

Research.

## THE IMPACT OF THE FINANCIAL RATIOS AS THE MEASUREMENT UPON THE PERFORMANCE OF RETURN ON ASSETS AT THE PUBLIC BANKS IN INDONESIA (The Empiric Study upon The Banking Companies Registered at BEI in 2012-2015)

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**Abstract.** *This research is an empiric study about The Impact of The Financial Ratios as The Measurement upon The Performance of Return on Assets of Public Banks In Indonesia (The Empiric Study upon The Banking Companies Registered at BEI in 2012-2015), sampling technique being used is purposive sampling which is the total samples of 30 companies. The aims of this study is to prove that the impact of financial ratios refers to Capital Adequacy Ratio (CAR), Operational Cost comparing to the Operational Revenue (BOPO), Net Interest Margin (NIM), Non Performing Loan (NPL) neto and Loan to Deposit Ratio (LDR) against the banks performance measured by Return On Asset (ROA) and which variable has been affecting the most dominant upon Return On Assets (ROA). The analysis technique being applied is multiple linear regression and the hypothesis test using t-statistics to examine a partial regression coefficient and f-statistics to examine the compliance of the research model refers to the level of significance 5%. Furthermore, the research has applied the classical assumption test covering normality test, multicollinierity test, heteroxedasity test and auto-correlation test.*

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**Keywords :** Capital Adequacy Ratio (CAR), the Operational cost comparing to the operational revenue (BOPO), Net Interest Margin (NIM), Non Performing Loan (NPL) Neto, Loan to Deposit Ratio (LDR), Return On Asset (ROA).

### INTRODUCTION

#### Background of The Research

The rapid, competitive and huge complexity development of banking in Indonesia has been affecting the performance of the banks. The problem of banking companies in Indonesia are due to rupiah depreciation, and the increasing of Bank Indonesia Certificates interest (SBI) has been creating the increasing of the credit problems. Bank can not deal with the possible risks appeared due to the weakness of the internal condition of a bank and the inappropriate of the management reflecting to the decreasing of the bank performance.

A decreasing of a bank performance could reflect to the decreasing of people trustworthy obviously. The determination of a bank in PSAK 31 which is a bank is an industry relying to the people trustworthy that should have to be taken care properly. The information about bank financial report is an effort to help business people to evaluate the financial condition and performance of the bank. Financial report issued by a bank is a crucial information which is the financial condition and performance of the bank as well as the financial changes occurred. Therefore, the finance report of the bank can be used as a measurement to analyse it.

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The analysis of the financial performance of the bank can be started up by reviewing, calculating, comparing, measuring and interpreting the data of the report. The calculation to analyze the financial performance of the bank has been applying the analysis technique refers to ratio analysis technique. Ratio analysis is an analysis being used to identify the connection of the existing posts within the financial report or the posts either in the balance sheet or in the profit and lost statement. (Kasmir, 2012:72)

This research has been applying the measurement of the financial ratios which is Capital Adequacy Ratio (CAR), Operational cost comparing to the operational revenue (BOPO), Net interest margin (NIM), Non Performing Loan (NPL) Neto, Loan to Deposit Ratio (LDR), Return On Assets (ROA). The first reason why the researcher has picked the financial ratio because it is easy to study by looking at the development of the financial condition of the bank at regular intervals. The second one is that the financial ratio is a simple replacement of the information of the financial report offered. The third one is dependent variable which is Return On Assets (ROA) to measure the company effectiveness level to obtain the profit utilizing the assets. This research aims to describe the financial performance of a bank based on the result.

### **Problems Formulation of the Research**

Based on the previous research, some variables have been affecting the banking performance refers to the research of Agus Suyono (2005), Basran Desfiani (2005) and Ponttie Prasnanugraha (2007). Therefore the aforementioned variables should have to be reexamined, and the problems that will be studied are as follows:

1. Have the financial ratios, CAR, BOPO, NIM, NPL and LDR been affecting the performance of a bank measured by ROA?
2. Which are the most dominant variables affecting the performance of a bank measured by ROA?

