

The Effect of Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), Net Interest Margin (NIM), Loan to Deposit Ratio (LDR) and Operational Costs and Operational Revenue (BOPO) On Return on Assets (ROA) in Bank IV Indonesia

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Abstract

This study aims to analyze the effect of capital adequacy ratio (CAR), non-performing loan (NPL), net interest margin (NIM), loan to deposit ratio (LDR) and operating costs of operating income (BOPO) on return on assets (ROA) in book banks. IV in Indonesia. The population in this study is book IV bank listed on the Indonesia Stock Exchange (IDX) for the 2016-2020 period. Research data is secondary data with 5 years of observation. The method of determining the sample using purposive sampling, where from all book IV banks listed on the IDX, 10 book IV banks that reported their financial statements during the study period were taken. The data analysis method used is panel data regression Random Effect Model. The results of this study can be concluded that Return On Assets can be explained or influenced by the variables of capital adequacy ratio (CAR), non-performing loan (NPL), net interest margin (NIM), loan to deposit ratio (LDR), operating costs of operating income (BOPO).) of 96.62%, while the remaining 3.38% is influenced by other variables outside the model. The results showed that the ratio of CAR, NPL and BOPO had no effect and the ratio of NIM and LDR had a positive and significant effect on Return On Assets (ROA).

Keywords

Return On Assets (ROA);
Capital Adequacy Ratio (CAR);
Non-Performing Loans (NPL);
Net Interest Margin (NIM);
Loan to Deposit Ratio (LDR);
Operating Costs of Operating
Income (BOPO)



I. Introduction

Banks have an important role in the development and economy of the country, because of their function as fundraisers and channeling back to the public, especially industries that handle cash, credit, and other financial transactions. Initially, this type of banking referred to the Basic Banking Law No. 14 of 1967. In this Law, the types of banking according to their function consist of commercial banks, development banks, savings banks, market banks, village banks, employee banks, and other banks.

Bank as an institution that acts as a financial intermediary (*financial intermediary*) between parties who have funds (*surplus units*) and parties who need funds (*deficit units*) as well as institutions that function to facilitate the flow of payment traffic.

Back to the banking function, according to Totok Budisantoso (2014: 9) the main function of banking is *agent of trust*, namely trust in both raising funds or distributing funds. *Agent of development*, banking activities in the form of disbursing funds are needed for the smooth running of the economy in the real sector.

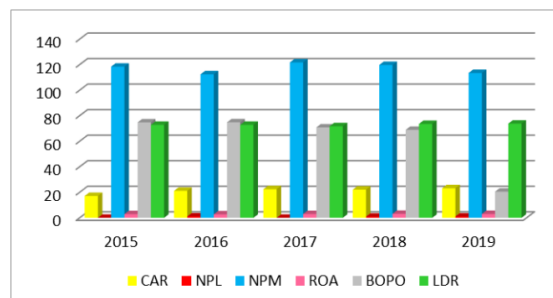
The soundness of a bank can be assessed from several indicators. One of the main indicators used as the basis for the assessment is the financial report of the bank concerned. Based on the financial statements, a number of financial ratios that are commonly used as the basis for assessing the soundness of banks can be calculated. The results of the analysis

of financial statements will help to see the extent to which the company has implemented it properly and correctly using financial performance based on the data generated in the financial statements of a company (Irham, 2011: 2).

In this study ROA is used as a measure of banking performance. *Return on Assets* (ROA) is used to measure the effectiveness of the company in generating profits by utilizing its assets. *Return On Assets* (ROA) is a comparison between profit before tax with the average total assets in one period. The greater the *Return On Assets* (ROA), the better the company's performance.

According to the Regulation of the Financial Services Authority (POJK) number 6/POJK concerning book IV banks, banks with the highest core capital of at least Rp. 30,000,000,000,000. The function of the establishment of book bank IV is as a product provider agency, as a medium for the government to make economic policies, as a source of income or foreign exchange for the country, as a simultaneous one, as a pioneer of development.

The phenomenon that occurred during the last five years there were 10 book IV banks on the Indonesia Stock Exchange and became the sample in this study. Based on data from the financial statements of the bank book IV, it shows that the income received during the 2015 and 2019 periods has decreased, resulting in a negative net profit. This phenomenon indicates that book IV banks are experiencing financial difficulties.



