Vietnamese	(+sign)					
Ghalib (2018)	Indonesia			(+sign)			
				(+sign)			
Harisa et al. (2019)	Malaysia and Indonesia			(+sign)			
Iramani et al. (2018)	Indonesia			(+sign)			
Chrisna and Andi (2020)	Indonesia			(+sign)			
Dana (2015)	Jordan				(+insign)		
					(+insign)		
Daryaei and Fattahi (2020)	Iran				(+sign)		
Bhenu et al. (2021)	Indonesia				(+sign)		
					(+sign)		
						(-sign)	
						(-sign)	
Patni and Darma (2017)	Indonesia					(-sign)	
Pradnyawati and Widhiastuti (2020)	Indonesia					(-sign)	
Amelia (2015)	Indonesia					(+sign)	
Moslemany and Nathan (2019)	Egypt						(+sign)
Firnanti and Pirzada (2019)	Malaysia						(+sign)
Kamil and Herawati (2016)	Indonesia						(-sign)
							(-sign)
Alhadab and Own (2017)	Jordan						(-sign)
							(-sign)
Reyna (2018)	Mexico						(+sign)
Saleem and Alifiah (2017)	Malaysia						(+sign)

In general, there are five aspects of assessment to assess banking performance using the CAMEL method (Capital, Assets, Management, Earning, and Liquidity). Bank Indonesia then refined the health assessment method from CAMELS to make this regulation effective for use by all commercial banks since January 1, 2012. Puspitasari et al. [4] explained that RGEC includes assessment indicators for Risk Profile, Good Corporate Government, Earnings, and Capital. This research refers to previous research to find out the methods, results, and conclusions that have been carried out as shown in Table 1.

Previous research concluded that profitability is influenced by 4 (four) main financial ratios, namely: liquidity ratios, leverage ratios, activity ratios and profitability ratios. In this study, profitability will be the dependent variable projected by Return on Assets and Return on Equity. Then the ratio of Capital Adequacy Ratio, Non-performing Loan, Good Corporate Governance, Institutional Share Ownership (SI), Operating Expenses to Operating Income (BOPO) and Earnings Management are used as independent variables. Fig.3 shown that Return on Asset as dependent variable

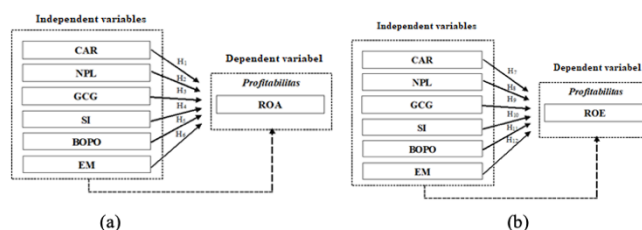


Figure 3. Research framework.

Based on the results of previous research studies, a hypothesis was developed to test the independent variables on profitability (Fig.3). From the framework and previous research, the research hypothesis was formulated as follows:

- H1: CAR significantly and positively affects ROA
- H2: NPL significantly and negatively affects ROA
- H3: GCG significantly and positively affects ROA
- H4: Institutional Share Ownership (SI) significantly and positively affects ROA
- H5: BOPO significantly and negatively affects ROA
- H6: Earnings Management significantly and positively affects ROA
- H7: CAR significantly and negatively affects ROE
- H8: NPL significantly and negatively affects ROE
- H9: GCG significantly and positively affects ROE
- H10: Institutional Share Ownership (SI) significantly and positively affects ROE
- H11: BOPO significantly and negatively affects ROE
- H12: Earnings Management significantly and positively affects ROE

II. RESEARCH METHODS

The object related in this study is profitability with the following indicators table 2. To collect research data, the authors use data sources from the official website of each bank, secondary data obtained by downloading the company's annual report, then processing it into information that can support this research.