### **The Obejctives and Benefits of the Research**

#### **The objectives of the Research**

1. To study the huge effects of the financial ratios of CAR, BOPO, NIM, NPL and LDR affecting the performance of a bank measured by ROA.
2. To study the most dominant variables affecting the performance of a bank measured by ROA.

#### **The Benefits of the Research.**

Based on the background, problems formulation and the objectives of the research, it is expected that this research could be able to provide the following benefits:

1. The Theoretical Benefit

The result of this research is expected to be applied as an input or additional knowledge and an empirical evident about the effects of financial ratios which is the measurement upon the performance of ROA of public banks in Indonesia and as an applicable reference to be applied by the next researchers who are going to do a similar or further research.

2. The Practical Benefit

Bank sectors can apply this research as a guideline to make a financial policy improving the performance of the company which is the improvement of the value of the company.

3. The Academic Benefit

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Academically this research is expected to give a literature contribution refers to the financial accountancy. Moreover, it is expected to enrich the development of banking financial science.

## LIBRARY REVIEW, RESEARCH FRAMEWORK AND HYPOTHESIS

### Library Review

#### 1. Signalling Theory

Signalling theory is based on the pragmatic accountancy theory focusing to the effects of the information upon the changing behavior of the information users. The information which can be a signal one refers to the announcement provided by an emitent. This announcement can affect the price of the shares of the emitent company itself (Suwardjono, 2005). Jama'an (2008) determined about the way how a company should have to give the signal to the users of the financial report. This signal is an information about what the management have been doing to meet the expectation of the owner of the company. This kind of signal could be a company promotion or information declaring the company is better than the others.

The quality of the investor decision has been influenced by the quality of the company information being declared within the company's financial report. The quality of this information is able to reduce the asymmetric information occurred when the manager has acknowledged the internal information and the prospect of the company better than the external parties of the company. The information about the company's bonds level that has been published is expected to be the signal of the financial condition of a certain company and it explains the possibility matter would happen related to the debts of the company.

#### 2. The Analysis of the Theory of the Financial Report.

An analysis of the bank financial report is a part of the bank analysis. This analysis is an analysis about the prospect and the risks of the company in order to make the bank decision accordingly. This analysis has been supporting the decision making of the company to execute an evaluation duly upon the environment of the bank, the strategic of the company and the financial performance of the company obviously. Some procedures should have to be performed to analyze the financial report of the bank. The procedures that should have be done according to Prastowo and Juliati (2008:58) are as follows;

- a. To understand the background of the company financial data covering the understanding about the business of the company and the accountancy policies being implemented within.
- b. To recognize the conditions that have been affecting the company. Such the conditions are covering the information about the industrial trend where the company is working on it; technology changes, customer interest changes, interest of the bank, inflation rate and taxation; and the changes happened in the company itself refers to the key management changes.
- c. To study and to review the financial report of the bank. The aims of this action is to make sure that the financial report of the bank are clear sufficiently to describe the financial date which is in compliance with the applicable Financial Accountancy Standard.
- d. To analyze the financial report of the bank after having the understanding about the company profile and to review the report accordingly, so that by applying varied methods and technique analysis, the financial report of the bank can be analyzed and interpreted refers to the related result of the analysis (if necessary a recommendation is advised).

#### 3. Return On Assets (ROA)

Return On Assets (ROA) is one of the ratio profitabilities that can measure the

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competency of a company to provide the profit refers to the assets utilization. The bank having a big total assets relatively has been performing a better performance due to a big revenue obtained as the result of the increasing of the products selling. Having been increased the total of the revenue, it has been increasing the profit of the company accordingly which is a better financial performance obviously. (Wisnu Mawardi, 2005).

