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NON-PERFORMING LOAN DETERMINANT ON RETURN ON ASSETS IN OPEN BANKING COMPANIES IN INDONESIA

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Abstract:
The bank accepts deposits from the public (third party funds) in the form of savings, current accounts and deposits. Furthermore, these funds can be returned in the form of credit to the public. Banking in Indonesia in general is influenced by many factors, some of which are macroeconomic factors originating from outside the banking sector and microeconomics which tend to be from within the banking sector itself. The purpose of this study was to determine and analyze the effect of macroeconomic variables, leverage ratios and liquidity on ROA both directly and through NPL. The data used is secondary data obtained from reliable sources. This research uses path analysis method with the help of smart PLS. The results of this study have a significant macroeconomic influence on NPL. The leverage and liquidity ratios have no significant effect on NPL. This means that a positive regression coefficient value means that any increase in leverage ratio will increase the NPL and the effect shown is not significant. Macroeconomic and leverage ratios have no significant effect on ROA. Liquidity ratio has a significant effect on ROA. NPL has a significant negative effect on ROA. This means that any increase in NPL will cause the ROA value to decrease. Liquidity has no significant effect on ROA through NPL. Macroeconomic and leverage ratios have a significant effect on ROA through NPL.

JEL: G20; G21; B22

Keywords: macroeconomics, leverage ratio, liquidity, NPL, ROA

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1. Introduction

Banks are deemed as central institutions for a nation state, especially for developing countries. As the impetus of a country's national economy, banks will be better for an economy if in robustness and vice versa. The bank receives deposits from the public (third party funds) in the form of savings, current accounts and deposits. Furthermore, these funds can be reverted in the form of credit to the public. Banks in Indonesia generally rely on loan interest income as the main income to finance their operations. As a matter of fact, not all loans are free of risk; some have ample risks and can threaten the vigor of banks. Then to measure the ability of banks to overcome the failure of credit taking by debtors, the Non-Performing Loan (NPL) ratio can be used.

Various macroeconomic events have highlighted banking activities. Increasing banking activities have amplified the mobility of funds in the banking sector. Various types of activities carried out by banks were also accomplished by financial institutions other than banks. Regardless of the progressively fierce competition between financial institutions, the banking industry is expected to make a major contribution to national development to date. One of the main undertakings of banks is financial intermediation. The bank collects funds from the public and then distributes them back to the community through credit. The credit business is the foremost business of banking and has become one of the businesses with quite rapid development in Indonesia along with increased economic activity.

Along with the cumulative economic activity, the more amount of credit extended by banks to aid finance the development process. But on the other hand, an increase in the amount of credit that is too large will be vulnerable to risk. This is reflected in an increase in the number of non-performing loans (non-performing loans, NPLs) of banks, bank NPLs, especially loans in working capital loans and investment loans channeled by banks experiencing an increasing trend in Quarter IV of 2014.

Many factors cause the level of NPL to increase, one of which is macroeconomic indicators such as the exchange rate and inflation. Macroeconomic developments (exchange rates and inflation) reflect economic stability that can affect the performance of a country's financial sector; the more stable the economy, the more economic activity takes place in the country. This condition can certainly have an impact on the development of the financial sector which is increasingly widespread in supplying the expansion of developing economic activities (Mukhlis, 2015: 124). In relation to non-performing loans, a recession where a decline in sales and income of individuals and companies occurs, will affect the ability of individuals and companies to repay loans. This causes an increase in problem loans (Imawan, 2017: 3).

Ginting (2012) states that the macroeconomic factor of inflation impacts NPL. Inflation is a problem of the circulation of money where the value of money circulating is reduced. While the results of research conducted by Anto (2012) and Mahmudah (2010) also stated that inflation affects the NPL. This means that any increase in inflation will cause the NPL level to also rise. The inability of debtors to repay their loans will increase

when inflation occurs due to rising prices of goods and people's purchasing power will decrease, in other words bank debtor income will also decrease followed by the ability of debtors to fulfill their responsibilities will also decrease and the impact will eventually reduce the level bank profitability.

Besides inflation, another factor that influences NPL is the exchange rate. According to Mukhlis (2015) the exchange rate of a country is important where along with domestic prices, the exchange rate determines the cost of a country's products for foreign buyers and will affect the country's exports and imports. Based on research conducted by Mahmudah (2010) and Alali, et al. (2018) the exchange rate has a significant effect on NPL. The next indicator is the exchange rate (Mukhlis, 2015: 127), the exchange rate of a country is important along with domestic prices, the exchange rate determines the cost of a country's product for foreign buyers and will affect exports from that country, as well as imports (Puspopranoto, 2004: 214). The development of the exchange rate is very influential on economic activity; the higher amount of local currency that must be issued to get 1 Dollar will increase the potential for higher NPL ratios. This condition occurs as a result of the general weakening of economic conditions, and is also caused by the large level of loans borne by debtors engaged in the business of international trade as well as companies that must supply raw materials paid in dollars.

