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Factors Affecting Profitability (Study On State-Owned Banks In Indonesia)

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ABSTRACT

The research aims to determine the effect of Capital Adequacy Ratio, Non-Performing Loans, Loan to Deposit Ratio and Net Interest Margin on profitability as measured by ROA. The study was conducted at banks owned by the Government of the Republic of Indonesia or known as Bank BUMN (State-Owned Enterprises) which consists of four banks, namely Bank Mandiri (Bank Mandiri), Bank Rakyat Indonesia (BRI), Bank Negara Indonesia (BNI) and Bank Tabungan Negara (BTN). The method of the research was quantitative research, analysis secondary data. It was conducted from the financial reporting Bank BUMN period from 2011 to 2022. By multiple linear regression analysis, it was found that CAR has a significant negative effect, NPL has a significant negative effect, LDR has a significant positive effect, and NIM has a significant positive effect on profitability. Furthermore, the coefficient of determination shows that the model is able to explain 84.90% of the variation in the four dependent variables.

Keywords: Capital adequacy ratio, Loan to deposit ratio, Net interest margin, Non-performing loans, Profitability

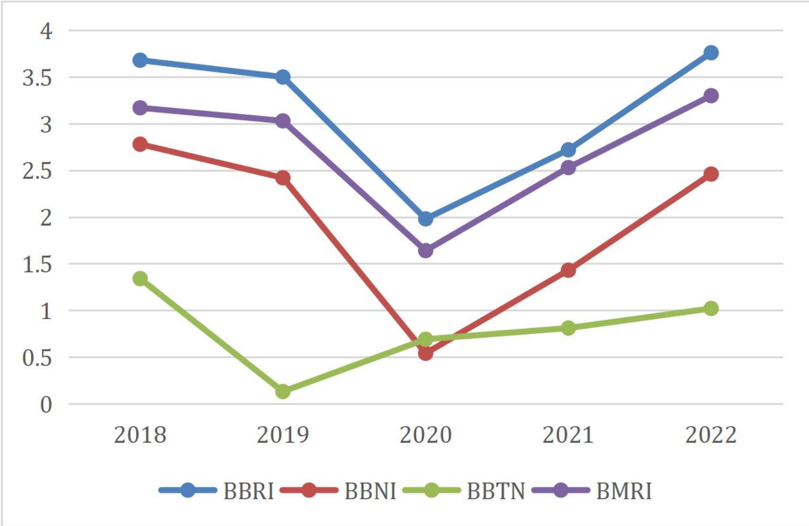
INTRODUCTION

Banking is the most important sector in driving the economy of a country, including Indonesia. Its role as a financial intermediary is needed to encourage economic growth, so banks are also known as agents of development. Based on Law of the Republic of Indonesia Number 10 of 1998, a bank is defined as a business entity whose activities are to collect funds from the public in the form of savings and distribute them back in the form of credit or other forms in order to improve the standard of living of many people. The forms of banks in Indonesia based on ownership, are grouped into four types, namely government banks, national private banks, foreign banks and joint venture banks. One that is considered to have strategic value for the Indonesian government is a BUMN (State-Owned Enterprise) bank, namely a bank whose shares are mostly owned by the government of the Republic of Indonesia, consisting of Bank Mandiri (BMRI), Bank Rakyat Indonesia (BBRI), Bank Negara Indonesia (BBNI), and Bank Tabungan Negara (BBTN). It was recorded that the contribution of Bank BUMN Indonesia in the second quarter of 2021 to national economic growth reached 7.07% on an annual basis (Ramli, 2021).

Profitability is an important performance measure for banks. The ability to make profits according to targets is important because it is related to the payment of dividends by BUMN Banks to the Government of the Republic of Indonesia (Priharta & Gani, 2024). Several measures of bank profitability include return on assets (ROA) which shows the bank's ability to earn earnings in its operational activities and which shows management's ability to utilize the assets owned by the bank (Darto et al., 2023).

