

Analysis of the Influence of Fundamental Factors on Profitability in the Banking Sub-Sector on the Indonesia Stock Exchange (IDX) for the Period 2015-2019

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Abstract:- This study aims to examine and analyze the effect of Capital Adequacy Ratio (CAR), and Loan Deposit Ratio (LDR), and Operational Costs and Operational Income (BOPO) to Return on Assets (ROA) on sub sector of bank listed in the IDX for the period 2015- 2019. Research data is secondary data for the 5 year observation period. The sampling method used was purposive sampling method, where all of the general banks listed in IDX and reported their financial statements in a row during the study period. The analytical method used in this study is the Random Effect Model panel data regression. Independent variables are simultaneously affects the dependent variable ROA by 99.65%, while 0.35% is affected by other factors out of the model. The results showed that CAR and BOPO determine a significant negative on ROA, while LDR didn't determined on ROA. Released for investors and companies to consider financial ratios, especially CAR, LDR, and BOPO, On the next researchers for adding other fundamental factors to delve deeper into the possibility of determine on profitability.

Keywords:- Profitability, ROA, CAR, LDR, BOPO

I. INTRODUCTION

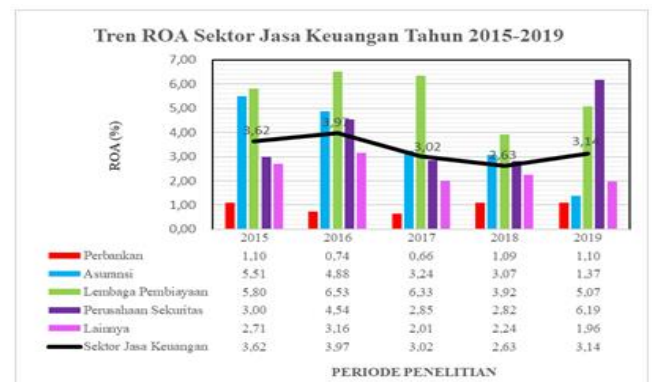
Economic progress in Indonesia is inseparable from the role of the banking industry. Bank is an institution that serves to facilitate payment traffic by based on the functions of other banks where the bank is a public trust institution.

The banking industry is an industry that plays an important role for the economic development of a country. The definition of Bank according to the Law of the Republic of Indonesia number 7 of 1992 concerning Banking is a business entity that collects funds from the public in the form of deposits and distributes them to the public in the form of credit and or other forms in order to improve the standard of living of the people.

Bank Indonesia Regulation Number 6/10/PBI/2004 includes an assessment of the following factors:

- Desecration (*Capital*)
- Asset Quality*
- Management(*Management*)
- Rentability (*Earning*)
- Liquidity
- Sensitivity to *market risk*

This research will illustrate how the value of ROA ratio in each sub-sector in the banking sector



Graph 1: ROA Trend of Financial Service Sector in 2015-2019

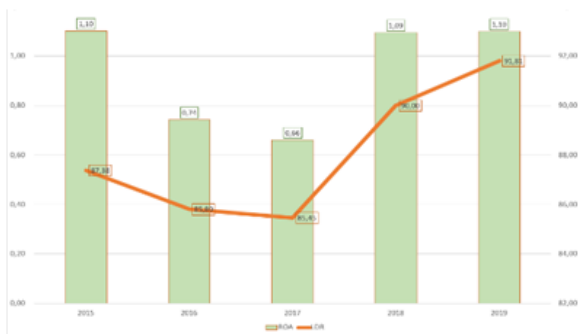
The ROA ratio in the banking sub-sector is very low compared to other sectors. The ROA ratio in the banking sub-sector also decreased relatively since 2015 by 1.1% to 0.74% in 2016 then again decreased in 2017 by 0.66%. ROA values began to increase again in 2018 and 2019 by 1.09% and 1.10% respectively.

The ROA value of the banking sub-sector has decreased since 2015, which is due to the rupiah weakening since 2015. ROA value was corrected for the establishment of impairment loss reserves (CKPN). Thereduction in ROA value occurs because banks are more careful in conducting business, among others by forming more reserves of financial impairment losses (CKPN) in line with the increasing ratio of non-performing loans. This condition can be proven where the average ROA value of industry in the financial sector in 2015 - 2019 is consecutively 3.62%, 3.97%, 3.02%, 2.63%, and 3.14%.