Source: Comparison of Financial Performance Ratios at Book 4 Banks Listed on the IDX for the 2015-2019 Period

II. Review of Literature

2.1 Theory Study

Signaling theory is a theory that explains that good financial statements are a signal that the company's performance is also operating well.

The following are some definitions of Signal Theory according to experts:

1. Graham, Scott B. Smart, and William L. Megginson

The dividend signal model discusses market imperfections that make relevant payment policies (asymmetric information). If managers know that their company is "strong" while investors for some reason don't know this, then managers can pay dividends (or aggressively buy back shares) in the hope of signaling the quality of their company to the market. Signaling theory effectively separates strong companies from weak companies (so that a strong company can provide its kind of signal to the market), it becomes expensive for a weak company to imitate the actions of a strong company.

2. TC Melewar

Signaling theory suggests that companies will give signals through actions and communication. The company adopts these signals to reveal hidden attributes to stakeholders.

3. Gallagher and Andrew

Signaling theory is based on the premise that management knows more about the company's financial future than shareholders, so dividends signal the company's future prospects. The decline in dividends is an expected signal. Managers who believe signaling theory will be aware of dividend decisions can send a message to investors.

4. Eugene F. Brigham and Joel F. Houston

Signaling theory is a theory that explains that investors perceive dividend changes as a signal of management's expected earnings.

5. Scott Besley and Eugene F. Brigham

Signaling theory is an action taken by the company's management that provides clues to investors about how management views the company's prospects.

Broadly speaking, signaling theory closely related to the availability of information. Financial statements can be used to make decisions for investors, financial statements are the most important part of a company's fundamental analysis.

The information referred to is how much the product offered by the book IV Bank can affect the profitability received. This information is used as a reference by the management whose purpose is to improve the products issued by the bank which will later be distributed by the book IV bank to customers in the form of financing.

2.2 Return on Assets (ROA)

ROA is information about the company's profit which is calculated based on the rate of return on the company's assets. If the ROA shows a high number, it will be a good signal for investors or good news, because with the ROA number showing a high number, it interprets and shows that the company's financial performance is very good, where investors will be interested in investing their funds or investing shares in investors. company. High profitability will be a good signal or good news for investors to invest their shares in the company so that the investment value will increase. According to Kasmir (2014:201), "Return on Assets is part of the profitability ratio analysis. The ratio between net income which is inversely proportional to overall assets to generate profit.

ROA can be used as an indicator and a basic reference to determine how capable the company is in obtaining optimal profits in terms of its asset position.

The ROA formula

$$\text{Return On Assets} = \text{Net Profit} / \text{Total Assets}$$

Where it is known in the ROA formula, namely net income and overall asset value. Net income can be seen from the income statement (income minus expenses). Meanwhile, total assets are known from the balance sheet (liabilities plus equity). Liability is the company's financial debt. Equity is money that will be returned to shareholders.

2.3 Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio (CAR) is a capital adequacy ratio that is useful for accommodating the risk of loss that may be faced by a bank, the higher the Capital Adequacy Ratio, the ability of the bank concerned to bear the risk of each credit/productive asset the more risky it is. According to Buffer Theory of Capital Adequacy, banks can choose to withhold from excess capital to reduce the possibility of falling below the legal capital requirements, especially if their capital adequacy ratio is very good and shows a good signal for investors (Chandrasegaran, 2020).factor assessment Capital measured using the Capital Adequacy Ratio (CAR).

$$\text{Formula CAR} \\ = (\text{Capital} / \text{Risk Weighted Assets}) \times 100\%$$

Where it is known that the equity includes retained earnings, equity, and others. Meanwhile, risk-weighted assets are the number of bank assets that are weighted according to risk.

2.4 Non-Performing Loans (NPLs)

Non-Performing Loans or NPLs are an indicator of the health of assets in a financial institution, be it a bank or fintech. The NPL has a parameter in the form of a basic financial ratio that is able to provide an assessment information on the condition of capital, profitability, credit risk. Financial companies have long used the ratio of bad loans (NPL) as a performance indicator. Non-Performing Loans are influenced by three things, namely bank internal factors, debtor internal factors, and non-bank and debtor external factors.

$$\text{The formula for NPL} \\ \text{Ratio NPL} = (\text{Total NPL} / \text{Total Loans}) \times 100\%$$

The method of calculating Non-Performing Loans (NPL) is stated in BI Regulation Number 6/10/PBI/2004 dated 12 April 2004 concerning the Rating System for Commercial Banks. BI determined that the ratio of non-performing loans (NPL) was 5 percent with the calculation formula.