In the period of 2018-2022, the achievement of profitability for BUMN Banks in 2020 was the lowest point. It is acknowledged that the Covid-19 pandemic has affected the performance of the banking industry, including BUMN Banks. This decrease was triggered, among other things, by an increase in impairment reserve fees in anticipation of problem loans because of the Covid-19 pandemic (Setiawan, 2021) and credit restructuring to 3.7 million debtors with a value of Rp. 441 trillion (Anjaeni, 2020). However, BUMN banks are considered to remain healthy and competitive and to be able to handle risks well (Ilahiyah et al., 2021) proven by increasing profitability in the period 2020 to 2022 as showed in below Chart 1.

Chart 1. Profitability Growth of Indonesian State-Owned Banks The Year 2018-2022



There are various factors that affect bank profitability, including the capital adequacy ratio (CAR). This ratio measures the capital strength of a bank and previous studies show its effect on profitability, including the findings of Priharta et al. (2023), Ebenezer et al. (2017), Ongore & Kusa (2013), Adeyinka & Olalekan (2013) who concluded that CAR has a significant positive effect on profitability. Another factor is non-performing loans (NPL) which have an impact on reducing bank profitability as researched by Priharta et al. (2023), Setiawan & Hermanto (2017) and Budiyono (2017). These previous researchs show a significant negative effect between NPL and profitability. Furthermore, the factor that is considered to achieve profitability is the bank's ability to contribute credit to the public which is reflected in the loan to deposit ratio (LDR). The higher the LDR, the higher the opportunity to earn interest income that will ultimately increase bank profitability (Priharta et al., 2022). Another variable that is thought to affect bank profitability is the net interest margin (NIM) which shows the bank's ability to manage interest rate risk, namely the difference between interest income and interest expense (Priharta et al., 2023). The higher the NIM shows the effectiveness of collecting and distributing funds to the community, which will ultimately drive to increase profitability. This result has been proven by Priharta et al. (2022), Putri & Satrio (2019) and Oktavianus (2016) who concluded that NIM has positive and significant effect on profitability.

This research pays attention to the profitability of State-Owned Banks of the Republic of Indonesia as a performance measure. The aim of this research is to examine the factors that affect profitability as measured by ROA with the independent variables of capital adequacy ratio (CAR), non-performing loans (NPL), loan to deposit ratio (LDR) and net interest margin (NIM). It is expected that the results of the study will be useful for bank management to achieve financial performance as well as for investors and other interested parties to obtain relevant information in decision making.

LITERATURE STUDY

Bank Profitability

Profitability is a measure of a bank's ability to generate profits. Bank profitability is usually carried out using comparisons or ratios which in this research using ROA proxies for measurement as in the studies of Garcia & Guerreieo (2016), Naeem et al. (2017), and Zampara et al. (2017). ROA is a comparison between net profit and total assets, which shows management's performance in managing the assets owned by the bank. The advantage of using ROA compared to other ratios, such as return on equity (ROE), is that ROA takes into account obligations or liabilities. Therefore, it is considered the main bank profitability ratio (Athanasoglou et al., 2005), and the comparison between net profit and total assets is assessed as a measure of management efficiency (Priharta & Gani, 2024).

Capital Adequacy Ratio and Profitability

Capital Adequacy Ratio (CAR) is a ratio related to bank capital, used as a measure of capital adequacy to risk support assets. Apart from that, it is a ratio used to measure the capital strength of a bank which functions to accommodate losses the bank may face. Bank management must be able to manage the CAR value in accordance with applicable regulations since with sufficient capital the bank can expand its business safely in order to achieve its profitability target. CAR is measured by comparing the ratio of equity to total assets (Abel & Le Roux, 2016; Masood & Ashraf, 2012). A high CAR value will indicate the bank's ability to finance operational activities and its contribution to determining bank profitability. Several studies have been carried out, including by Ebenezer et al. (2017) who found a positive effect between CAR and profitability. Apart from that, Ongore & Kusa (2013) and Adeyinka & Olalekan (2013) also found that CAR has a significant positive effect on profitability.
H1: CAR has a positive effect on profitability