Graph 2 : ROA and CAR Trends in Banking Sub Sector 2015 -2019

Based on graph 2, ROA ratio in the banking sub-sector has decreased since 2015 by 1.1% to 0.74% in 2016 then again decreased in 2017 by 0.66%. ROA values began to increase again in 2018 and 2019 by 1.09% and 1.10% respectively. Furthermore, it can be seen in the same chart since 2015-2018 the value of CAR ratio continues to increase with a ratio of 19.05%, 21.33%, 22.16%, and 22.5%, then decreased in 2019 to 21.70%. The trend data in 2015 shows that the average VALUE of CAR ratio in the banking sub-sector of 19.05% can record a ROA ratio of 1.10% the same as in 2019 with a CAR ratio of 21.70%. Meanwhile, in 2016 and 2017, the average value of CAR ratio increased by 21.33% and 22.16 but the ratio of unblemished ROA decreased from 1.10% in 2015 to 0.74% in 2016 and 0.66% in 2017.



Graph 3 : ROA and LDR Trends of Banking Sub-Sector 2015 -2019

Based on the graph 3, the ROA ratio in the banking sub-sector has decreased since 2015 by 1.1% to 0.74% in 2016 then again decreased in 2017 by 0.66%. ROA values began to increase again in 2018 and 2019 by 1.09% and 1.10% respectively. In the trend data for the period 2015-2019, the average LDR ratio in the banking sub-sector was 87.58%, 85.80%, 85.45%, 90.00%, and 91.81%, respectively. The chart looks in accordance with the ROA trend where the LDR ratio decreased in 2015-2017 as happened in the ROA ratio. Furthermore, there was an increase in the LDR ratio in 2018 to 2019, which also occurred in the ROA ratio.



Graph 4 : ROA and BOPO Trends of Banking Sub-Sector Years 2015 -2019

The BOPO ratio in the banking sub-sector has increased relatively since 2015 – 2017 with consecutive values of 90.02%, 94.07%, and 93.95%, as opposed to the average ROA ratio data that has continued to decline since 2015-2017 with consecutive values of 1.10%, 0.74%, and 0.66%. In the trend data for 2018 to 2019, the average BOPO ratio decreased by 88.99% in 2018 and 89.86% in 2019, while the trend of ROA ratio increased in 2018 to 2019 with a value of 1.09 in 2018 and 1.10 in 2019. Seen from the data and graphs of the increase or decrease in the average value of BOPO ratio in the banking sub-sector in the period 2015-2019 as opposed to the condition of the data and the average graph of ROA ratio value. When the BOPO ratio value increases, there is a decrease in the ROA ratio value and vice versa when there is a decrease in the BOPO ratio value, there is an increase in the ROA ratio value.

II. LITERATURE

A. Risk Based Bank Rating

Based on Financial Services Authority Regulation No. 4/POJK.03/2016 concerning Assessment of Public Bank Health Level, The bank's individual health rate assessment mechanism using the Risk Based Bank Rating (RBBR) Approach includes an assessment of the following factors:

- a. Risk Profile;
- b. Good Corporate Governance (GCG);
- c. Rentability (Earnings); and
- d. Capital.

Assessment of risk profile is an inherent risk assessment and quality of risk management implementation in the Bank's operations that must be carried out against 8 (eight) risks, namely credit risk, market risk, liquidity risk, operational risk, hokum risk, strategic risk, compliance risk, and reputational risk. GCG assessment at the bank is an assessment of the Bank's management on the implementation of GCG principles. Assessment of rentability factors includes assessment of rentability (earnings), sources of rentability (earnings), and sustainability of rentability (earnings sustainability) of the Bank.

Assessment of capital factors includes an assessment of the level of capital adequacy and capital management.

The Bank's Health Rate Composite Rating is determined based on a comprehensive and structured analysis of the rating of each risk profile factor taking into account the materiality and significance of each factor.

B. Signalling Theory

Signaling Theory arises due to the asymmetry of information. The concept was first developed by Akerl of (1970). This signal theory will provide information about the company's internal factors such as funding structure, profitability, company size and sales growth that cause changes to a company's share price on the stock exchange, so that the value of a company gives a positive signal for investors to be more interested in investing.

C. Profitability Ratio

According to Sartono (2009:122) profitability is the company's ability to earn profit in relation to sales, total assets, as well as its own capital. The profitability of a company will affect investors' policy on investments made. Profitability of the company is one of the basic assessment of the condition of a company, for that it requires an analysis tool to be able to assess it. The analysis tool in question is the financial ratios of Return on Assets (ROA) and Return on Equity (ROE).