Table 2. Operational Variables

Dependent variables		
Variable	Concept	Equation
Return on Asset (ROA)	Ratio between net profit before tax to total bank assets	$\frac{\text{Net profit before tax}}{\text{Total Assets}}$
Return of Equity (ROE)	Ratio between net profit before tax to total capital/share	$\frac{\text{Net profit before tax}}{\text{Total capital (shares)}}$
Independent variables		
Variable	Concept	Equation
Capital Adequacy Ratio (CAR)	The ratio of the amount of capital needed to cover the risk of loss due to investment in risky assets	$\frac{\text{Modals}}{\text{ATMR}} \times 100\%$
Non-Performing Loan (NPL)	The ratio of bank management's ability to manage non-performing loans provided by banks	$\frac{\text{Total Non - performing Loans}}{\text{Total Credits Granted}} \times 100\%$
Good Corporate Governance (GCG)	Rating of the results of the implementation of corporate governance (GCG)	Convert ratings to ratio form: <ul style="list-style-type: none"> • Rating 1: 100% • Rating 2: 80% • Rating 3: 60% • Rating 4: 20% • Rating 5: 0%
Local Government Institutional Share Ownership (SI)	The ratio of the number of company shares owned by the Regional Government	$\frac{\text{Number of Institutional shares}}{\text{Total shares outstanding}} \times 100\%$
Operating Expenses to Operating Income (BOPO)	A ratio that shows how efficient the bank is in carrying out its operations	$\frac{\text{Total Operating Expenses}}{\text{Total Operating Income}} \times 100\%$
Earnings management	The ratio measures earnings management with Discretionary Accruals (DA) in year i.	$DA_{it} = \frac{TA_{it}}{A_{it-1}} - NDA_{it}$

The analytical method used in this study is a quantitative descriptive analysis method that provides a description or description of a data seen from the average value (mean), standard deviation, variance, maximum, and minimum. This is intended to provide an overview of the

distribution and behavior of the sample data (Amin and Juanda [5]). It is necessary to test the classical assumptions which include: normality test, autocorrelation test, multicollinearity test and heteroscedasticity test, this test is to avoid the emergence of bias in data analysis and to avoid misspecification of the regression model used. A good multiple linear regression model is that the model meets the BLUE (Best Linear Unbiased Estimator) criteria. The data analysis method used is multiple linear regression, hypothesis testing, and coefficient of determination test at a significance level of 5%, the data is processed using the SPSS version 24.

III. RESULTS AND DISCUSSION

Regional Development Banks (BPD) are those whose shares are partly or wholly owned by the Regional Government so that they are managed by local/regional management (Sulistiani et al. [6]). BPD also operates like other conventional banks but has different characteristics from other conventional banks [7], namely as follows:

- The strategy of obtaining third party funds (DPK), in which conventional banks obtain third party funds only from customers while BPDs can obtain third party funds from injections of local government funds, as well as lending interest,
- For lending interest, the majority of loan interest given by regional development banks is smaller than conventional banks, and,
- The conditions for granting credit are different, where the terms for granting credit from regional development banks are easier than conventional banks.

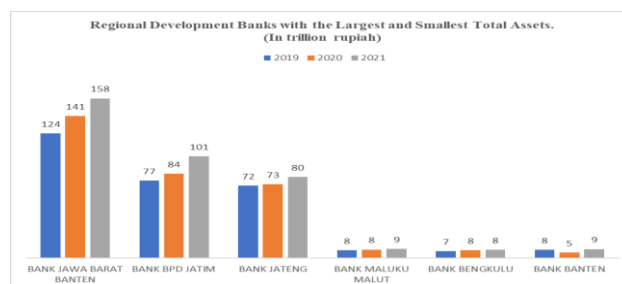


Figure. 4 BPD with the largest and smallest total assets. (Source: Processed from the Regional Development Bank annual financial reports)

The existence of the BPD cannot be separated from the regional economy because it plays a role such as providing local government funding facilities for both investment projects and working capital and functioning as a regional government cashier for the realization of the Regional Expenditure and Expenditure Budget (Pirzada [8]). The Association of Indonesian Regional Development Banks (Asbanda) states that currently there are 27 (twenty-seven) BPDs operating and serving in 34 (thirty-four) provinces throughout Indonesia. Compared to the value of the 2021

State Budget and Expenditure of 2,750 trillion rupiah, the percentage of total assets of BPDs in Indonesia is 31.45% [9].