Non-Performing Loans and Profitability

Non-Performing Loans (NPL) are loans that are disbursed, but are substandard, doubtful and poor. NPL is a measure of non-performing loans which is considered to have a significant impact on bank profitability. High NPLs will have a negative impact on banks, including reducing bank capital and if it continues, it will affect credit disbursement in the following period, so that the bank's source of income will decrease and have a negative effect on profitability. The research results of Setiawan & Hermanto (2017) show that NPLs have a significant negative effect on banking profitability in Indonesia. Likewise, Priharta & Gani (2024), Budiyono (2017) research results also show a significant negative effect between NPL and ROA.
H2: NPL has a negative effect on profitability

Loan to Deposit Ratio and Profitability

Loan to Deposit Ratio (LDR) reflects the size of loans given against public savings. This ratio shows the risk preferences faced by bank management because high loan disbursement has an impact on the potential for high profitability to be obtained, but on the other hand it also has high credit risk. High LDR with poor credit risk management results in high levels of non-performing loans which can reduce profitability levels. Thus, a high LDR with good credit risk management will provide greater opportunities for banks to earn interest income which will ultimately increase profitability. Research by Almazari (2014) and Negara et al. (2014) succeeded in finding that LDR was proven to have an effect on increasing profitability.
H3: LDR has a positive effect on profitability

Net Interest Margin and Profitability

Net Interest Margin (NIM) shows bank management's ability to manage productive assets. Net interest income is the difference between interest income and interest expense which reflects the results of bank activities as stipulated in the financial statements. NIM is a comparison of net interest income to productive assets. The higher the NIM, the higher impact on achieving high profitability. Several studies that have been carried out to prove this, including the ones by Priharta et al. (2023), Priharta & Darto (2022), and Anggraini & Suryaningtias (2017), have proven that NIM has a positive and significant effect on profitability.
H4: NIM has a positive effect on profitability

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METHOD

Population, Sample and Data

This research seeks to determine the factors that affect the performance of state-owned banks in Indonesia which consist of the independent variables CAR, NPL, LDR and NIM. Meanwhile, the dependent variable is bank profitability as measured by ROA. The population that was used as a saturated sample as the research object was four state-owned banks in Indonesia, consisting of Bank Negara Indonesia (BBNI), Bank Rakyat Indonesia (BBRI), Bank Tabungan Negara (BBTN) and Bank Mandiri (BMRI). Secondary data was obtained through company financial reports via the website www.idx.co.id for the period 2011 to 2022, as seen in Table 1.

Table 1. Data Source

Symbol	Variable	Data Source
ROA	Return on Assets	Financial Report
CAR	Capital Adequacy Ratio	Financial Report
NPL	Non-Performing Loan	Financial Report
LDR	Loan to Deposit Ratio	Financial Report
NIM	Net Interest Margin	Financial Report

Source: Data Processed (2024)

Data Analysis Technique

A quantitative research approach was used in this study with SPSS version 25 program tools using multiple linear regression analysis, with the following model:

$$ROA_{it} = \alpha_0 + \alpha_1 CAR_{it} + \alpha_2 NPL_{it} + \alpha_3 LDR_{it} + \alpha_4 NIM_{it} + \varepsilon_{it}$$

Operational Variables

Based on the description above, operational variables and hypothesized effects between variables can be summarized as presented in table 2 below:

Table 2. Variable Description

Symbol	Variable	Measurement	Scale	Hypothesis
Dependent Variable				
ROA	Return on Assets	(Net Profit)/(Total Asset) x 100%	Ratio	
Independent Variable				
CAR	Capital Adequacy Ratio	Capital/(Risk-weighted assets) x 100%	Ratio	+
NPL	Non-Performing Loans	(Problem Credits)/(Total Credit) x 100%	Ratio	-
LDR	Loan to Deposit Ratio	(Total Credit)/ (Third-party Funds) x 100%	Ratio	+
NIM	Net Interest Margin	(Net Interest Income)/ (Average Number of Productive Assets) x 100%	Ratio	+

Source : Darto *et al.* (2023); Priharta *et al.* (2024)

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RESULTS AND DISCUSSION

Descriptive statistics

Descriptive statistics were carried out to calculate the mean, median, minimum, maximum and standard deviation values for each variable used in the research as shown in following Table 3.