Return On Assets (ROA) Return on Assets or often abbreviated as ROA is a ratio that measures how efficiently a company manages its assets to generate profit over a period of time. According to Cashmere (2008, p. 201) ROA is a ratio that shows the return on the amount of assets used in the company.

According to Lukman Syamsuddin (2009, p. 63) ROA can be calculated by the following formula:

$$ROA = \frac{\text{Net Income}}{\text{Total Assets}} \times 100\%$$

How much return on investment is generated by the company by comparing operating profit with total assets or operating assets. Therefore, the greater the ratio the better because it means the greater the company's ability to generate profit.

D. Financial Constellation

According to Cashmere (2014:93), financial ratio is the activity of comparing the figures in financial statements by dividing one number from another.

According to Harahap (2007:297), financial ratio is a figure obtained from the value of the comparison of one financial report post with another that has a relevant and significant relationship.

The financial ratio is obtained by connecting two or more financial data. The data is taken from the figures on the balance sheet and profit and loss statements.

E. Capital Adequacy Ratio (CAR)

CAR is a financial ratio that aims to measure the adequacy of capital owned by a bank that is useful to bear all risks from lending (Puspitasari, 2009).

Furthermore, it is explained that this ratio is the performance ratio of banks to measure the adequacy of capital owned by banks to support assets containing or generating risk, such as credit provided.

Banking Management by Kuncoro and Suharjono (2002:112) that semakin large *Capital Adequacy Ratio* (CAR) then the bank's profit is also greater, the higher CAR the better the condition of the bank. Yang means CAR has a positive effect with ROA, the smaller CAR, the smaller the ROA obtained by the bank, and vice versa the bigger CAR, the bigger the ROA obtained by the bank.

$$CAR = \frac{\text{Total Capital}}{\text{ATMR}} \times 100\%$$

F. Loan to Deposit Ratio (LDR)

According to Dendawijaya (2005), loan to deposit ratio is the ratio between the amount of all loan volume disbursed by banks and the amount of funds received from various sources.

The increasing LDR indicates that there is a large investment of funds from third parties into the form of credit (Adriyanti, 2011). Most banking practitioners agree that the safe tolerance limit of a bank's LDR ranges from 85%-100%.

$$LDR = \frac{\text{Total Credits Non – Bank Third Parties}}{\text{Total Third Party Funds}} \times 100\%$$

G. Operational Costs and Operational Income (BOPO)

Considering that the bank's main activity is in principle to act as an intermediary, namely collecting and disbursing public funds, the bank's costs and operating income are dominated by interest costs and interest yields.

According to BI Circular Letter No. 3/30DPNP dated December 14, 2001, BOPO is measured by comparison between operating costs and operating income.

Based on Bank Indonesia regulation, the normal BOPO amount ranges from 94-96 (Dendawijaya, 2003).

$$BOPO = \frac{\text{Operating Cost}}{\text{Operating Income}} \times 100\%$$

III. RESEARCH METHODS

This research was conducted in finance companies that go *public* and are listed on the Indonesia Stock Exchange (IDX) with an observation period of 2015 to 2019 using causal associative research methods, which were studied is the influence of Fundamental Factors as independent variables. Data collection methods performed by Library

Research, by studying and studying various literatures needed and can be used to support theories

Data Analysis Method conducted in this research is with Descriptive Statistical Analysis, Data Feasibility Test, Data Regression Analysis Panel, *Common Effect Model*, *Fixed Effect Model*, *Random Effect Model*, Selection of Data Panel Regression Equation Model, and Data Regression Model Accuracy Test Panel

a. Population and Research Samples

This research took all banking sub-sector companies listed on the Indonesia Stock Exchange (IDX) in the period 2015 to 2019 which amounted to 42 banks as a research population. From the existing population, samples are sampled with purposive sampling techniques

The sample criteria in this study are as follows:

- 1) Issuers listed on the Indonesia Stock Exchange accessed through www.idx.co.id
- 2) The financial report data needed in the research are ROA, CAR, LDR, and BOPO.

Issuers are commercial banks that have conducted Initial Public Offering (IPO) before 2015 and listed financial statements for 5 years during the research period at the Indonesia Stock Exchange.