2.5 Operating Costs and Operating Income (BOPO)

Operating expenses to operating income is a company's profitability ratio that compares operating expenses with operating income, the higher the operating expenses, the less good the company's management is. Operating costs are costs incurred by banks in carrying out their main business activities such as interest costs, marketing costs, labor costs, and other operating costs. Operating income is the bank's main income, namely income derived from placement of funds in the form of credit and other operating income. (Matindas, Pangemanan, & Saerang, (2015) stated that the lower the BOPO value, the more efficient the bank uses operational costs in running its business. So that the benefits obtained by the bank will be greater, and vice versa if the BOPO value is higher, the more inefficient the bank uses operational costs According to Bank Indonesia (SE. Intern BI, 2004), operating efficiency is measured by comparing total operating costs with total operating income or what is often called BOPO

$$\text{Formula BOPO} \\ \text{BOPO} = \text{Operating Expenses} / \text{Operational Income}$$

Where operating costs can be calculated based on the sum of total bank interest expense and total other operating expenses While operating income can be calculated from total bank interest income and total other operating income Following is the health ratio of Operating Costs and Operating Income (BOPO).

III. Research Method

The population in this study was Book IV Bank (Bank Mandiri, BRI, BNI, BCA, OCBC NISP, DANAMON, PANIN, BTPN, PERMATA, CIMB NIAGA).sampling technique was carried out through *purposive sampling method* with the aim of obtaining samples that were in accordance with the research objectives.

The number of samples in this study met the minimum number of observational data, namely $n = 30$, then the data processing used the *polling*. So that the amount of data to be processed is the multiplication of the number of companies, namely 10 book IV banks for the period 2016 to 2020.

IV. Result and Discussion

4.1 Descriptive Statistical Tests Descriptive

Statistics are statistical analyzes that provide a general description of the characteristics of each research variable as seen from the mean, maximum, standard deviation, variance, sum, range, kurtosis (distribution). Data tends to be flat or pointed), swekness (a picture of the distribution of data whether it is skewed to the left, right or symmetrical) and minimum. In this study, the number of variables to be studied there are 6 variables consisting of CAR data (X1), NPL (X2), NIM (X3), LDR (X4), BOPO (X5), ROA (X6) in book IV bank companies listed on the Indonesia Stock Exchange in 2016-2020. The following is an explanation of each variable related to descriptive statistics on book bank IV companies for the 2016-2020 period.

a. CAR Ratio (X1)

Table 1. Descriptive Statistics of Capital Adequacy Ratio in book bank companies for the period 2016-2020

	2016	2017	2018	2019	2020
Minimum	0.156	0.156	0.156	0.156	0.156
Maksimum	0.357	0.357	0.357	0.357	0.357
Mean	0.218	0.218	0.218	0.219	0.220
Median	0.216	0.218	0.219	0.220	0.220
Std. Deviasi	0.034	0.034	0.034	0.034	0.035

Source: Data processed by researchers (2021)

In table 1 the value of the Capital Adequacy Ratio in 2016 to 2020 has the same value, namely 0.156 points This was due to the ongoing transmission of monetary policy easing through the interest rate channel, as reflected in the continued decline in deposit rates and lending rates. However, transmission through the credit channel is still not optimal, as can be seen from credit growth that is still limited in line with weak demand, including investment demand from corporations that is not yet strong. Throughout 2016, Bank Indonesia implemented an accommodative monetary policy by lowering the benchmark interest rate by 150 bps which was consistent with efforts to optimize domestic economic recovery while maintaining macroeconomic and financial system stability,

amidst global financial market uncertainty. This decrease was followed by a decrease in the Third-Party Funds interest rate.