4. Capital Adequacy Ratio (CAR)

The Capital Adequacy Ratio (CAR) is a significant function of the capital ratio to overcome a losses that could happened in the bank. The bigger the CAR the better performance of a bank will be to take the risks occurred refers to each productive credit/asset. When the value of CAR is big it explains that the bank is able to finance all the operational activities and to contribute significantly upon the probability itself.

5. Operational Cost comparing to the Operational Revenue (BOPO)

BOPO is a ratio between the operational cost and the operational revenue. The Operational revenue is the main income of a bank which is the revenue obtained refers to the cash related to credit and other operational income. A smaller BOPO has explained that the bank has been running the company efficiently. A good bank is when its BOPO ratio is less than 1, and a bank is in a bad condition when its BOPO ratio is more than 1 (Agus Suyono, 2005).

6. Net Interest Margin (NIM)

Net Interest Margin (NIM) "net interest margin" is a measurement about the differences between the interest of the income obtained by a bank or a financial institution and the interest value having been paid to the clients (ex, deposit money), relatively it is against the productive interest upon their assets.

7. Non Performing Loan (NPL)

NPL is a debtor or a group of debtors being classified into 3, 4, 5 category and no.5 is considered poor credit ratings. A changing of the credit classification which is from good one to NPL has happened gradually due to the process of the decreasing of the credit quality. (Z. Dunil, 2005).

8. Loan To Deposit Ratio (LDR)

Dendawijaya (2005) described that Loan to Deposit Ratio (LDR) is explaining about the ability of the bank to repay the money requested by the depositor who has been relying on the credit given as a liquidity source. Had the bank been able to distribute all the collected money it could be profitable obviously, but when the depositor had withdrawn their money or the debtor could not settle their debt, then the bank had encountered the risk. On the contrary, when the bank could not distribute the cash collected properly then, it had encountered the risk as well due to the missing the opportunity to obtain the profit which is the minimum loan given by the bank is 80% and maximum is 110%.

## RESEARCH METHODOLOGY

1. Type of the Research

This research has applied a causal research type to examine the hypothesis about the effects of 5 (five) independent variables against one dependent variable.

2. The Definition and the Operational Variable.

a. Dependent Variable.

The dependent variable is a variable being affected by the independent

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variable. The dependent variable is the value of the company. Value of the company is determined as Return on Assets.

b. Independent Variable.

A independent variable is a variable affecting a depended variable. Independent variables of this research are Capital Adequacy Ratio (CAR), Operational Cost comparing to the Operational Revenue (BOPO), Net interest Margin (NIM), Non Performing Loan (NPL) and Loan to Deposit Ratio (LDR).

3. Measuring the Variables.

Measuring variable is a definition given to the variable that could provide or specify its meaning.

4. Population and Samples of the Research

Population is a generalized area consisting of object and subject having the quality and a certain characteristic defined by the researcher to study and to make a conclusion furthermore. (Sugiyono, 2010).

5. Data Collection Method

Data collection method being used in this research is the observational method which is the data collection technique obtained by observing the aspects of the historical notes or a recent notes of the public or private company. This research has been observing and documenting and analyzing the financial report of some banks registered on the website of PT. Bursa Efek Indonesia which is www.idx.co.id. to collect the data

## THE DESCRIPTION AND THE RESULT OF THE ANALYSIS

1. Descriptive Analysis

The research has appointed some banks registered in Bursa Efek Indonesia (BEI) (Indonesia Stock Exchange) as the samples of this research. Based on the criteria of the samples and the sampling procedures, 30 companies and 120 samples have been obtained at a regular intervals.