Table 4 describes the descriptive statistics for the variables used in this study. The following data provide details of the maximum, minimum, mean, and standard deviation for the dependent and independent variables. Because the study uses secondary data, to prevent data bias, previously the data must meet the BLUE (Best Linear Unbiased Estimator) criteria, including: multiple linear regression analysis test, normality test, multicollinearity test, autocorrelation test, and heteroscedasticity test. In this study, each stage of data analysis used multiple regression analysis.

Table 4. Description Variables

Analysis	Dependent variables		Independent variable					
	ROA	ROE	CAR	NPL	GCG	SI	BOPO	EM
Min	-3,80	-60,79	9,01	-0,07	40,00	35,69	67,02	-36,47
Max	3,73	24,08	41,68	4,51	100,00	100,00	164,90	20,72
Mean	2,06	12,56	23,37	1,49	76,05	91,94	80,50	-2,12
Standard deviation	1,17	12,24	4,64	1,33	11,14	15,79	15,56	8,18

Normality test aims to test whether in the regression model, the confounding or residual variables have a normal distribution or not. Normality testing using non-parametric Kolmogorov-Smirnov statistics (Dewi and Pamudji [10]). It is concluded that the two regression models proposed in this study meet the assumption of normality, and can be used for further tests.

Table 5. Normality Test Result

No	Regression Model	N	Significance Value of 2 tailed	Conclusion
1	ROA (Y1)	81	0,200 > 0,05	Normal
2	ROE (Y2)	81	0,200 > 0,05	Normal

To find out whether there is autocorrelation, the Durbin Watson test value must be seen (Dewi and Pamudji [10]). The Durbin Watson test will produce a Durbin Watson (DW) value which will be compared with two (2) Durbin Watson values (dL and dU).

Table 6. Autocorrelation Test Result

No	Regression Model	N	d	dL	dU	Significance Value	Significance Value
1	ROA (Y1)	81	2,102	1,4842	1,8008	$dU < d < (4 - dU) = 1,8008 < 2,102 < 2,1992$	Pass the correlation test
2	ROE (Y2)	81	2,003	1,4842	1,8008	$dU < d < (4 - dU) = 1,8008 < 2,003 < 2,1992$	Pass the correlation test

Based on the Durbin-Watson [11] value obtained which lies between -2 to +2, it means that it can be concluded that there is no autocorrelation between the confounding error in period t and the error in period t-1 (previous) for the two proposed regression models, so it can be continued to test next.

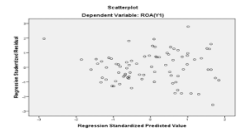
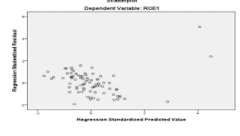
A regression model is called to be free from multicollinearity if it has a VIF (Variance Inflation Factor) value below 10 and a tolerance value not less than 0.1 [12]. The table 7 above shows that there is no independent variable that has a tolerance value of more than 0.10 and a VIF value of less than 10. It is concluded that there is no multicollinearity problem for all regression models, so that it can be continued to the next stage.

Table 7. Multicollinearity Test Result

Variable x (constant)	Tolerance ROA (Y1)	Tolerance ROE (Y2)	VIF	Kesimpulan
CAR (X1)	0,913	0,913	1,096	There is no symptom of multicollinearity for the ROA (Y1) and ROE (Y2) regression models.
NPL (X2)	0,720	0,720	1,388	
GCG (X3)	0,776	0,776	1,288	
SI (X4)	0,515	0,515	1,941	
BOPO (X5)	0,459	0,459	2,177	
EM (X6)	0,962	0,962	1,040	

Heteroscedasticity test is used to test whether in the regression model there is an inequality of variance from the residual of one observation to another observation. A good regression model is that there is no heteroscedasticity [13][14]. If the graph contains a certain regular pattern and the data is randomly distributed above and below the number 0 on the Y axis, it indicates that there is no heteroscedasticity (Paramitha and Idayati [15]). In this study, Heteroscedasticity testing using SPSS statistics obtained the following results:

Table 8. Heteroscedasticity Test Result

No	Regression model	Scatterplot graph	Conclusion
1	ROA (Y1)		The dots spread above and below the number 0 on the Y axis without any particular pattern.
2	ROE (Y2)		The dots spread above and below the number 0 on the Y axis without any particular pattern.