The CAR value throughout 2016 to 2020, which is 0.357 owned by all book IV banks, means that the company can manage the capital adequacy ratio which is useful to accommodate the risk of loss that may be faced by the bank. The average CAR value in book IV bank companies from the 2016-2020 period is 0.2186 with a standard deviation of 0.000447 and a median value of 0.219. The Capital Adequacy Ratio increased from 2016-2020 because the value of risk-weighted assets (RWA) decreased but was not matched by capital growth. The increase in the bank's capital ratio can also be caused by the declining ratio of non-performing loans (NPL).

b. NPL (X2)

Table 2 Descriptive Statistics Non Performing Loans in book bank IV companies for the 2016-2020 period

	2016	2017	2018	2019	2020
Minimum	0.008	0.008	0.008	0.008	0.008
Maksimum	0.088	0.088	0.088	0.088	0.088
Mean	0.027	0.027	0.026	0.026	0.026
Median	0.028	0.028	0.028	0.028	0.028

Source: Data processed by researchers (2021)

In table 2 the lowest value of *Non-Performing Loans* of 0.008 occurred during the 2016-2020 period this is because the company has a commitment to maintain the quality of productive assets amid credit expansion and other banking businesses. Various efforts have been made by book IV banks to minimize the number of bad debts, including the following:

1. Conducting the principle of prudence in granting credit and financing new loans
2. Conducting guidance and collection of non-performing debtors, including restructuring debtors who are still have business potential
3. Execute collateral for non-performing debtors by conducting collateral auctions and seeking strategic partners in managing the company's assets.

The maximum value of *Non-Performing Loans* throughout 2016 to 2020 is 0.088 due to changes in the bank's business plan in order to prepare for the implementation of Statement of Accounting Standards (PSAK) 71. In addition, the challenges of tight banking liquidity that continue to have a significant impact on banking performance. This condition resulted in an increase in outstanding *Non-Performing Loans* (NPL) and a higher interest expense than the set target, which resulted in a significant deviation in the projected performance of the NPL projection, the need for Allowance for Impairment Losses (CKPN), and the Company's Profit. The average value of *Non Performing Loans* in book IV bank companies from the 2016-2020 period is 0.00264 with a standard deviation of 1.93 and a median value of 0.028. *Non-Performing Loans* decreased less during 2018-2020 due to internal factors, the causes of the decline in bad loans, among others, were comprehensive credit granting procedures, deviations in the implementation of credit

procedures that were decreasing, good faith from bank owners, administrators, or employees, a strong credit administration and supervision system as well as a strong bad credit information system. The two external factors, the causes of the stronger value of the NPL include the success of the debtor's business, the increase in business profits to the debtor or to the debtor's business activities, as well as the increase in economic activity and low loan interest rates. (decreased interest rates, economic conditions, strengthening exchange rates and stock indexes).

c. NIM (X3)

Table 3. Descriptive Statistics of *Net Interest Margin* in book bank companies for the period of 2016-2020

	2016	2017	2018	2019	2020
Minimum	0.038	0.038	0.038	0.038	0.038
Maksimum	0.120	0.120	0.120	0.120	0.120
Mean	0.061	0.061	0.061	0.061	0.061
Median	0.055	0.055	0.055	0.055	0.056
Std. Deviasi	0.021	0.021	0.021	0.021	0.021

Source: Data processed by researchers (2021)

In table 3 the lowest value of Net Interest Margin throughout the 2016-2020 period is 0.038 this is due to the action downgrades create NIM or net interest margin in reserve increases, and credit clean-ups. The Net Interest Margin occurred throughout 2016-2020, which was stable at 0.120, meaning that the standard set by Bank Indonesia for NIM is 6% and above. The greater this ratio, the higher interest income on productive assets managed by the bank, so that the probability of a bank being in trouble is getting smaller.

The average NIM value in book IV bank companies from the 2016-2020 period is 0.061 with a standard deviation of 0.021 and a median value of 0.055. The NIM increased slightly due to the increase in the formation of the reserve for losses (CKPN) related to the potential increase in bank credit risk. The increase in CKPN is considered to have an effect on the acquisition of net income.

d. LDR (X4)

Table 4. Loan to Deposit Ratio in book bank IV companies for the 2016-2020 period

	2016	2017	2018	2019	2020
Minimum	0.720	0.720	0.720	0.720	0.658
Maksimum	1.630	1.630	1.630	1.630	1.630
Mean	0.929	0.927	0.926	0.922	0.916
Median	0.907	0.907	0.907	0.903	0.900
Std. Deviasi	0.142	0.143	0.144	0.145	0.150

Source: Data processed by researchers (2021)

In table 4 the lowest value of *Loan to Deposit Ratio* in 2020 of 0.658 from BCA bank, this is still in line with PBI No. 17/11/2015 which requires banking LDR to be in the range of 78.0% to 92.0%. Value *Loan to Deposit Ratio* occurred throughout the 2016-2020 period with a value of 1.63 due to continued tight banking liquidity which is still a challenge for banks and an increase in funding sources from higher securities. The growth of these securities was higher than the growth of Third Party Funds (DPK).

