PAPER – OPEN ACCESS

Profitability Analysis of State-Owned Banks in Indonesia

Author : Lasrohani Simanjuntak and Wahyu Sugeng Imam Soeparno
DOI : 10.32734/lwsa.v8i1.2370
Electronic ISSN : 2654-7066
Print ISSN : 2654-7058

Volume 8 Issue 2 – 2025 TALENTA Conference Series: Local Wisdom, Social, and Arts (LWSA)

LWSA Conference Series 08 (2025)
TALENTA Conference Series
Available online at https://talentaconfseries.usu.ac.id

Profitability Analysis of State-Owned Banks in Indonesia

Lasrohani Simanjuntak, Wahyu Sugeng Imam Soeparno

Program Studi Ekonomi Pembangunan, Fakultas Ekonomi dan Bisnis Universitas Sumatera Utara, Medan 20155, Indonesia

lasrohanys@gmail.com

Abstract

This study aims to determine how the effect of Capital Adequacy Ratio (CAR), Non Performing Loan (NPL), and Operating Expenses on Operating Income (BOPO) on profitability in the specification of Return On Assets (ROA) at BUMN banks in Indonesia. The state-owned banks in Indonesia include Bank Rakyat Indonesia, Bank Negara Indonesia, Bank Tabungan Negara, and Bank Mandiri. The data analysis method used in this study is the panel data regression analysis method with the selected Fixed Effect Model. Hypothesis testing is done using the Coefficient of Determination Test (R2), Simultaneous Significance Test (F Test), and Partial Test (T Test). Data collection uses secondary data in the form of annual reports with panel data 2001-2022.The results of this study indicate that simultaneously, CAR, NPL, and BOPO have a significant effect on ROA. Partially, CAR has a negative and significant effect on ROA, NPL has a negative and significant effect on ROA. BOPO has a negative and significant effect on ROA. The coefficient of determination (R2) in this study is 81.44% and the remaining 18.56% is the influence of other variables that are not in the model or that are not included in the research variables.

Keywords: *CAR; NPL; BOPO; ROA*

1. Introduction

The banking sector is an institution that carries out the main function as a financial intermediary between parties who have funds (surplus funds) and parties who need funds (deficit funds) and as an institution that functions to facilitate the flow of payment traffic [1]. Given the magnitude of the influence of banks on a country's economy, it does not mean that banks do not have obstacles or problems. One of the problems faced by banks is the problem of bank performance. Banks need to maintain high profitability, develop business prospects, pay dividends well, and fulfill prudential banking regulations well so that their performance is considered good [2].

The phenomenon that has occurred in the Indonesian banking world in recent years shows that the banking world is still experiencing problems. When the banking sector started to regain public trust, the Century Bank case reappeared. This case resulted in customers withdrawing all their funds from the bank. Therefore, the bank experienced a crisis of confidence that made the CAR ratio drop dramatically while the BOPO ratio continued to increase, this resulted in the level of profitability also decreased. In addition, Bank Indonesia closed PT Bank Asiatic and PT Bank Dagang Bali in 2004 because their liquidity and capital problems could not be resolved. Then the monetary crisis in 1997-1998 resulted in Indonesian banking profitability falling by 67%. This was caused by several factors such as a very low CAR ratio, which was -15.7% so that banks had difficulty in meeting their capital needs. In addition, the NPL ratio also increased to 48.6%. As a result of high NPLs, the bank lowered lending rates and increased deposit rates in the hope that deposits would increase. However, this affected the BOPO ratio which increased to 109.6%. This occurred due to imprudent lending while operating costs continued to increase due to increasingly complex technological needs.

In addition to the phenomenon of the monetary crisis in Indonesia in 1998, the Covid-19 pandemic has also caused the world economy to weaken and triggered a global economic recession. In 2020, the NPL rate reached 3.02%. The high level of NPLs affects the decline in the level of bank profitability in Indonesia. The decline in banking profitability is reflected in ROA which was recorded at 1.92% at the end of June 2020, lower than December 2019 of 2.44%. The ROA data for the last ten years (2013-2022) at state-owned banks are as follows.