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
	Statistic	Statistic	Statistic	Statistic	Statistic
CAR	120	.1009	.8749	.185844	.0906013
BOPO	120	.5993	1.7380	.865716	.1549703
NIM	120	.0024	.1010	.050089	.0167966
NPL	120	.0000	.0545	.013046	.0109077
LDR	120	.4346	1.1330	.820673	.1325294
ROA	120	-.0758	.0515	.014816	.0173468

- a. The average value (CAR) of 120 samples is 0.185 or 18.5% which is higher than the value of the deviation standard which is 0.09, it explains that the increasing of 1 ATMR (Considerable Assets due to a risk) of the average banking industries has increased 0.185 rupiah of the private capital.
- b. The average value (BOPO) of 120 samples is 0.865 or 85.6% which is higher than the value of the deviation standard data which is 0.154, it explains that every 1 rupiah increasing of the operational revenue upon the average banking industries has guaranteed 0.865 rupiah of the operational cost accordingly.
- c. The average value (NIM) of 120 samples is 0.05 or 0.05% which is lower than the value of the standard of the data deviation which is 0.167, it explains that each increasing of 1 productive asset at the average of banking industries is

- producing 0.05 net interest revenue.
- d. The average value (NPL neto) of 120 samples is 0.13 or 13% which is higher than the value of the standard data of deviation which is 0.109, it explains that each increasing of 1 rupiah of the credit total at the average of the banking industries has guaranteed 0.13 NPL total, credit crisis is one of the key indicators to evaluate the performance of the bank function.
  - e. The average value (LDR) of 120 samples is 0.82 or 82% which is higher than the value of the standard data of the deviation which is 0.132, it explains that every increasing of 1 rupiah of the third party cash at the average of the banking industries has increased 0.82 rupiah of the credit total.
  - f. The average value (ROA) of 120 samples is 0.014 or 1.4% which is lower than the value the standard data of the deviation which is 0.017, it explains that every increasing of 1 rupiah of the total asset at the average of the banking industries is 0.014 rupiah net profit.

2. A Clasical Assumption Test

- a. Normality test of Kolmogorov-Smirnov.

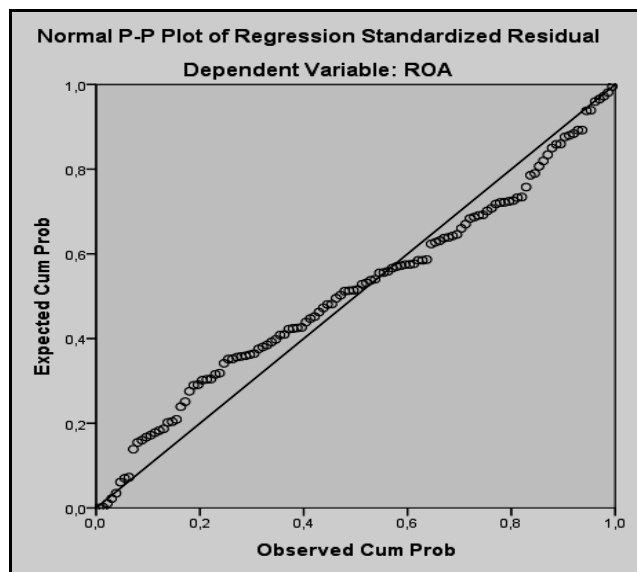
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		120
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	.00271610
	Absolute	.102
Most Extreme Differences	Positive	.086
	Negative	-.102
Kolmogorov-Smirnov Z		1.119
Asymp. Sig. (2-tailed)		.163

- a. Test distribution is Normal.
- b. Calculated from data.

The value of kolmogorov-smirnov is 1.119 and the significant value of 0.163. The aformention table has explained that the value of sig = 0.163 > 0.05, so H<sub>0</sub> is rejected, it means that the residual data has distributed normally.