The increase in the value of NPLs, in addition to being influenced by macroeconomic indicators, can also be influenced by internal factors in banks that extend credit as well as internal factors for parties receiving credit (Alam, 2008). Internal factors that influence NPL are Leverage Ratio and LDR. Leverage reflects a company's ability to meet all of its obligations as indicated by several parts of its own capital used to pay debts (Rodoni and Ali, 2010).

According to Kasmir (2009) leverage is a ratio used to find out how much the company's ability to pay all of its obligations (both short-term and long-term obligations). On the other hand, reducing short-term debt will be able to improve financial performance. Based on the background analysis of the problem above, the writer draws the research title Determinant of Non-Performing Loans against Return on Assets in Banking Companies in Indonesia.

2. Literature Review

2.1 Inflation

According to Boediono (1999) inflation is the trend of prices to rise overall and unremittingly. An increase in the price of just one or two items is not called inflation, except if the increase is widespread or results in an increase in most other prices, namely food prices, processed food prices, beverages, cigarettes, and tobacco, clothing prices, health prices, prices education, recreation and sports, prices for transportation, communication and financial services. From this definition, there are three components that must be fulfilled so that inflation can be said, namely:

1) Price increases, i.e. if the price of a commodity becomes higher than the price of the previous period.
2) General characteristics, namely the increase in commodity prices generally consumed by the public is not an increase in a commodity that does not cause prices to rise in general.
3) Continuity, general price increases will not bring up inflation, if it occurs for a moment such as price increases during Eid Al-Fitr or the New Year is not considered as inflation.

According to Sukirno (2011) some policies to overcome inflation are as follows:

1) Fiscal policy is by increasing taxes and reducing government spending.
2) Monetary policy is by raising interest rates and limit credit.
3) Basic terms of supply, namely by taking steps that can reduce production costs and stabilize prices such as reducing import taxes, setting prices, promoting increased production and promoting technological development.

Factors causing inflation are:

1) The exchange rate of the rupiah against the US Dollar. Foreign exchange rates experience continuous and relatively unstable changes in value. This change in value can occur due to changes in demand and supply of a foreign currency in each exchange market (foreign exchange market) from time to time. While changes in demand and supply itself are affected by a relative increase in interest rates, both jointly and individually to the country
2) Consumer Price Index. The CPI figure is obtained by calculating the price of the main goods and services consumed by the public in a certain period. Each price of goods and services is weighted based on their priority level. The goods and services that are considered the most important are given the greatest weight.
3) Prices of fuel oil (BBM). The price of fuel can affect economic performance in Indonesia, because the price of fuel as an essential commodity is used by almost one and all. The price of fuel oil also determines the size of the budget deficit. But the price of fuel on the other hand can burden the poor, if the determination is high.
4) Electricity Tariff (TTL). Electric power tariff or commonly abbreviated as TTL, is a rate that may be imposed by the government for customers of the National Electricity Company (PLN). PLN is the only company that is allowed to sell electricity directly to the people of Indonesia, so TTL is arguably the tariff for electricity usage in Indonesia.

2.2 Exchange Rate

According to Nopirin (2012: 163) the exchange rate is the price in the exchange of two different kinds of currencies, there will be a comparison of the value or price between the two currencies, this comparison of values is called the exchange rate.

According Sukirno (2011: 397) the exchange rate is the price of a currency against other currencies. The exchange rate is one of the most important prices in an open

economy given such a large influence on the current account balance and other macroeconomic variables.

According to Ekananda (2014: 168) exchange rate is the price of a currency relative to other countries' currencies. Exchange rates play an important role in spending decisions, because they allow us to translate prices from various countries into the same language. Based on the above notions, to the author's understanding that the exchange rate is the price of a currency against foreign currencies; it is how much the domestic currency is valued by foreign currencies. The exchange rate is a very important price in the economy.

According to Jeff Madura and Roland Fox (2011: 108) there are 3 main factors that affect exchange rates, namely:

1) Fundamental Factors. Fundamental factors relate to economic indicators such as inflation, interest rates, and relative differences in income between countries, market expectations and central bank intervention.
2) Technical Factors. The technical factor is related to the conditions of foreign exchange supply and demand at certain times. If there is an excess demand while the supply remains, then the price of foreign exchange will be appreciated. Conversely, if there is a temporary shortage of demand, the foreign exchange rate will depreciate.
3) Market Sentiment. More market sentiment is caused by rumors or incidental political news, which can drive foreign exchange prices up or down sharply in the short term. If rumors or news have passed, the exchange rate will return to normal.