Based on the above criteria, a research sample of 37 companies in the banking sub-sector was obtained

b. Conceptual Framework

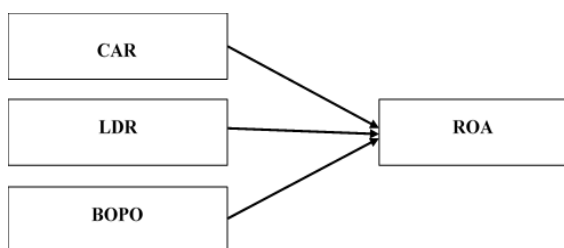


Figure 1 : Conceptual Framework

c. Hypothesis

- H1 : CAR is suspected to have a positive effect on ROA.
- H2 : LDR is suspected to have a positive effect on ROA.
- H3 : BOPO is suspected to have a negative effect ROA.

IV. RESEARCH AND DISCUSSION RESULTS

The results of this study consisted of descriptive analysis results and multiple linear regression analysis results. In the descriptive analysis results section will be presented about the values of research variables during the observation period, while the results of multiple linear regression analysis will be used to test the influence of CAR, LDR and BOPO on the profitability of the company (ROA).

1) Descriptive Analysis

a) Capital Adequacy Ratio (CAR)

Years	N	Mean	stdev	Min	Max
2015	36	19.05	4.36	11.15	30.50
2016	36	21.33	5.19	11.62	35.12
2017	36	22.16	9.79	10.52	66.43
2018	36	22.50	7.83	13.41	55.03
2019	36	21.70	8.47	12,59	45.85

Table 1 : Capital Adequacy Ratio (CAR) Results

Based on the results of descriptive analysis of CAR variable value, the analysis shows that the mean value of CAR variable during 2015 – 2019 increased from 19.05 to 21.7. With the lowest mean value in 2015. During this observation period, the company that has the lowest CAR value is BBKP, while the company with the highest CAR value is DNAR company.

b) Loan to Deposit Ratio (LDR)

Years	N	Mean	stdev	Min	Max
2015	36	87.38	10.84	55.78	112.54
2016	36	85.80	11.52	53.02	110.45
2017	36	85.45	13.55	50.61	115.57
2018	36	90.00	15.28	51.96	145.26
2019	36	91.81	20.24	48.77	163.10

Table 2 : Loan to Deposit Ratio (LDR) Results

The results of the analysis shows that the mean value of LDR variables during 2015 - 2019 increased from 87.38 to 91.81, during the observation period the average LDR value of the sample company had fluctuation, during the observation period the lowest mean value in 2017 was 85.45 and the highest was in 2019 at 91.81. The LDR value of the sample company has the lowest value of 51.96 and the highest of the 145.26 companies that have the lowest LDR value is BACA, while the company with the highest LDR value is the SDRA company.

c) Operational Costs and Operational Income (BOPO)

Years	N	Mean	stdev	Min	Max
2015	36	90.02	14.75	63.20	143.68
2016	36	94.07	29.66	60.40	235.20
2017	36	93.95	30.18	58.60	217.40
2018	36	88.99	17.55	58.20	151.19
2019	36	89.86	13.47	59.10	119.43

Table 3 : Operational Costs and Operational Income (BOPO)Results

The results of descriptive analysis of BOPO variable values in the analysis table showed that the mean value of BOPO variables during 2015 – 2019 decreased from 90.02 to 89.86, during the observation period the average value of BOPO sample companies had fluctuation, during the observation period the lowest mean value in 2018 was 88.99

and the highest was in 2016 of 94.07. Sample companies had the lowest score of 63.20 and the highest at 143.58 with an average (mean) of 90.02 and a standard deviation of 14.75. The company that has the lowest BOPO value is BBKA while the company with the highest BOPO value is BCIC corporation.

d) Profitability (ROA)

Years	N	Mean	stdev	Min	Max
2015	36	1.10	1.71	-5.37	4.19
2016	36	0.74	2.81	-11.15	4.00
2017	36	0.66	2.88	-10.77	3.90
2018	36	1.09	1.80	-5.06	4.00
2019	36	1.10	1.80	-1.87	4.00

Table 4 : Result profitability (ROA)

The results of the analysis showed that the mean value of ROA variables during 2015 – 2019, since 2015 the mean ROA value of 1.10% tends to decrease and return to the position of 1.10% in 2019. Sample companies have the lowest value of -5.37 and the highest of 4.19 with an average (mean) of 1.10 and a standard deviation of 1.71. , the company that has the lowest ROA value is BCIC,

2) Panel Regression Analysis

a. Chow Test

The test is done by looking at the probability value of cross section F of the test result, if the probability value > 0.05 then Ho is accepted and it is concluded that the PLS model is the best, whereas if the probability value < 0.05 then Ho is rejected and it is concluded that the FE model is the best.