Selection and peer-review under responsibility of Event of Young Researcher and Economics Students (EVEREST) VIII
p-ISSN: 2654-7058, e-ISSN: 2654-7066, DOI: 10.32734/lwsa.v8i1.2370

Table 1. ROA Data of State-Owned Banks for the Period 2013-2022

Tahun	BRI (%)	BNI (%)	MANDIRI (%)	BTN (%)	Rata-Rata ROA (%)
2013	5,03	3,36	3,66	1,79	3,46
2014	4,73	3,49	3,57	1,12	3,22
2015	4,19	2,64	3,15	1,61	2,89
2016	3,84	2,69	1,95	1,76	2,56
2017	3,69	2,75	2,72	1,71	2,71
2018	3,68	2,78	3,17	1,34	2,75
2019	3,50	2,42	3,03	0,13	2,27
2020	1,98	0,54	1,64	0,69	1,20
2021	2,72	1,43	2,53	0,81	1,87
2022	3,76	2,46	3,30	1,02	2,63

Sumber: www.ojk.go.id

If examined in the table above, the data shows that in 2014 the average ROA decreased until 2016, namely the average ROA of 2.56%, then increased in 2017, which amounted to 2.71%. In 2018 the average ROA was even higher at 2.75%. However, in 2019 it decreased to 2.27% and decreased again in 2020 to 1.20%. Then, in 2021 and 2022 the average ROA increased again, namely 0.67% and 0.76% respectively. ROA which has increased causes the profitability of banking assets to also increase and vice versa, ROA which has decreased causes the profitability of banking assets to also decrease. According to [3] there are several ratios that affect Return on Assets (ROA) including Non Performing Loan (NPL), Net Interest Margin (NIM) and Capital Adequancy Ratio. Based on the explanation of the background of the problem and the conclusions of the previous research above, the authors are interested in conducting research on profitability. This research was conducted at state-owned banking companies for the period 2001-2022, with the research title "Profitability Analysis of State-Owned Banks in Indonesia".

The purpose of this study is to determine the effect of Capital Adequacy Ratio on the profitability of state-owned banks, to determine the effect of Non Performing Loan on the profitability of state-owned banks, to determine the effect of Operating Expenses and Operating Income on the profitability of state-owned banks, to know the effect of Capital Adequacy Ratio, Non Performing Loan, Operating Expenses and Operating Income on the profitability of state-owned banks.

2. Literature Review

2.1. Profitability

The definition of profitability or what is often referred to as the profitability ratio is a financial metric used by investors and analysts to measure and evaluate a company's ability to generate profits or profits relative to revenue, operating costs, balance sheet assets, and shareholders' equity over a period of time. [4] profitability is the company's ability to generate profits in a certain period of time. Types of Profitability The profitability ratio is divided into 8 types, namely Gross Profit Margin (GPM), Net Profit Margin (NPM), Return on Asset (ROA), Return on Equity Ratio (ROE), Return On Sales Ratio (ROS), Return On Employee (ROCE), Return on Investment (ROI), Earning Per Share (EPS) [5]. The ratio used in measuring profitability in this study is Return on Assets (ROA). ROA is one of the profitability ratios used to measure the company's effectiveness in generating profits by utilizing its total assets. Bank Indonesia also prioritizes the profitability value of a bank as measured by ROA because Bank Indonesia prioritizes the profitability value of a bank as measured by assets whose funds mostly come from public deposits so that ROA is more representative in measuring the level of bank profitability [6]. The greater the ROA of a bank, the greater the level of profit achieved by the bank and the better the position of the bank in terms of asset utilization.

2.2. Effect of Capital Adequacy Ratio on Profitability

Capital Adequacy Ratio can be explained as a ratio that aims to measure how far the capital owned by the bank is able to support assets that generate risk, or often called lending by banks [7]. CAR shows the extent of the decline in bank assets that can still be covered by the bank's available equity, the higher the CAR, the better the condition of the bank. CAR reflects the company's own capital, the greater the CAR, the greater the bank's opportunity to generate profits, because with large capital bank management is very free in placing its funds into profitable investment activities [8]. Banks that have adequate capital can carry out their operational activities efficiently, and will provide benefits to the bank.

According to Bank Indonesia Regulation No. 15/12/PBI/2013 the minimum capital requirement is set at a minimum of 8% of Risk Weighted Assets (RWA). CAR above 8% indicates an increasingly stable bank business, due to great public trust. If the capital owned by the bank is able to absorb unavoidable losses, then the bank can manage all its activities efficiently, so that the bank's wealth (shareholder wealth) is expected to increase and vice versa. The low CAR ratio reflects the low level of capitalization of a bank. Low capital levels can cause banks to be unable to absorb unavoidable losses. It can be assumed that capital adequacy (CAR) has a positive effect on profitability.