2.3 Leverage Ratio

This ratio is used to measure the company's ability to meet its long-term obligations. Leverage reflects a company's ability to meet all its obligations as indicated by several parts of its own capital used to pay debts (Rodoni and Ali, 2010: 123).

According to Brigham and Houston (2010: 140) leverage ratios measure the extent to which companies use funding through debt. From the description above, it can be concluded that the leverage ratio describes the relationship between a company's debt to its own capital and assets. Furthermore, according to Brigham and Houston (2010: 101) the company uses debt (financial leverage) will have 3 (three) important implications, namely:

1) By obtaining funds through debt, shareholders can maintain their control over the company while simultaneously limiting the investment they provide.
2) Creditors will look at equity, or self-obtained funds, as a security limitation, so that the higher the proportion of capital provided by shareholders, the less risk faced by creditors.
3) If the company gets a return on the funded investment with the loan proceeds greater than the interest paid, then the return from the owner's capital will be enlarged, or leverage.

2.4 Loan to Deposit Ratio (LDR)

Liquidity according to Darmawi (2011: 59) is a term used to indicate a stock of cash and other assets that are easily converted into cash. Liquidity measurement tool that is often used is the ratio of LDR (Loan to Deposit Ratio). In order to make a clear definition of LDR, the researcher cites several definitions put forward by experts as follows: According to Kasmir (2014: 225) "*LDR (Loan to Deposit Ratio) is a ratio used to measure the composition of the amount of credit given compared to the amount of public funds and own capital used*". According to Darmawi (2011: 61) "*LDR (Loan to Deposit Ratio) is one liquid measure of the concept of inventory in the form of a ratio of loans to deposits*."

From the understanding of LDR according to the experts above, it can be concluded that LDR is a ratio that measures the extent of the bank's ability to repay withdrawals of funds made by depositors by relying on loans provided as a source of liquidity. The higher this ratio, the lower the liquidity of the bank concerned. But on the contrary, the lower the LDR ratio, the higher the liquidity of the bank concerned. This ratio is also an indicator of the vulnerability and ability of a bank.

According to Kasmir (2014: 225), the safe limit of a bank's LDR is around 80%. However, the maximum LDR limit is 110%. The LDR ratio is calculated by comparing credit with third party funds where the credit used is the total credit given to third parties, and does not include credit given to other parties. Meanwhile, third party funds are current accounts, savings and deposits that are not included in interbank.

2.5 Return on Asset (ROA)

According to Tandelilin (2001) the level of company returns can be seen through the size of the company's profits. If the company's profit is high, the company's return on investment (ROA) will be high so investors will be interested in buying the stock, consequently the share price will increase. ROA as previously described is the ratio between net incomes after tax to total assets shows the financial performance of banks in generating net income from assets used for bank operations.

According to Ang (1997), the bank's financial performance in generating net profit from the assets used will have an impact on the bank's shareholders. Increased return on assets (ROA) shows the bank's better performance and shareholders will get increasing profits. With the increasing profits the company will be magnetism for potential investors to invest their funds in the bank.

With this attraction it has an impact on prospective investors to own more and more bank shares. If demand for bank shares increases, the price of bank shares in the capital market tends to increase. With the increase in stock prices, the stock prices of these shares also increased. This is because the actual return is the difference between the price of the current period's stock and the previous share price

Bank financial performance is a picture of the bank's financial condition in a certain period. Information on financial position and financial performance in the past is often used as a basis for predicting financial position and future performance. Assessment of bank financial performance can be assessed using the financial ratio

analysis approach of all financial reports reported in the future (Febryani and Zulfadin, 2003). According to Van (2005) Return on Assets (ROA) is the ability of bank management to obtain profits (profits) as a whole. The greater the ROA of a bank, the greater the level of profit achieved by the bank and the better the bank's position in terms of asset use. The formula used is:

$$\boldsymbol{ROA} = \frac{\boldsymbol{Net\ Profit}}{\boldsymbol{Total\ Assets}}$$

3. Research Methods

This research was conducted at commercial banks in Indonesia which are listed on the Indonesia Stock Exchange (IDX). The observation year was carried out for 5 years starting from 2014-2018 on the official website www.idx.co.id. The population in this study is all commercial banks in Indonesia registered at Bank Indonesia during 2014-2018. The sampling technique in this study is the purposive sampling method, which is to take a predetermined sample based on certain considerations and criteria. In this study, sampling was conducted using an approach through the method of purposive sampling, namely the technique of determining the sample with certain considerations (Sugiyono, 2012):