Redundant Fixed Effects Tests

Equation: Untitled

Test cross-section fixed effects

Effects Test	Statistics	D.f.	Prob.
Cross-section F	1.367324	(3,94)	0.2576
Cross-section Chi-square	4.313982	3	0.2295

Table 5 : Chow test results

The probability value of chow test results is 0.2576. Because the probability value obtained > 0.05 is concluded that the best regression model is the Common Effect (CE) model.

b. Hausman Test

Correlated Random Effects - Hausman Test

Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	4.10197	3	0.2507

Table 6 : Hausman Test Results

Hausman test result in table 4.6, obtained the probability value of Hausman test result of 0.2507. Because the probability obtained > 0.05 then concluded Ho received so that among the fixed effect regression models and Random Effect, selected the best Random Effect regression model. If in determining the model of chow test results and Hausman test has not produced a consistent conclusion or not selected Fixed Effect model then it is necessary to do the next test lagrange multiplier (LM) to obtain the best modeling between random effect model or Common Effect model.

c. Lagrange Multiplier Test (LM)

Lagrange Multiplier Tests for Random Effects

Null hypotheses: No effects

Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	0.000404	10.5708	10.57120
	(0.9840)	(0.0011)	(0.0011)
Honda	0.0200923	23.2512772	23.284793
	(0.5080)	(0.0006)	(0.0112)
King-Wu	0.0200923	23.2512770	23.956778
	(0.5080)	(0.0006)	(0.1693)
Standardized Honda	0.3590103	103.666959	-1.711607
	(0.3598)	(0.0001)	(0.9565)
Standardized King-Wu	0.3590103	103.666959	-1.594357
	(0.3598)	(0.0001)	(0.9446)
Gourieroux, et al.*	--	--	10.57080
			(0.0018)

Table 7 : LM Test Results

LM Test results result in a probability on both section have value 0.0011, because the value of significance obtained <0.05 then Ho is accepted and concluded that between Common Effect and Random Effect, it is obtained Random Effect is the best. The results of the selection of panel regression models show that the Random Effect (RE) model is the best model Approach For this regression model. Because of the Random effect, the classic assumption test does not need to be done in this study.

3) Panel Regression Model Estimation Results

a. Partial Effect Test (t Test)

Dependent Variable: ROA
 Method: Panel EGLS (Cross-section random effects)
 Date: 01/11/21 Time: 03:30
 Sample: 1 101
 Periods included: 32
 Cross-sections included: 4
 Total panel (unbalanced) observations: 101
 Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LDR	-0.000473	0.000756	-0.626437	0.5325
CAR	-0.003144	0.001374	-2.288649	0.0243
BOPO	-0.093346	0.000567	-164.5696	0.0000
C	9.497780	0.101395	93.67134	0.0000

Effects Specification		S.D.	Rho
Cross-section random		0.000000	0.0000
Idiosyncratic random		0.111464	1.0000

Weighted Statistics			
R-squared	0.996600	Mean dependent var	0.892664
Adjusted R-squared	0.996495	S.D. dependent var	1.893360
S.E. of regression	0.112095	Sum squared resid	1.218839
F-statistic	9477.447	Durbin-Watson stat	1.628916
Prob(F-statistic)	0.000000		

Unweighted Statistics			
R-squared	0.996600	Mean dependent var	0.892664
Sum squared resid	1.218839	Durbin-Watson stat	1.628916

Table 8 : Partial Effect Test (t Test)

- The probability value of CAR's effect on profitability (ROA) is 0.0243 with a regression coefficient marked negatively, due to the probability value < 0.05 and the negative regression coefficient Ho is rejected and it is concluded that the Capital Adequacy Ratio (CAR) has a negative and significant effect on profitability (ROA).
- The probability value of LDR's effect on profitability (ROA) is 0.5325, therefore the probability value > 0.05 and the positive regression coefficient ho are rejected and it is concluded that the Loan to Deposit Ratio (LDR) has no significant effect on profitability (ROA).
- The probability value of BOPO's effect on profitability (ROA) is 0.0000 with a regression coefficient marked negative, because the probability value < 0.05 and the negative regression coefficient ho are rejected and it is concluded that Operating Costs and Operasional Income (BOPO) negative and significant effect profitability (ROA).