2.3. Packing Orde Theory

Companies that have high profitability actually have quite low debt, this is because the company has abundant internal funds. This study uses Pecking Order Theory to explain how far the relationship between CAR and profitability. CAR is a ratio that explains the strength of assets owned by banks in this case such as loans, investments, securities, bills to other banks can be financed by funds from own capital (total equity). Capital Adequacy Ratio can be explained as a ratio that aims to measure how far the capital owned by the bank is able to support assets that generate risk, or often called lending by banks [7].

2.4. The Effect of Non-Performing Loan on Profitability

According to [9], non-performing loans or often called non-performing loans can be defined as loans that have difficulty repaying due to gap factors and / or due to external factors beyond the debtor's control such as poor economic conditions. NPL is a ratio used to measure the bank's ability to buffer the risk of credit failure by debtors. [10] in his book entitled "Commercial Bank Management" states that NPL is an indicator of the health level of commercial banks. Because high NPLs indicate the inability of commercial banks in the assessment process to disburse credit to debtors. On the other hand, NPLs will also cause the high cost of capital (cost of capital) which is reflected in the operating costs of the commercial bank concerned. With the high cost of capital, it will affect the bank's net profit.

BI Regulation Number 6/10 / PBI / 2004 dated April 12, 2004 concerning the Commercial Bank Health Level Assessment System, the higher the Non Performing Loan (NPL) value exceeds 5%, the bank is not healthy. If the ratio of Non Performing Loan is below 5%, the potential profit earned will be greater. So that if the greater the Non Performing Loan (NPL) will result in a decrease in Return On Assets (ROA), which means that the bank's financial performance decreases. It can be assumed that NPL has a negative effect on profitability.

2.5. The Anticipated Income Theory

The anticipated income theory was developed by h.v prochow (1949). The anticipated income theory arose against the backdrop of low credit applications to banks which resulted in excess liquidity and low profits earned by banks. This theory states that if the credit channeled to the public is high, while the debtor cannot return the loan on time, there will be non-performing loans which have an impact on profitability being low. Income anticipation theory states that banks should be able to provide long-term credit where repayment, namely installments of principal plus interest, can be expected and scheduled for future payments in accordance with the predetermined period.

2.6. The Effect of Operating Expenses and Operating Income on Profitability

According to [1] BOPO is a comparison between operating expenses and operating income in measuring the level of efficiency and ability of banks in carrying out their operations. The smaller the BOPO ratio, the more efficient the operating costs incurred by the bank concerned. The increasing ratio reflects the bank's lack of ability to reduce operating costs and increase its operating income which can cause losses because the bank is less efficient in managing its business. Banks that are efficient in suppressing their operating costs can reduce losses due to bank inefficiency in managing their business so that profits earned will also increase. The smaller the BOPO shows the more efficient the bank is in carrying out its business activities so that the healthier the bank.

Bank Indonesia determines the best number for the BOPO ratio is below 90%, because if the BOPO ratio exceeds 90% to close to 100%, the bank can be categorized as inefficient in carrying out its operations. It can be assumed that BOPO has a negative effect on profitability. The amount of operating expenses and operating income can be influenced by several factors including investment, product income and profit sharing income, the term of funds and investments, rates provided, minimum mandatory reserves, competition, government policies, profits, guarantees and service quality.

2.7. Cost-Volume-Profit (CVP) Theory

The Cost -Volume-Profit theory was proposed by Charles Horngren and George Foster in 1962. This theory discusses how sales volume, operating costs, and selling prices affect the profitability of a company. According to CVP theory, there is a close relationship between operating costs, sales volume, selling price, and company profitability. This concept considers operating expenses (such as factory overhead costs, employee salaries, marketing costs, etc.) and operating income (the selling price of the product or service produced). The main objective of CVP theory is to determine the break-even point, which is when operating income equals operating expenses, so that the company does not incur losses or profits are generated. In this theory, analyzing the ratio of operating expenses to profitability is important to understand the extent to which shifts in operating expenses can affect a company's profitability. The breakeven concept is also used to estimate the extent to which a firm's changes in operating expenses can affect the profits generated. If operating costs increase, the company must increase sales volume or selling price to maintain profitability or increase profits.

3. Research Method

This research is a type of quantitative associative research. Quantitative associative research is research that aims to determine the relationship between two or more variables. The scope of this study is to analyze the effect of CAR, NPL and BOPO on the profitability of state-owned banks in Indonesia. This research was conducted by taking secondary data in the form of financial statements of state-owned banks in Indonesia, namely BRI, BNI, Mandiri, and BTN in the observation period 2001-2022. The research data was collected by accessing the official OJK website.