Table 3. Descriptive Statistic Data

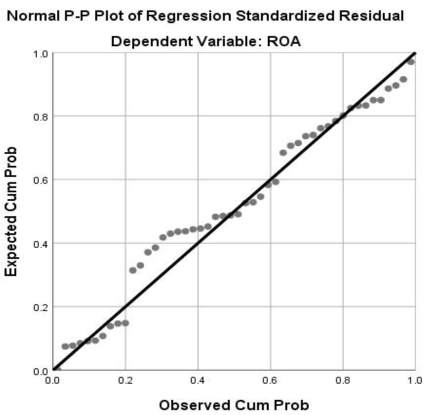
	ROA	CAR	NPL	LDR	NIM
Mean	2.6921	18.7967	1.0579	87.1569	5.8321
Median	2.7350	19.0050	.8200	87.7700	5.6550
Minimum	0.1300	14.6400	.2600	1.0400	3.0600
Maximum	5.1500	25.2800	3.1200	113.5000	9.5800
Std. Deviation	1.1997	2.5362	.7735	16.0500	1.4044

Source : Processed Data (2024)

Normality Test

The regression model is declared to meet the assumption of normality if the data spreads around the diagonal line or histogram graph (Ghozali, 2016). Based on Figure 1, it can be seen that the distribution of data points follows a diagonal line, so it can be concluded that the regression model is normally distributed.

Figure 1. Normal P-Plot



Source: Processed Data (2024)

Table 4. Multicollinearity Test Result

Coefficients								
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearly Statistics	
		B	Std. Error	Beta			Tolerance	VIF
t	(Constant)	-0,115	0,751		-0,153	0,879		
	CAR	-0,054	0,027	-0,113	1,977	0,054	0,975	1,025
	NPL	-0,647	0,111	-0,417	-5,813	0,000	0,623	1,605
	LDR	0,009	0,005	0,126	1,859	0,070	0,694	1,440
	NIM	0,630	0,053	0,738	11,866	0,000	0,830	1,204

Source: Processed Data (2024)

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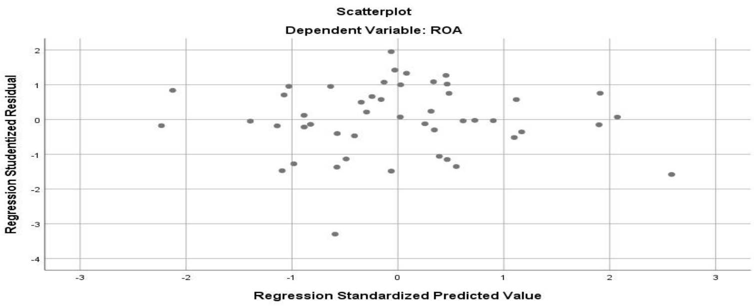
Multicollinearity Test

The multicollinearity test is carried out to find out whether there is a correlation between the independent variables where a good regression model does not require correlation (Ghozali, 2016). Based on the test results shown in table 4 above, the VIF value of all independent variables is below 10 or the tolerance value is above 0.1, thus the research data does not contain multicollinearity or there is no strong relationship between the independent variables.

Heteroscedasticity Test

The heteroscedasticity test is carried out to determine whether there are differences in variance or residuals from one observation to another (Ghozali, 2016). Based on Figure 2, it can be seen that the points are spread randomly above and below zero on the Y axis, thus there is no heteroscedasticity in the regression model tested.

Figure 2. Scatterplot Chart



Source: Processed Data (2024)

Autocorrelation Test

The autocorrelation test is carried out to find out whether the residuals in the current period are correlated with the residuals in the previous period. The Durbin-Watson statistical test is used to test autocorrelation (Ghozali, 2016). As can be seen in Table 5, the DW value is 1.835, meaning it is between -2 and +2 which means this research is free from autocorrelation problems.

Table 5. Autocorrelation Test

Model	R	R Square	Adj. R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	,928[a]	0,862	0,849	0,466	0,862	67,079	4	43	0,000	1,835

Source: Processed Data (2024)

Table 6. Multiple Linear Regression Analysis

Determinant Variables	B	Sig	
Constant	-0.115	0.879	
CAR	-0.054	0.054	*
NPL	-0.647	0.000	**
LDR	0.009	0.070	*
NIM	0.630	0.000	**
F test		0.000	**
Adjusted R^2		0.849	

Source: Processed Data (2024)

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Multiple Linear Regression Analysis

Multiple linear regression analysis is used to find out how the independent variable affects the dependent variable. Based on data processing, the results obtained are as shown in table 6 above.