b. Simultaneous Effect Test (F Test)

Weighted Statistics			
R-squared	0.996600	Mean dependent var	0.892664
Adjusted R-squared	0.996495	S.D. dependent var	1.893360
S.E. of regression	0.112095	Sum squared resid	1.218839
F-statistic	9477.447	Durbin-Watson stat	1.628916
Prob(F-statistic)	0.000000		

Table 9 : Hails Simultaneous Influence Test (Test F)

It can be seen that the probability value of the result of the F test obtained is 0.000000. Because of the probability value obtained < 0.05 then Ho is rejected and it is concluded that CAR, LDR and BOPO simultaneously affect the company's profitability (ROA).

c. Coefficient of Determination (R2)

The result of solid regression analysis of table 11 above shows that the adjusted value of R Squared model obtained is 0.9966 and adjusted R square is 0.9965, this indicates that the amount of contribution given by CAR, LDR and BOPO variables to the company's profitability (ROA) is 99.65%, while the remaining 0.35% of ROA variance is influenced by other factors outside car, LDR and BOPO.

V. DISCUSSION OF RESEARCH RESULTS

➤ The Effect of CAR on Profitability (ROA)

The results of this study show that CAR negative affects profitability (ROA) in the banking sub-sector listed on the Indonesia Stock Exchange for the period 2015 - 2019. Described by Gary C. Zimmerman (2000) Capital (capital) is one of the variables that can be used as a basis for measuring the bank's performance, which is reflected in camel rating components (Capital, Asset, Management, Earning, Liquidity). Therefore, the amount of capital of a bank will affect the amount of productive assets, so the higher the asset utilization, the capital must increase. So it can be concluded that the greater the Capital Adequacy Ratio (CAR), the return on assets (ROA) will also be greater, in this case the banking performance becomes increasing or improving. It is also written in the book Banking Management by Kuncoro and Suharjono (2002:112) that the greater the Capital Adequacy Ratio (CAR) the greater the bank's profit, the higher the CAR, the better the bank's condition. In other words, the smaller the risk of a bank, the greater the profit earned by the bank, which means that CAR has a positive effect with ROA, the smaller the CAR, the smaller the ROA obtained by the bank, and vice versa the greater the CAR, the greater the ROA obtained by the bank. Based on the operational definition of CAR is the ratio of total capital to weighted assets according to risk.

The results of this study are not in line with previous theories and hypothesis 1 which states that CAR has a positive effect on ROA. Based on the results of the research, CAR is relatively influenced by Risk-Weighted Assets (RWA) as a numerator in operational definitions. High

profitability results from a high amount of lending where credit is an asset in a bank that has a high risk will directly increase the value of RWA. Thus, it can be concluded that the low value of CAR banking sub-sector will increase profitability (ROA) for high lending. But on the contrary, the increase in the value of CAR may reflect the less effective banks in lending or capital placed on low-risk investment instruments with low returns so as to lower the value of profitability (ROA). The increase in the value of CAR can also be recorded due to capital deposits made by shareholders in the minimum capital fund. Capital deposit must be made by shareholders when there is an increase in bad loans or Non Performing Loans (NPL), of course it will decrease the value of ROA. Based on PSAK 71, banks are also required to establish a Devalued Liquidity Reserve (CKPN) to support any credit activities conducted in an effort to maintain liquidity if the distribution is high NPL so as to lower the ROA. The increase in the value of CAR can also occur in the acquisition process or merger of a company, where in an effort to heal or expand a company, so that this increase in CAR does not necessarily increase the value of ROA. There is a discrepancy in the results of this study with previous theories regarding the influence of CAR on ROA but in line with the operational definition of CAR, forming a new gap phenomenon for further research. The results of this study are supported by the results of research conducted by Widowati, Suryono (2015); Pratiwi, Wiagustini (2015); Syria (2015); Fajri, Seftarita (2018), and Nshimiyyi et al (2017) with the results of the study stated that CAR negatively affects ROA.

➤ *The Effect of LDR on Profitability (ROA)*

The results of this study show that LDR has no effect on profitability (ROA) in the banking sub-sector listed on the Indonesia Stock Exchange for the period 2015 - 2019. Based on the theory of LDR's influence on ROA states the high value of this ratio indicates that a bank lends all its funds (loan up) or relatively illiquid (illiquid). No different from the one described by Dendawijaya (2005), the higher the LDR ratio, giving an indication of the lower liquidity capability of the bank concerned. This is because the amount of funds needed to finance the credit becomes larger. The increased LDR indicates that there is a large investment of funds from third parties into the form of credit (Adriyanti, 2011). Based on the operational definition of LDR is the ratio of total credit to non-bank third parties versus total third party funds.