This study uses panel data regression analysis to determine the effect of independent variables, namely Capital Adequacy Ratio, Non Performing Loan, Operating Expenses on Operating Income, on the dependent variable, namely Profitability. The data is processed using Eviews 12. The function model used is:

$$\mathrm{ROA} = \mathrm{f}\,\{\mathrm{CAR}, \mathrm{NPL}, \mathrm{BOPO}\}$$

In the form of an equation becomes:

$$\mathrm{ROAit} = \alpha + \beta 1\mathrm{CARit} + \beta 2\mathrm{NPLit} + \beta 3\mathrm{BOPOit} + \mathrm{eit}$$

In the regression model estimation method using panel data, it can be done through three models or approach techniques, namely, Common Effect Model, Fixed Effect Model, and Random Effect Model. The choice of model or estimation technique to test the regression equation to be estimated can be used three tests, namely the Chow Test, Hausman Test, and Lagrange Multiplier Test. In this study, hypothesis testing was also carried out with tests, namely the Coefficient of Determination Test (Adjusted R-squared), T Test (Partial), and F Test (Simultaneous).

4. Results and Discussion

Table 2. Results of Panel Data Regression Analysis with Fixed Effect Model

Variabel	Koefisien	Std. Error	t-Statistic	Probabilitas
CAR	-0.102922	0.020125	-5.114107	0.0000
NPL	-0.116551	0.016433	-7.092313	0.0000
BOPO	-0.060759	0.007509	-8.091012	0.0000
C	9.464127	0.796640	11.88006	0.0000
Weight Statistic				
R-Squared			0.843403	
Adjusted R-Squared			0.831803	
F-Statistic			72.70860	
Prob(F-statistic)			0.000000	

Source: E-views, processed by the author

Based on the regression results in the table, it can be seen that the results of the regression equation in this study are:

$$\mathrm{ROA} = 9.464127 - 0.102922\mathrm{CAR} - 0.116551\mathrm{NPL} - 0.060759\mathrm{BOPO}$$

Based on the regression results above, the effect of the independent variables on the dependent variable can be explained as follows:

1. The coefficient value C of 9.464127 indicates that if all independent variables do not change, the average profitability of BUMN banks in the Return On Assets specification will grow by 9.4%.
2. The average Capital Adequacy Ratio coefficient value of state-owned banks is -0.102922, meaning that if the Capital Adequacy Ratio increases by 1%, the average ROA of state-owned banks will decrease by 0.1%, and the regression results show the results of the Capital Adequacy Ratio variable are negative which indicates that an increase in the CAR ratio will have a negative effect on Return On Assets..
3. The average Non Performing Loan coefficient value of BUMN banks is -0.116551, meaning that if the Non Performing Loan increases by 1%, the average ROA of BUMN banks will decrease by 0.11% and the regression results show the results of the Non Perfoming Loan variable are negative which indicates that an increase in the NPL ratio will have a negative effect on Return On Assets.
4. The coefficient value of Operating Expenses of Operating Income on average from BUMN banks is -0.060759, meaning that if the Operating Expenses of Operating Income increases by 1%, the average ROA of BUMN banks will decrease by 0.06% and the regression results show the results of the Operating Expenses of Operating Income variable are negative

which indicates that an increase in the BOPO ratio will have a negative effect on Return On Assets.

Based on the results of the regression analysis, the Adjusted R-squared value is 0.814412. This shows that the percentage contribution of the influence of the independent variable on the dependent variable is 81.44%. This means that the independent variables used in the model are able to explain 81.44% of the dependent variable. The remaining 18.56% is influenced by other variables that are not in the model or that are not included in the variables of this study.

Based on the results of the regression test using the Fixed Effect model, the results of the simultaneous test (F-test) were obtained with a probability value of 0.000000 < (0.05), in the test results the calculated F value was 64.63012 and this calculated F value was greater than the F table value of 2.715, thus it can be concluded that H0 is rejected and H1 is accepted, meaning that the Capital Adequacy Ratio, Non Performing Loan, and Operating Expenses of Operating Income together have a significant effect on Return On Assets at BUMN banks in Indonesia.