Average *Loan to Deposit Ratio* at book IV bank companies from the 2016-2020 period, which is 0.926 with a standard deviation of 0.003 and a median value of 0.907. *loan to Deposit Ratio* decreased due to lower growth of credit distributed to third party funds.

e. BOPO (X5)

Table 5. Descriptive Statistics of *Operational Costs and Operational Income* at book IV companies for the 2016-2020 period

	2016	2017	2018	2019	2020
Minimum	0.604	0.586	0.582	0.582	0.582
Maksimum	1.508	1.508	1.508	1.508	1.508
Mean	0.807	0.802	0.799	0.797	0.796
Median	0.801	0.799	0.799	0.799	0.799
Std. Deviasi	0.133	0.137	0.140	0.142	0.143

Source: Data processed by researchers (2021)

In table 5 the lowest value of *Operating Costs and Operating Income* in 2020 with a value of 0.582 owned by BCA bank this is because in 2020 BCA bank implements one of the strategies to maintain the effectiveness of operational activities and operational expansion that is implemented properly. The value of BOPO throughout 2016-2020 was

1,508 due to a decrease in net profit for increasing reserves and credit clearance as well as deteriorating quality and driven by the impact of a fairly high interest rate increase as a form of fulfillment of third party funds (DPK) in line with the direction of the regulator.

The average BOPO value for book IV bank companies from the 2016-2020 period is 0.8002 with a standard deviation of 0.004062 and a median value of 0.799. *Operational Costs and Operating Income* decreased from 2016-2020 due to low operating costs and expenses in the current year which were able to be covered by a larger increase in income, so that in the current year it can be said to be efficient (from the BOPO side).

f. ROA (X6)

Table 6. Descriptive Statistics of *Return On Assets* in book bank IV companies for the 2016-2020 period

	2016	2017	2018	2019	2020
Minimum	- 0.049	0.049	0.049	0.049	0.049
Maksimum	0.040	0.040	0.040	0.040	0.040
Mean	0.020	0.020	0.021	0.021	0.021
Median	0.021	0.021	0.021	0.021	0.021
Std. Deviasi	0.014	0.014	0.014	0.014	0.014

Source: Data processed by researchers (2021)

In table 6 the lowest value of *Return On Assets* in 2016-2020 is 0.049 this is because first, tightening liquidity makes the *cost of funds* (CoF) increase. OJK records show that *the loan to deposit ratio* (LDR) of banking in November was 93.50%. This high ratio indicates that banking liquidity is almost depleted for lending. The banking LDR ratio of 93-94% makes bank competition even tighter. This indicates that the availability of liquidity is getting tighter. The next factor, the company last year made adjustments to credit collectibility. The adjustment helped to raise the ratio of *non-performing loans* (NPL). The implementation of the Statement of Financial Accounting Standards (PSAK) 71 also led to a significant increase in CKPN.

The value of *Return On Assets* in 2016-2020 experienced stability, which was 0.040, meaning that it was far from a good ROA standard, which had to be above the value of 5.98%. this shows the ability of the invested capital as a whole asset has not been able to generate profits. The average value of the ROA is 0.0206 with a standard deviation of 0.014 and a median value of 0.021 which means it is stable.

4.2. Results of Data Analysis

a. Panel Data Regression Analysis Panel

Data regression analysis is a combination of *cross section* data and *time series*, where the same cross section unit is measured at different times. So in other words, panel data is data from the same individuals who are observed over a certain period of time. Panel data regression analysis can be used by using three alternative approaches to processing methods, namely the *Common Effect Model* (CEM), *Fixed Effect Model* (FEM), and *Random Effect Model* (REM). To find out which model is the best that will be used in this

study, it is necessary to test the panel data regression model. The model selection test consists of 3 tests, namely the *Chow Test*, *Hausman Test* and *Lagrange Multiplier Test*.

b. Common Effect Model

Common effect model is an estimation method in panel data regression, which uses the principle of *ordinary least squares* or *least squares*. *The common effect model* does not pay attention to the time dimension and also the individual dimension or cross section, so it can be assumed that the behavior of individuals does not differ in various time periods. This model cannot distinguish the variance between places and time points because it has *intercept*, and does not vary randomly. *The Common Effect* assumes that the behavior of the data between bank companies is the same in various periods of time.