The results of this study are not in line with hypothesis 2 which states that LDR has a positive effect on ROA. Based on the results of the study showed that the high low LDR of the company has no effect on profitability. The high LDR value in a banking company indicates that the function of intermediation that runs well is that the bank is able to channel credit to the public greater than the funds raised. This condition can also pose liquidity risks as a result of the withdrawal of public funds. On the other hand, the low LDR value of a banking company describes the intermediation function of a bank does not run optimally because the bank is not able to channel credit optimally from the total funds raised.

The high low LDR value cannot be used as a benchmark for the success of management in obtaining profitability but describe the bank's ability to perform the bank's intermediation function in carrying out its functions. The above conditions need to be a concern, especially in terms of quality in lending, because poor credit quality will increase the risk of bad loans or Non Performing Loans (NPL).

Furthermore, the highest LDR value is recorded by foreign banks due to capital deposits made by shareholders in their operations. Capital deposits are made because foreign banks are relatively more difficult to obtain funding from third parties (DPK). The increase in NPL can also affect the rise or fall in the company's revenue even if the company records a high LDR value. The company's efficiency factor also needs to be a concern because it can increase or decrease the company's revenue amid high and expansive LDR performance in lending.

The increase in LDR from lending activities is also influenced by the benchmark interest rate issued by Bank Indonesia, the smaller the benchmark interest rate, the more people are able to reach the loans channeled by banks. This will potentially increase the LDR value and maintain npl for affordable lending and lower the RWA value of the credit so that it will affect good capital adequacy. On the other hand, low LDR can be caused by high interest rates so that deposit increases but banks are unable to channel them optimally. Continued with the bank's margin on high interest rates so that banks need to disburse loans with high interest rates as well, this will result in a weak lending process and potentially increase NPL. NPL in bank companies will increase operating costs which certainly reduces the company's profit. The movement of data or LDR ratios that are very volatile in each banking company in each year of research is also another factor in the results of this study, where the number of foreign banks in this study which is certainly in the bank's operations is more difficult to obtain a source of funding to be channeled into credit

The results of this study are supported by the results of previous research that stated that LDR has no effect on ROA that has been studied by Widowati, Suryono (2015), Sudiyatno, Suroso (2010); Wijaya, Sihombing (2014); Yudiartini, Dharmadiaksa (2016) and Pinasti, Mustikawati (2018).

➤ *The Effect of BOPO on Profitability (ROA)*

The results of the analysis in this study show that BOPO negative affects profitability (ROA) in the banking sub-sectors listed on the Indonesia Stock Exchange for the period 2015 - 2019. Based on the theory of BOPO influence on ROA, that BOPO is used to measure the level of efficiency and ability of banks in conducting their operations. Considering the bank's main activity in principle is to act as an intermediary, namely collecting and disbursing public funds, the bank's costs and operating income are dominated by interest costs and interest proceeds (Dendawijaya, 2003). Any increase in operating costs will result in reduced pre-tax profits which will ultimately

decrease the ROA. Thus it can be formulated that BOPO is suspected to have a negative effect on ROA. Based on the operational definition of BOPO is the ratio of operating costs to operating income.

The results of this study are in line with previous theories and hypothesis 3 which states that BOPO negatively affects ROA. Based on the results of the study shows that the lower the BOPO value, the higher the profitability (ROA). The low BOPO value represents the better the level of efficiency and capability of the bank in carrying out its operational activities, so that the costs incurred are relatively low and will affect the increase in profitability of the bank. But on the contrary, the increase in operating costs will result in reduced pre-tax profits which will ultimately affect the decline in the bank's profitability. So it can be concluded that the low BOPO value is very good to improve profitability and describe the level of efficiency and ability of the bank in conducting its operational activities. In addition to the high salaries of directors, npl factors in bank companies will be a big burden, which will increase the BOPO ratio which will certainly reduce the company's revenue. The Bank is expected to maintain and reduce the NPL ratio to the lowest value by maintaining the quality of credit disbursements. A low NPL value can lower the BOPO value in an effort to increase profits.