Based on the results of the regression test using the Fixed Effect model, the t-test results are obtained where the probability value of the Capital Adequacy Ratio variable is 0.0000 < (0.05) so it can be concluded that the Capital Adequacy Ratio has a significant effect on Return On Assets at BUMN banks in Indonesia, meaning that H0 is rejected H1 is accepted. The probability value of the Non Performing Loan variable is 0.0000 < (0.05) so it can be concluded that the Non Performing Loan has a significant effect on Return On Assets at BUMN banks in Indonesia, meaning that H0 is rejected H1 is accepted. The probability value of the Operating Expenses of Operating Income variable is 0.0000 < (0.05) so it can be concluded that Operating Expenses of Operating Income has a significant effect on Return On Assets at BUMN banks in Indonesia, meaning that H0 is rejected H1 is accepted.

Based on the regression test results using the Fixed Effect cross-section model, the following are obtained:

1. The individual effect value that has a positive value is owned by PT Bank Rakyat Indonesia Tbk, where the effect value obtained is 1.097880. This means that if it is assumed that the independent variable does not change, the amount of Return On Assets by PT. Bank Rakyat Indonesia Tbk during the observation period has grown by 1.09%.
2. The individual effect value that has the first lowest negative value is owned by PT Bank Tabungan Negara Tbk, where the effect value obtained is -0.579519. This means that if it is assumed that the independent variable does not change, the amount of Return On Assets of PT Bank Tabungan Negara Tbk during the observation period will decrease by 0.57%.
3. The individual effect value that has the second lowest negative value is PT Bank Mandiri Tbk, where the effect value obtained is -0.356454. This means that if it is assumed that the independent variable does not change, the amount of Return On Assets at PT Bank Mandiri Tbk during the observation period will decrease by 0.35%.
4. The individual effect value that has the third lowest negative value is PT Bank Negara Indonesia, where the effect value obtained is -0.161908. This means that if it is assumed that the independent variable does not change, the amount of Return On Assets at PT Bank Negara Indonesia Tbk during the observation period will decrease by 0.16%.

5. Conclusion

Based on the results of panel data regression testing which includes model testing, individual effects, and hypothesis testing, the conclusions obtained from this study are:

1. The Capital Adequacy Ratio variable partially has a negative and significant effect on Return on Assets at BUMN Banks in Indonesia.
2. The Non-Performing Loan variable partially has a negative and significant effect on Return on Assets at BUMN Banks in Indonesia.
3. The Operating Expenses of Operating Income variable partially has a negative and significant effect on Return on Assets at BUMN Banks in Indonesia.
4. The results of the simultaneous test (F-test) with the Fixed Effect Model (FEM) show that the Capital Adequacy Ratio, Non-Performing Loan and Operating Expenses of Operating Income together have a significant effect on the value of Return on Assets at BUMN Banks in Indonesia.

References

[1] Veithzal dan Ferry N Idroes, (2007)."Bank and Financial Institution Management", PT Raja Grafindo, Jakarta.

[2] Mudrajad, K., dan Suhardjono, (2012). "Manajemen Perbankan",BPFE, Yogyakarta.

[3] Indarti, R., dan Minanari, M. (2019). "Pengaruh Car, Npl, Komite Audit, Dan Kepemilikan Institusional Terhadap Profitabilitas Bank Umum Konvensional Go Public Periode 2015 – 2017". *Profita : Komunikasi Ilmiah Akuntansi dan Perpajakan*, 12(3): 460-475.

[4] Munawir, (2010)." Analisa Laporan Keuangan", Liberty Yogyakarta, Yogyakarta.

[5] Kasmir, (2014). "Analisis Laporan Keuangan", PT Raja Grafindo Persada, Jakarta.

[6] Dendawijaya, Lukman. (2003). "Manajemen Perbankan", Ghalia Indonesia, Jakarta.

[7] Sudiyatno, Bambang dan Jati Suroso. (2010). "Analisis Pengaruh Dana Pihak Ketiga, BOPO, CAR dan LDR Terhadap Kinerja Keuangan Pada Sektor Perbankan yang Go Public di Bursa Efek Indonesia (BEI)". *Dinamika Keuangan dan Perbankan*, 2(2): 125-137.

[8] Nusantara, Ahmad Buyung. (2009). "Analisis pengaruh NPL, CAR, LDR, dan BOPO terhadap Profitabilitas Bank."

[9] Hamonangan R, dan Hasan Sakti Siregar. (2009). "Pengaruh Capital Adequancy Ratio, Debt to EquityRatio, Non Performing Loan,Operating Ratio dan Loan to Deposit Ratio terhadap Return On Equity(ROE) Perusahaan Perbankan yang Terdaftar di Bursa Efek Indonesia". *Jurnal Akuntansi*, 2(3): 382-390.

[10] Latumaerissa, J., R. (2014). "Manajemen Bank Umum", Mitra Wacana Media, Jakarta