Table 7. Common Effect Model

Dependent Variable: Y
 Method: Panel Least Squares
 Date: 12/14/21 Time: 20:59
 Sample: 2016 2020
 Periods included: 5
 Cross-sections included: 11
 Total panel (balanced) observations: 55

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.081045	0.004349	18.63657	0.0000
X1	-0.000180	0.012360	-0.014541	0.9885
X2	-0.011454	0.047274	-0.242295	0.8096
X3	0.135946	0.020398	6.664639	0.0000
X4	0.005744	0.002769	2.074139	0.0433
X5	-0.092045	0.003998	-23.02140	0.0000
Root MSE	0.002487	R-squared		0.966883
Mean dependent var	0.020582	Adjusted R-squared		0.963503
S.D. dependent var	0.013790	S.E. of regression		0.002635
Akaike info criterion	-8.937564	Sum squared resid		0.000340
Schwarz criterion	-8.718583	Log likelihood		251.7830
Hannan-Quinn criter.	-8.852882	F-statistic		286.1185
Durbin-Watson stat	1.561481	Prob(F-statistic)		0.000000

Source: Results of data processing using *eviews 12* (2021)

c. Fixed Effect Model

Fixed effect model is a model with a different intercept for each subject (cross section), but the slope of each subject does not change over time. To pay attention to the cross-sectional unit or the time-series unit is to include a dummy variable (dummy variable) to allow for different parameter values to occur, both across cross-sectional units and between time series units. The most common approach is to allow the intercept to vary between cross-sectional units but still assume that the slope coefficient is constant between cross-sectional units. This approach is known as the fixed effect model (FEM).

The following is a table of analysis results using Fixed Effect Model using the *eviews 12* program with the following results

Table 8. Fixed Effect Model

Dependent Variable: Y
 Method: Panel Least Squares
 Date: 12/14/21 Time: 21:00
 Sample: 2016 2020
 Periods included: 5
 Cross-sections included: 11
 Total panel (balanced) observations: 55

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.073444	0.008659	8.482054	0.0000
X1	0.005401	0.012701	0.425219	0.6730
X2	0.024560	0.057001	0.430861	0.6689
X3	0.202810	0.040683	4.985191	0.0000
X4	0.008682	0.003714	2.337739	0.0246
X5	-0.093616	0.004878	-19.19242	0.0000

Effects Specification

Cross-section fixed (dummy variables)			
Root MSE	0.001631	R-squared	0.985747
Mean dependent var	0.020582	Adjusted R-squared	0.980265
S.D. dependent var	0.013790	S.E. of regression	0.001937
Akaike info criterion	-9.416989	Sum squared resid	0.000146
Schwarz criterion	-8.833037	Log likelihood	274.9672
Hannan-Quinn criter.	-9.191170	F-statistic	179.8131
Durbin-Watson stat	3.396916	Prob(F-statistic)	0.000000

Source: The results of data processing using eviews 12 (2021)

d. Random Effect Model

Random effect caused by variations in the value and direction of the relationship between subjects is assumed *random* which is specified in the form of residuals. This model estimates panel data in which residual variables are thought to have a relationship between time and between subjects. Panel data analysis method with *random effects* must meet the requirements, namely the number of *cross sections* must be greater than the number of research variables.