The results of this study are supported by the results of pratiwi research, Wiagustini (2015); Pinasti, Mustikawati (2018); Buchory (2015); Yusuf, Surajaatmaja (2018); and Rizkika et al (2017) with the results of research stating that BOPO negatively affects ROA.

VI. CONCLUSIONS AND RECOMMENDATIONS

a. Conclusion

The conclusions obtained from the results of this study are as follows:

1. Capital Adequacy Ratio (CAR) has a negative and significant effect on profitability (ROA) in the banking sub-sectors listed on the Indonesia Stock Exchange for the period 2015 - 2019.
2. Loan to Deposit Ratio (LDR) has no significant effect on profitability (ROA) in the banking sub-sector, which is listed on the Indonesia Stock Exchange for the period 2015 - 2019.
3. Operating Costs and Operating Income (BOPO) negative and significant effect profitability (ROA) in the banking sub-sector, which is listed on the Indonesia Stock Exchange for the period 2015 - 2019.

b. Recommendations

Here are some recommendations:

1. Capital Adequacy Ratio (CAR)

a. The Bank shall pay attention to the capital adequacy ratio of the Bank's activities, as well as meet the minimum limit of the capital adequacy ratio as stipulated by ojk minimum of 8% (POJK No 11/POJK.03/2016) so that credit disbursement can be carried out optimally and avoid liquidity risk. The Bank is required to establish a good

CKPN as stipulated in PSAK 71 as a buffer for lending activities to mitigate the occurrence of NPL. Furthermore, banks need to maintain the value of NPL by strengthening the analysis of prospective debtors and the market in the process of lending.

b. Investors need to pay attention to the capital adequacy ratio of bank companies in determining investments, of course by choosing to invest in companies that have good capital adequacy and relatively low NPL, which describes the health of the bank so that it can invest safely.

c. OJK as an authority is expected to be able to regulate and supervise so that banking companies can maintain the value of CAR and NPL ratios in every business activity of the bank has a strong capital to continue to grow healthily and increase public confidence.

2. Loan to Deposit Ratio (LDR)

a. The Bank must pay attention to and maintain the intermediation function in carrying out the Bank's activities by trying to balance the optimization of credit distribution and liquidity risk for such activities. All banks, especially foreign banks, are expected to increase competitiveness in the community in order to increase the deposit collected, one of which is by improving services and innovating new products according to the needs of the community. Furthermore, it will be very attractive to the public if the bank is able to reduce the bank's interest margin from the benchmark interest rate issued by Bank Indonesia to improve the amount and quality of credit.

b. Investors need to pay attention to the liquidity ratio and intermediation function of the bank drawn from the LDR value in determining the investment placement. LDR value that is not too high or low, or regulated by OJK is at the threshold of 78%-94% to be the best choice in investment placement.

c. OJK mentions the upper limit of safe LDR is 92% with the lower limit is 78%. (PBI No.17/11/PBI/2015) has been very good at regulating the range / limit of LDR value of a bank, but it is necessary to increase supervision over the application of the rule, considering the value of LDR in some banks is still less or far exceed the established rules. Bank Indonesia is expected to reduce its benchmark interest rate to an optimal and safe low so that lending can be more widely reached by the public in improving the economy in Indonesia.

3. Operating Costs and Operating Income (BOPO)

a. The Bank should be more efficient in carrying out operational activities, where the largest cost value in the bank's operating costs is the salary of the board of directors as well as the increase in NPL. Good effectiveness and efficiency can lower operational costs and improve profitability ratios.

b. Investors need to pay attention to the bank's effectiveness ratio in operating before making investments. Surely banks with low BOPO and NPL will be more efficient, prudent and generate high profitability.

c. OJK as an authority is expected to be able to regulate and supervise the effectiveness of banking management in carrying out bank operations as well as supervision over

lending conducted by banks, so as not to be exposed to NPL that can be a burden on the Bank.

c. Further Research Advice

1. Further research can be improved by adding internal fundamental variables such as NPL, ROE, or NIM or external such as SBI, Exchange Rate, or Inflation as research variables so as to produce new thoughts or insights in the discipline of financial management that is more comprehensive. Furthermore, further research is expected to dig deeper into the phenomenon of misalignment of the results of this study with previous theories related to the influence of CAR on ROA but in line with the operational definition of CAR.

2. The next research period can be enlarged not only limited to 5 years of research on the banking sub-sector against each variable studied, so that the sample data used more where it is very good in reducing the chances of errors and getting results that are close to the actual conditions.

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