Abstract: The purpose of this study was to determine the effect of financial ratios on banking performance on the Indonesia Stock Exchange with stock returns as moderating variables for 2013-2017. The population in this study are all banking companies that have been publicly listed on the Indonesia Stock Exchange, with the period 2013-2017. Based on sample selection techniques, a total sample of 21 banking companies was listed on the Indonesia Stock Exchange in the 2013-2017 research period. This study uses secondary data, namely quantitative data obtained from the Indonesia Stock Exchange website. The results of the study are simultaneously and partially concluded that the independent variables (CAR, BOPO, NIM, NPL, LDR) have a significant effect of 29.8% on the dependent variable Y (ROA). Moderating test results show that the 5 independent variables have a significant effect on company size as a moderating variable and then, Return asset as a moderating variable has a significant effect on the relationship between independent variables on the dependent variable. In other words, company size is proven as a moderating variable that influences the relationship of independent variables with dependent variables. The conclusion is that there is an effect of the financial ratio on banking performance on the Indonesia Stock Exchange with stock return as a moderating variable for 2013-2017. It is suggested to the next researcher to examine the banking sector from various other financial aspects that affect financial performance. For companies it is recommended to pay attention to determining the optimal capital structure, positive company growth, and profitability to improve financial performance.

Keywords: Capital Adequacy Ratio, Operating Expenses to Revenues Operations, Net Interest Margin, Non Performing Loans, Loan To Financial Ratio, Stock Returns, Return on Assets, Banking Financial Performance.

1. Introduction
Banking is a financial institution that has a very vital role in economic activity within a country. Banking is very much related to banks, which includes institutions, business activities, and ways and processes in carrying out their business activities. In accordance with the definition of the bank in PSAK 31, a bank is defined as an institution that acts as a financial intermediary between parties that have surplus (surplus units) and those who need funds (deficit units). Banking performance or performance is a picture of the success achieved by the bank in its operational activities, which involve financial, marketing, fund raising and human resources factors. Company performance can be seen through a variety of variables or indicators. This is consistent with Muljono's statement that the ratio in the form of a ratio produces a more objective number, because the performance measurement is more comparable with other banks or the previous period.
The Deposit Insurance Agency (DIA) revealed, in the past three years, the level of bank profits continued to decline. The decline in banking profitability was collected through a decrease in the level of profit from assets (Return on Assets/ROA) of banks in the last 3 years. ROA measures the ability of a bank to generate profits from assets it has. When ROA increases, it means that the profitability of the company increases, so that the increase eventually results in high profits (Rekarti, 2016). The higher ROA means the bank's profitability ratio is getting better or increasing its assets is higher than that of large asset banks or Commercial Bank Business Activities (CBBA) IV, approving RoA in December 2015 to reach 4%. But then it fell to the range of 2.5% - 3% in December 2016, then stagnated around 3% in September 2017 (Deposit Insurance Agency (LPS) 2017). Profitability ratios or Return on Assets (ROA) of private banks are lower than state-owned banks. Based on data from the Financial Services Authority (FSA) as of June 2018, private bank ROA is 1.97% or lower compared to state-owned enterprises (SOE) bank ROA of 2.94%. The profitability ratio of private banks is lower than that of state-owned banks because of the lower net profit of private banks compared to state-owned banks. Recorded until June 2018, the net profit of private banks rose 1.1% annually or year on year (yoy) to Rp 62.7 trillion from the 2017 period which amounted to Rp 62.1 trillion. For state-owned banks, as of June 2018, net profit rose 17.26% yoy to Rp. 86.6 trillion, up from the same period in 2017 which amounted to Rp. 73.9 trillion. Judging from the June 2018 edition of the Indonesian Banking Statistics (IBS), trends in the development of banking performance in general can be seen in the table below.