The table above shows the Y1 and Y2 regression models have an irregular pattern but the data points in the three proposed regression models spread above and below the number 0 (zero) on the Y axis. It can be concluded that there is no heteroscedasticity problem for all regression models. proposed in this study so that it can be continued to the next test.

The Coefficient of Determination (R²) calculates how far the model's ability to explain the variation of the dependent variable (Paramitha and Idayati [15]). The output results on the coefficient of determination test, it is known that the contribution levels of the two regression models are 84.9% and 87.5%. Multiple linear regression analysis is used to

measure whether there is an influence between the independent variable and the dependent variable (Alhadab, [16]). The independent variables in this study are CAR (X1), NPL (X2), GCG (X3), SI (X4), BOPO (X5), EM (X6). While the dependent variables in this study are ROA (Y1), and ROE (Y2).

Table 9. Hypothesis Analysis

No	Hypothesis	Significance Value	Decision on acceptance of Hypothesis
1	H1: CAR significantly and positively affects ROA	T test: sign < 0,05 F test: sign < 0,05	received
2	H2: NPL significantly and negatively affects ROA	T test: sign < 0,05 F test: sign < 0,05	received
3	H3: GCG significantly and positively affects ROA	T test: sign < 0,05 F test: sign < 0,05	rejected
4	H4: SI significantly and positively affects ROA	T test: sign < 0,05 F test: sign < 0,05	rejected
5	H5: BOPO significantly and negatively affects ROA	T test: sign < 0,05 F test: sign < 0,05	received
6	H6: Earnings management significantly and positively affects ROA	T test: sign < 0,05 F test: sign < 0,05	received
7	H7: CAR significantly and negatively affects ROE	T test: sign < 0,05 F test: sign < 0,05	received
8	H8: NPL significantly and negatively affects ROE	T test: sign < 0,05 F test: sign < 0,05	received
9	H9: GCG significantly and positively affects ROE	T test: sign < 0,05 F test: sign < 0,05	rejected
10	H10: SI significantly and positively affects ROE	T test: sign < 0,05 F test: sign < 0,05	rejected
11	H11: BOPO significantly and negatively affects ROE	T test: sign < 0,05 F test: sign < 0,05	received
12	H12: Earnings management significantly and positively affects ROE	T test: sign < 0,05 F test: sign < 0,05	received

The results of the two regression models proposed are as follows:

- 1 ROA (Y1) = 3,692 + 0,054 CAR - 0,116 NPL - 0,019 GCG + 0,004 SI - 0,009 BOPO + 0,007 EM + e
 - 2 ROE (Y2) = 26,079 - 0,392 CAR + 0,701 NPL - 0,168 GCG - 0,062 SI + 0,220 BOPO + 0,121 EM + e
- where ROA (Y1) = Change in Return on Assets; ROE (Y2) = Change in Return on Equity; and e = Standard error

IV. CONCLUSION

The test results show that the research model is fit at the level of the coefficient of determination (R2) above 80%. Capital Adequacy Ratio (CAR), Non-Performing Loans (NPL), Operating Expenses to Operating Income (BOPO) and earnings management were found to have an effect on profitability. While GCG and SI proved to have no effect on profitability (ROA). This is because capital is a bank parameter to withstand risk and carry out its role as an intermediary to generate income and profit. The research results are in line with several studies which concluded that there is a significant effect between NPL and profitability. This study found that a high NPL above the threshold would disrupt a bank's ability to generate further profits. Banks that are unable to manage their operations will certainly reduce their ability to create profits. This study found that earnings management has an effect on profitability. This is because when small banks obtain profitability, it will trigger banks to carry out earnings management by increasing the income earned. This is intended to maintain stock prices and retain existing investors. This study found that GCG and Institutional Share Ownership have no effect on profitability. This is because institutional investors are not majority owners, so they are unable to monitor performance properly. Found that institutional ownership does not have a direct effect on earnings but does influence management decisions.

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