- b. Normality Test Probability Plot



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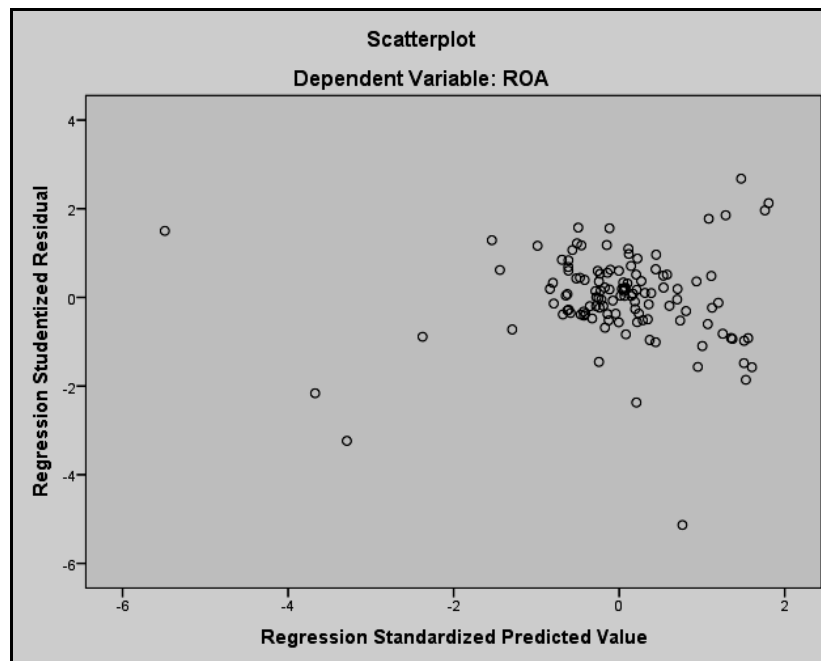
Referring to the aforementioned graph it explains that all the variable data has been distributed normally, it is because all the data has been scattering along the normality line.

c. Multicollinearity Test

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
CAR	.765	1.307
BOPO	.496	2.016
NIM	.551	1.814
NPL	.701	1.426
LDR	.721	1.388

The tolerance value of all the aforementioned variable is 0.1 and the value of all variables of the variance inflation factor (VIF) is below 10. It explains that five variables can be used to predict the Return On Assets (ROA) at a certain period of the observation.

d. Heteroxedasticity Test.



Based on the aforementioned graph, it has been recognized that the data (plots) have been scattering over and below 0 (nul) line which is it is not gathering in one place, and is not forming a certain pattern so that it can be concluded that the regression test has not created the problem of heteroxedasticity accordingly.

e. Autocorelation Test

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.988 <sup>a</sup>	.975	.974	.0027750	1.931

a. Predictors: (Constant), LDR, BOPO, CAR, NPL, NIM

b. Dependent Variable: ROA

Based on the test result of Durbin-Watson which is 1.931; but on the table of Durbin-Watson (DW) 'k' = 6 and N = 120 refers to Durbin-Watson-table; dl (outer limitation) = 1.5987 and du (inner limitation) = 1,8082; 4-du = 2.1918 and 4-dl = 2.4013. Therefore the value of Durbin-Watson (DW) = 1.931 is bigger than the limit (du) which is 1.8082 and Durbin-Watson (DW) is less than 2.1918, it can be concluded that Durbin-Watson (DW)-test can not reject the H<sub>0</sub> explaining that there is not any autocorrelation either positive or negative happened, otherwise it is concluded that there is not any autocorrelation occurred.

3. Multi Regression Analysis

a. Determinant Coefficient Test (R<sup>2</sup>)

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.988 <sup>a</sup>	.975	.974	.0027750

It means that the effect of the independent variable upon the dependent variable which is Return On Assets (ROA) is 0.974 or equal to 97.4 %. And the rest of the value which is 0.026 or 2.6% has been described by other variables which are not mentioned within this research.

b. F-test (Simultaneous effects Test)

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.035	5	.007	907.202	.000 <sup>b</sup>
	Residual	.001	114	.000		
	Total	.036	119			

a. Dependent Variable: ROA

b. Predictors: (Constant), LDR, BOPO, CAR, NPL, NIM

The result of the calculation has indicated F-calculated value is 907.202 and P value is 0.000. It explains that P value is less than 0.05 indicating the result of the test has rejected Ho and accepted H<sub>1</sub>, the result of F-test has concluded that the variables CAR, BOPO, NIM, NPL and LDR simultaneously have been affecting ROA.