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Banks</td>
<td>120</td>
<td>119</td>
<td>118</td>
<td>116</td>
<td>115</td>
</tr>
<tr>
<td>Bank Office</td>
<td>31.847</td>
<td>32.739</td>
<td>32.949</td>
<td>32.730</td>
<td>32.285</td>
</tr>
<tr>
<td>Return On Assets</td>
<td>3.08</td>
<td>2.85</td>
<td>2.23</td>
<td>2.21</td>
<td></td>
</tr>
<tr>
<td>Capital Adequacy Ratio</td>
<td>18.13</td>
<td>19.57</td>
<td>21.39</td>
<td>22.93</td>
<td>23.18</td>
</tr>
<tr>
<td>BOPO</td>
<td>74.08</td>
<td>76.29</td>
<td>81.49</td>
<td>82.22</td>
<td>78.64</td>
</tr>
<tr>
<td>NIM</td>
<td>4.89</td>
<td>4.23</td>
<td>5.39</td>
<td>5.63</td>
<td>5.32</td>
</tr>
<tr>
<td>Non Performing Loan</td>
<td>58.175</td>
<td>79.306</td>
<td>100.655</td>
<td>127.355</td>
<td>122.670</td>
</tr>
<tr>
<td>Loan to Deposit Ratio</td>
<td>89.70</td>
<td>89.42</td>
<td>92.11</td>
<td>90.70</td>
<td>90.04</td>
</tr>
<tr>
<td>Return Saham Finance (JKFINA)</td>
<td>540,21</td>
<td>731,64</td>
<td>687,04</td>
<td>811,89</td>
<td>1,140,84</td>
</tr>
</tbody>
</table>

Source: Indonesian Banking Statistics (IBS) of the Financial Services Authority, Vol 16, No.7, June 2018
Based on the table above, it can be seen that the number of commercial banks from 2013 to 2017 decreased by 4.16%. On the other hand, there was an increase of 1.37% in the number of bank offices. This has an impact that the bank wants to provide the best service to its customers by increasing the number of bank offices. An increasing number of bank offices are not in accordance with the amount of decrease in the bank, the bank could be due to the revocation of a business license, suspension of business activity of banks and the number of mergers or acquisitions. In general, companies want to improve performance, but the Return On Asset Ratio from December 2013 to December 2017 increases the decrease by 20.45%. Capital Adequacy Ratio Increases Increase by 27.85%. BOPO increases 6.15% increase. NIM increased by 8.79%. Non Performing Loans increase 110.86%. The Loan to Deposit Ratio increases the Increase by 0.37%. And Returns of shares that increase year to year which are not consistent with the improvement of banking financial performance.

The problem of this research occurs because based on the table above there are results of inconsistencies between financial performance and stock returns. When financial proxies are proxied by ROA decreases, but stock returns increase. As we know that if good financial performance will show a high return whereas if financial performance is bad, the expected return will be low. Research on ROA conducted by Bukit (2012) which shows the results of ROA does not affect ROA. According to Farouque, et al (2005) in Sudiyatno dk (2012) shows that statistically investments tend to have a positive effect, although not significantly on company performance (ROA).

Based on the description above, the researcher is interested in conducting research with the title "Analysis of the Effect of Financial Ratios on Banking Performance on the Indonesia Stock Exchange with Stock Returns as a Moderating Variable for 2013-2017".

2. Method
This study uses a causality research design, used to analyze the influence of one variable with other variables. The conduct of this research is to examine the effect of facts, phenomena and look for information in real terms, namely research that explains factors that influence the dependent variable. The population in this study are all banking companies that have been publicly listed and listed on the Indonesia Stock Exchange, with years of observation 2013-2017. The banking companies listed on the Indonesia Stock Exchange consist of 43 banks. Based on the sample selection technique, in determining the sampling this study uses a systematic random sampling method, namely the sampling process is done by giving the serial numbers of members of the population and then selecting an odd or even sequence number. Based on the sample selection technique, in the determination of sampling this study was chosen an even sequence number and obtained a total sample of 21 banking companies listed on the Indonesia Stock Exchange. Then the number of observations in this study was 105 (21 banks x 5 years).