The Effect of Capital Adequacy Ratio on Profitability

The results show that CAR has a significant negative effect on profitability at an error or alpha level of ten percent. This finding shows that the higher the CAR will have an impact on decreasing bank profitability. The higher the bank's capital ability to face the risk of loss does not necessarily have an effect on increasing profitability. This can happen when a bank has a high CAR but is unable to allocate funds effectively to obtain a rate of return. These results are in line with the conclusions of Darto et al. (2023), Priharta et al. (2022), Sumarlin (2016) and Almunawwaroh & Marliana (2018) who stated that there is a negative effect between CAR and profitability. Thus the hypothesis proposed in this research is not proven.

The Effect of Non-Performing Loans on Profitability

The NPL variable shows a significant negative effect on profitability at the one percent alpha level. These results explain that the higher the NPL, the greater the number of problem loans, resulting in a higher risk of bad loans which will ultimately erode bank profitability. These results are in line with the findings of Priharta et al. (2023), Priharta et al. (2022), Setiawan & Hermanto (2017) and Budiyono (2017) who explained that NPLs have a significant negative effect on profitability. Thus the results obtained are in accordance with the proposed hypothesis.

The Effect of Loan to Deposit Ratio on Profitability

The effect of LDR is significantly positive on profitability at ten percent alpha. This finding shows that high loan disbursement has an impact on the high profitability obtained. Thus, high LDR with good credit risk management is proven to be able to increase profitability. These results are in line with the studies of Almazari (2014) and Negara et al. (2014) which proved that LDR has an effect on increasing profitability. Thus, the research findings are proven to be in accordance with the proposed hypothesis.

The Effect of Net Interest Margin on Profitability

Net Interest Margin (NIM) is proven to have a significant positive effect on profitability at an alpha level of one percent. These results show the ability of bank management in managing productive assets, the higher the NIM, the higher impact on achieving high profitability. This study is in line with the findings of Priharta et al. (2023), Priharta & Darto (2022), and Anggraini & Suryaningtias (2017) who have proven that NIM has a positive and significant effect on profitability. Thus the results are in accordance with the proposed hypothesis.
In summary, the effect of the independent variable on the dependent variable and the verification of the hypothesis in the multiple linear regression analysis of the tested model, can be seen in the following table 7.

Table 7. Result of Multiple Linear Regression Analysis

Variable	Hypothesis	t-Test Result	Conclusion
CAR	+	- / Significant	Not proven
NPL	-	- / Significant	Proven
LDR	+	+ / Significant	Proven
NIM	+	+ / Significant	Proven

Source: Processed Data (2024)

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CONCLUSION

Research findings prove that the NPL, LDR and NIM variables have a significant positive effect on profitability and this result is in accordance with the proposed hypothesis. Thus, the lower the NPL and the higher the LDR and NIM, the higher the level of profitability will be. While CAR has a significant negative effect on profitability, so this result does not prove the hypothesis proposed that the effect is positive. This finding explains that the higher the CAR, the lower the level of profitability. The higher the bank's capital ability to face the risk of loss does not necessarily have an effect on increasing profitability. This can happen when a bank has a high CAR but is unable to allocate funds effectively to obtain a rate of return. The implications of the research for bank management and investors are to maintain low NPL levels, maintain high LDR while complying with applicable regulations, and increase NIM achievement. Furthermore, a high CAR value to face the risk of loss must be maintained by always paying attention to the effectiveness of the credit disbursement provided. For further research, it is suggested to develop with other variables that can affect bank profitability, including third party funds collected, corporate governance, the ratio of operational costs and operating income (BOPO); Macroeconomic factors include the inflation rate, money supply, or Bank Indonesia interest rates. Apart from that, research shall be based on the types of conventional banks and sharia banks, or other bank groupings, such as regional development banks, private banks, mixed banks, or foreign banks.

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