c. T-test (Partial Effects Test)

Model	Coefficients <sup>a</sup>							
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics		
	B	Std. Error	Beta			Tolerance	VIF	
1	(Constant)	.103	.003		33.924	.000		
	CAR	-.003	.003	-.015	-.905	.367	.765	1.307
	BOPO	-.104	.002	-.925	-44.449	.000	.496	2.016
	NIM	.088	.020	.085	4.325	.000	.551	1.814
	NPL	-.023	.028	-.015	-.836	.405	.701	1.426
	LDR	-.002	.002	-.018	-1.062	.290	.721	1.388

a. Dependent Variable: ROA

- 1) Test result of the effects of the CAR ( $X_1$ ) upon ROA (Y)  
 The table aforementioned has indicated t-calculated is -0.905 and the significance level of 0.367. It explains that P-value is bigger than 0.05 indicating that the test result has accepted  $H_0$  and rejected  $H_1$  and has been concluded that there is not any partial effect of CAR variable occurred upon the ROA.
- 2) Test Result of the effects of BOPO ( $X_2$ ) upon the ROA (Y)  
 The table has indicated that t-calculated is -44.449 and the significance level of 0.000. It explains that P-value is less than 0.05 indicating that t-result has accepted  $H_1$  and rejected  $H_0$ , and based on the t-test result, it has concluded that there is a partial effect of BOPO variable occurred upon the ROA.
- 3) T-test of the effects of NIM ( $X_3$ ) upon the ROA (Y)  
 The table has indicated that t-calculated is 4.325 and the significance level of 0.000. It explains that t-test has accepted  $H_1$  and rejected  $H_0$ , and based on the t-test result, it has concluded that there is a partial effect of NIM variable occurred upon the ROA.
- 4) Test Result of the effects of NPL neto ( $X_4$ ) upon the ROA (Y)  
 The table has indicated that t-calculated is -0.836 and the significance level of 0.405. It explains that P value is bigger than 0.05 indicating the t-result has accepted  $H_0$  and rejected  $H_1$ , and based on the t-test result, it has concluded that there is not any partial effect of NPL neto variable occurred upon the ROA.
- 5) Test Result of the effects of LDR ( $X_5$ ) upon the ROA (Y).  
 The table has indicated that t-calculated is -1.062 and the significance level of 0.290. It explains that P value is bigger than 0.05 indicating that this test result has accepted  $H_0$  and rejected  $H_1$  and based on the t-test result, it has concluded that there is not any partial effect of LDR variable occurred upon the ROA.

## CONCLUSION AND SUGGESTIONS

### Conclusion

1. CAR has been affecting negatively the ROA, this condition has explained that the bigger CAR of the company the lower ROA of the company happened.
2. BOPO has affected negatively the ROA, this condition has explained that the bigger BOPO of the company the lower ROA happened.
3. NIM has affected positively the ROA, this condition has explained that the bigger NIM

- of the company the bigger ROA happened.
4. NPL neto has affected negatively the ROA, this condition has explained that the bigger NPL neto the lower ROA happened.
  5. LDR has affected negatively the ROA, this condition has explained that the bigger LDR of the company the lower ROA happened.

### **Suggestions**

1. This research has been executed at the banking industries registered at the Indonesia Stock Exchange (BEI) for the period of 2012-2015 only, further research can be done at different objects, for example, Mining sectors and industrial sectors, manufacturing sectors, property sectors or agriculture sectors to obtain the consistent result of the research.
2. This research has applied only the Return On Assets (ROA) to evaluate the company performance accordingly. Furthermore, it is expected to develop this research which is evaluating the financial ratio, liquidity ratio, solvability ratio and other related ratios that can be used to examine the company performance refers to ROE, ROI, dividend policy, cash ratio, current ratio, TIE (time interest earned) etc.

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