Operational Definition of Variables
Dependent Variable (Y) namely Performance of financial banking (Y) is a comparison of pre-tax Profit with the average total assets, using a measure of Return on Assets (ROA).
Independent Variables

a. Capital Adequacy Ratio (X1) is called the capital adequacy ratio is a ratio that shows the ability of banks to provide funds for business development purposes and protect the risk of losses caused by operational activities on the IDX for the period 2013-2017.

b. Operational Expenses (X2) on operating income is a comparison between the total operating expenses against operating income on the IDX for the period 2013-2017.

c. Net Interest Margin (X3) is a comparison between net interest income on average earning assets on the IDX for 2013-2017.

d. Non Performing Loan (X4) is a comparison between non-performing loans to total loans listed on the IDX for the period 2013-2017.

e. Loan to Deposit Ratio (X5), which is seen from the comparison between total credit (credit given to third parties, but not including credit to other banks) with third party funds on the IDX in 2013-2017.

Moderating Variable (Z) is stock returns are the results obtained from investments listed on the IDX for the period 2013-2017.

Descriptive statistical tests were used to provide a profile picture of the data used in this study. The descriptive statistical test output is presented by presenting data that contains information about the minimum value, maximum value, average value and standard deviation value from a set of data. The data analysis method used in this study is a multiple regression model using SPSS assistance.

3. Result and Discussions

3.1. Classical Assumption Test

The research model has met the requirements for normality, multicollinearity, heteroscedasticity and autocorrelation. The next test is testing the hypothesis that includes the test Analysis of the coefficient of determination, F test, t test and moderating test.

3.1.1. Normality Test

The normality test is used to determine whether the population of the data is normally distributed or not. The residual value is said to be normal if it has an asymp value of sig> 0.05. Testing the normality of residual values from the regression model with graph observation is done by looking at Normal Probability Plots of residual values. In this study the residual value is relatively normally distributed.

3.1.2. Multicollinearity Test

Multicollinearity test aims to test whether the regression model found a correlation between independent variables. In this study it can be concluded that the value of Capital Adequacy Ratio, Operating Expenses to Operating Income, Net Interest Margin, Non Performing Loans, Loan to Deposit Ratio does not contain symptoms of multicollinearity.

3.1.3. Autocorrelation Test

In this study conducted using the Run test which aims to test whether in the linear regression model there is a correlation between bullies in period t with errors in the
previous period. Autocorrelation test in this study was carried out using the run test. Autocorrelation test results based on the regression results used in this study, there was no violation of the autocorrelation assumption.

3.1.4. Heteroscedasticity Test
Heteroscedasticity test aims to determine whether or not there is a classic assumption of heteroscedastic deviation, namely the existence of variance inequalities from residuals for all observations in the regression model. Heteroscedasticity test can be done by plot graph. The regression model used in this study is free from the symptoms of heteroscedasticity because the values of the five independent variables are above 0.05.

3.2. Determination Coefficient Analysis
The coefficient of determination ($R^2$) essentially measures how far the model's ability to explain the variation of the dependent variable. The value ($R^2$) that approaches one means that the independent variables provide almost all the information needed to predict variations in the dependent variable (Ghozali, 2013).

Table 3.1 Results of analysis of determination

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.786*</td>
<td>.618</td>
<td>.262</td>
<td>.20228</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), CAR, BOPO, NIM, NPL, LDR
b. Dependent Variable: ROA

It is known that the coefficient of determination (R-squared) in Table 4 is $R^2 = 0.618$ indicating that 61.8% of the variation in ROA can be explained by variations of the five independent variables, the remaining 38.2% is explained by other variables outside of this estimation model.