The following is a table of analysis results with panel data regression *Random Effect Model* using the eviews 12 program with the following results:

Table 9. Random Effect Mode

Dependent Variable: Y
 Method: Panel EGLS (Cross-section random effects)
 Date: 12/14/21 Time: 21:01
 Sample: 2016 2020
 Periods included: 5
 Cross-sections included: 11
 Total panel (balanced) observations: 55
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.079223	0.006078	13.03462	0.0000
X1	0.000887	0.011569	0.076708	0.9392
X2	0.020493	0.051703	0.396355	0.6936
X3	0.168759	0.027862	6.057054	0.0000
X4	0.006509	0.002875	2.264053	0.0280
X5	-0.094452	0.004195	-22.51405	0.0000

Effects Specification

	S.D.	Rho
Cross-section random	0.002428	0.6111
Idiosyncratic random	0.001937	0.3889

Weighted Statistics

Root MSE	0.001774	R-squared	0.966238
Mean dependent var	0.006916	Adjusted R-squared	0.962793
S.D. dependent var	0.009745	S.E. of regression	0.001880
Sum squared resid	0.000173	F-statistic	280.4645
Durbin-Watson stat	2.971613	Prob(F-statistic)	0.000000

Unweighted Statistics

R-squared	0.964774	Mean dependent var	0.020582
Sum squared resid	0.000362	Durbin-Watson stat	1.422129

Source: The results of data processing using eviews 12 (2021)

From table 9 above it is known that the results of hypothesis testing (t-test) are obtained by comparing the t_{count} with the t_{table} . If the value of t_{count} is greater than t_{table} then the proposed hypothesis can be accepted. The t_{count} value is obtained from the t-statistical value in the regression results table and the t_{table} obtained using a significance level of 0.05 and the df value. Where the df value is 50 ($df = nk = 55-5$), then the t_{table} is 1.67591.

The test criteria for the Hypothesis Test (t test) by comparing the value of t_{count} with t_{table} with the following hypothesis:

- If $t_{count} < t_{table}$ or probability value > 0.05 then H_0 is accepted, which indicates that the independent variable has no partial effect to the dependent variable.
- If $t_{count} > t_{table}$ or probability value < 0.05 then H_0 is rejected, which indicates that the independent variable has a partial effect on the dependent variable.

From these tests, the following results were obtained:

1. ratio *CAR* (X_1) which has a t_{count} 0.076708 $<$ 1.67591 and a probability value of 0.9392 $>$ 0.05, then H_0 is accepted which means the *CAR* has no partial effect on *ROA*. So it can be concluded that the hypothesis $H1_{in}$ this study was rejected.
2. Ratio *NPL* (X_2) which has a t_{count} 0.396355 $<$ 1.67591 and a probability value of 0.6936 $>$ 0.05 is obtained, then H_0 is accepted, which means that the *NPL* does not partially affect *ROA*, so the hypothesis $H2_{in}$ this study is rejected. So it can be concluded that the hypothesis $H2_{in}$ this study was rejected.
3. Ratio *NIM* (X_3) which has a t_{count} 6.057054 $>$ 1.67591 and a probability value of 0.0000 $<$ 0.05 is obtained, then H_0 is rejected, which means that the *NIM* has a partial effect on *ROA*, so the hypothesis $H3_{in}$ this study is accepted. So it can be concluded that the hypothesis $H3_{in}$ this study is accepted.
4. Ratio *LDR* (X_4) which has a t_{count} 2.264053 $>$ 1.67591 and a probability value of 0.0280 $<$ 0.05 is obtained, then H_0 is rejected, which means that the *LDR* has a partial effect on *ROA*, so the hypothesis $H4_{in}$ in this study is accepted. So it can be concluded that the hypothesis $H4_{in}$ this study is accepted.
5. Ratio *BOPO* (X_5) which has a t_{count} -22.51405 $<$ 1.67591 and a probability value of 0.0000 $<$ 0.05 is obtained, then H_0 is accepted, which means the *BOPO* has no partial effect on *ROA*, so the hypothesis $H5_{in}$ this study is rejected. So it can be concluded that the hypothesis $H5_{in}$ this study was rejected.

V. Conclusion

Based on the results of research and discussion in previous chapters, it can be concluded that the following:

1. *CAR* ratio does not have a positive effect on *ROA* in the 2016-2020 period in book IV banks.
2. The *NPL* ratio does not have a positive effect on *ROA* in the 2016-2020 period in book IV banks.
3. The *NIM* ratio has a positive effect on *ROA* in the 2016-2020 period in book bank IV.
4. The *LDR* ratio has a positive effect on *ROA* in the 2016-2020 period in book bank IV.
5. The *BOPO* ratio does not have a positive effect on *ROA* in the 2016-2020 period in book IV banks.

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