3.3. Test of Significance of Simultaneous Influence (Test F)

Table 3.2

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>1.719</td>
<td>5</td>
<td>.344</td>
<td>8.402</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>4.051</td>
<td>99</td>
<td>.041</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.770</td>
<td>104</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on Table 5 it is known that a significant value of 0.000 is smaller than 0.05 so it can be concluded that simultaneously the variable Capital Adequacy Ratio, Operating Expenses to Operating Income, Net Interest Margin, Non Performing Loans, Simultaneous Loan Deposit Ratio have a significant effect on Return On Assets.

3.4. Test of Significance of Partial Influence (Test t)
The t test basically shows how far the influence of the independent variables partially in explaining the variation of the dependent variable (Ghozali, 2013).
Table 3.3 Multiple Regression Statistics Test Results

<table>
<thead>
<tr>
<th>Coefficients (^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Model</strong></td>
</tr>
<tr>
<td>(Constant)</td>
</tr>
<tr>
<td>CAR</td>
</tr>
<tr>
<td>BOPO</td>
</tr>
<tr>
<td>NIM</td>
</tr>
<tr>
<td>NPL</td>
</tr>
<tr>
<td>LDR</td>
</tr>
</tbody>
</table>

\(^a\) Dependent Variable: ROA

Regression Equations of the First Hypothesis

\[ Y = 0.05 + 0.433 X_1 - 0.016 X_2 + 0.130 X_3 + 0.068 X_4 + 0.356 X_5 \]

Based on these equations, it can be seen that:

a. Constants (a = 0.05), indicate that if all independent variables are assumed to be constant or equal to zero, Return on Assets is 5%.

b. Capital Adequacy Ratio (b = 0.433) indicates Capital Adequacy Ratio has a positive effect on Return On Assets and each increase in Capital Adequacy Ratio of 1% will be followed by an increase in Return On Assets of 0.433, assuming other independent variables are considered constant.

c. Operational Expenses on Operating Income (b = -0.016), indicating Operational Expenses on Operational Income negatively affect Return On Assets and each increase in Operational Expenses to Operational Income by 1% will be followed by a decrease in Return on Assets of -0.016%, assuming variables other independent considered.

d. Net Interest Margin (b = 0.240), indicating that NIM has a positive effect on Return On Assets and every NIM increase of 1% will be followed by an increase in Return On Assets of 0.130%, assuming other independent variables are considered constant.

e. Non Performing Loans (b = 0.068), indicate that Non Performing Loans have a positive effect on Return On Assets and that every increase in Non Performing Loans by 1% will be followed by an increase in Return on Assets of 0.068%, assuming other independent variables are considered constant.

f. Loan to Deposit Ratio (b = 0.356), indicates the Loan to Deposit Ratio has a positive effect on Return On Assets and each increase in Loan to Deposit Ratio by 1% will be followed by an increase in Return On Assets of 0.356%, assuming other independent variables are considered constant.

Residual Test (Moderating) Second Hypothesis

\[ Y = 3.091 + 4.721 X_1 +0.636 X_2 + 15.881 X_3 +4,555 X_4 +27.710 X_5 \]

\[ |e| = -0.161 +0.669 Y \]

The results of the moderating test above show that k-5 independent variables have a significant effect on ROA as a dependent variable and then Stock Return as a moderating variable has a significant effect on the relationship between independent variables and the dependent variable. In other words, stock returns are proven as
moderating variables that influence the relationship of independent variables with dependent variables.

**Discussions**

1. **Effect of Financial Ratio on Capital Adequacy Ratio (X1) on Stock Return (Y)**
   
   Capital Adequacy Ratio is the performance ratio of a bank to measure the capital adequacy of a bank to support assets that contain or produce risks, for example loans given. The results of the study on the effect of changes in the Capital Adequacy Ratio (CAR) on stock returns showed that the Capital Adequacy Ratio variable had a significant influence on the dependent variable Y (Stock Return). The results of this study are in line with the results of previous studies by Rahman (2013) regarding the Analysis of the Effect of Financial Ratio on the Performance of Go Pubic Financing Companies in the Indonesia Stock Exchange where the Capital Adequacy Ratio has a positive effect on Stock Return.

2. **Effect of Operational Expenses on Operating Income (X2) on Stock Returns (Y)**
   
   Operational Cost Ratio to Operating Income (BOPO) is often called the efficiency ratio because it is used to measure management's ability to control operational costs against operating income. The negative value indicated by BOPO is based on that the smaller the BOPO shows the more efficient the bank in carrying out its business activities, the variable X2 (BOPO) does not have a significant effect on the dependent variable Y (Stock Return). The results of the above research are in line with the results of Usman's research (Hindarto (2011), where the results of the study show that there is no significant negative effect of BOPO on bank returns.

3. **Effect of Net Interest Margin (X3) on stock return (Y)**
   
   This Net Interest Margin is the ratio used to determine the ability of bank management in terms of especially in terms of managing earning assets so that they can generate net income. In this study it was concluded that the variable X3 (NIM) had a significant influence on the dependent variable Y (Stock Return). The increase or decrease in NIM during the study period significantly affected the increase or Stock Return. The higher NIM achieved by banks shows the bank's performance is getting better, so the income from bank interest is increasing. In other words, the NIM is positively related to changes in earnings for banks to increase stock returns.

4. **Effect of Non Performing Loan (X4) on Stock Return (Y)**
   
   Non Performing Loans are one indicator of the quality of bank assets. The indicator is a basic financial ratio that can provide assessment information on conditions of capital, profitability, credit risk, market risk and liquidation. In this study it can be concluded that the variable X4 (NPL) gives a significant influence on the dependent variable Y (Stock Return).

5. **Effect of Loan to Deposit Ratio (X5) Against Stock Return (Y)**
   
   One measure to calculate bank liquidity is the Loan to Deposit Ratio (LDR), which is how much bank funds are released into credit. The higher the Loan to Deposit Ratio (LDR), the higher the bank's profit (assuming the bank is able to channel credit effectively), with increasing bank profits, the bank's performance also increases. The size of a bank's Loan to Deposit Ratio (LDR) will affect the bank's performance. In this study it can be concluded that the variable X5 (LDR) gives a significant influence on the dependent variable Y (Stock Return).
research results of Suyono (2005), Merkusiwati (2007) show the results that the Loan to Deposit Ratio (LDR) has a positive and significant effect on Stock Returns.

6. Effect of Return On Assets as Moderating Variables

Return On Assets is a moderating variable that can strengthen the influence of Capital Adequacy Ratio, Operational Expenses on Operating Income, Net Interest Margin, Non Performing Loans, Loan to Deposit Ratio on Banking Return on Assets in Indonesia.

4. Conclusion

Simultaneously and partially variables from the analysis results show that the value of \( F = 8.402 \) with a significance value (p-value) of 0.000. When compared with the value of \( F \)-table = 2.31 it is proven that \( F (8.402) > F\)-table (2.31) and p-value (0.000) <0.05 so it can be concluded that simultaneously, the 5 independent variables (LDR, CAR, NPL, NIM) except BOPO, have a significant effect on the dependent variable \( Y \) (ROA). From the analysis results also show that the r-square value = 0.618, this means the simultaneous (simultaneous) effect of the 5 independent variables on the dependent variable \( Y \) (ROA) is 0.618 x 100% = 61.8%. In other words, 61.8% ROA can be explained by the 5 independent variables (LDR, CAR, NPL, BOPO, NIM). The moderating test results show that k-5 independent variables have a significant effect on company size as a moderating variable and subsequently, Return asset as a moderating variable has a significant effect on the relationship between independent variables on the dependent variable. In other words, company size is proven as a moderating variable that influences the relationship of independent variables with dependent variables.

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