1) Conventional banking companies that remain listed on the Indonesia Stock Exchange for the period 2014-2018.
2) Conventional banking companies that present complete financial statements in accordance with research variables every 31 December

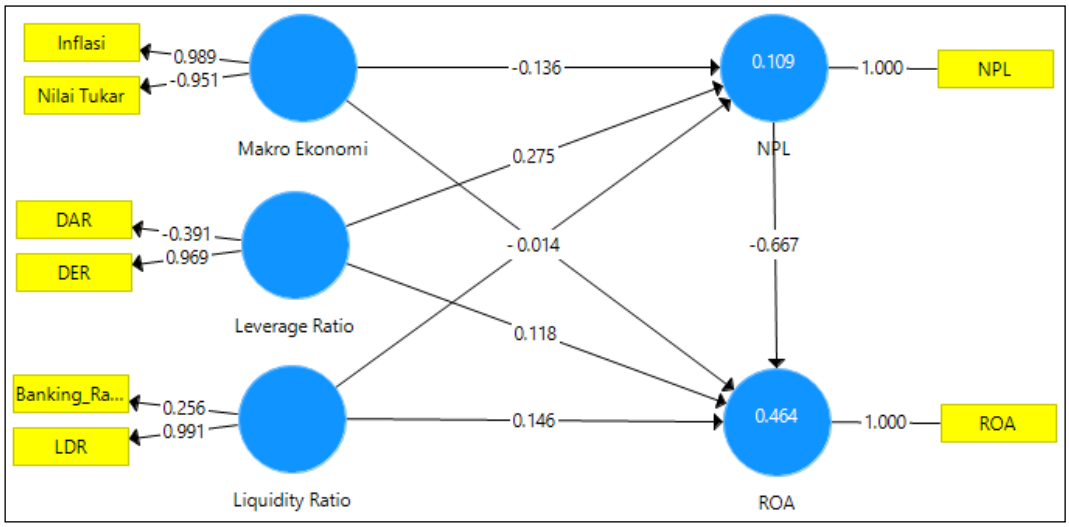
The population that met the criteria to be the sample of this study was 20 Conventional Commercial Banks. The research sample was taken in the Annual Conventional Commercial Bank financial statements from 2014 to 2018.

This research used PLS data analysis method with the assistance of Smart PLS program. Partial Least Squares Analysis (PLS) is a variance-based structural equation (SEM) analysis that can simultaneously test measurement models as well as structural model tests.

4. Results and Discussion

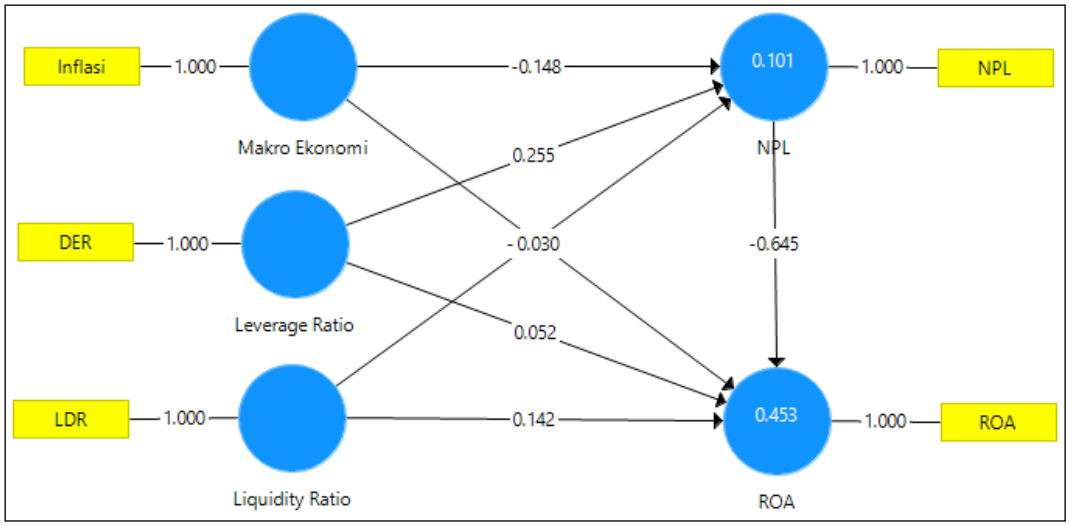
The following is the loading factor value for each indicator obtained in this study.

Figure 1 shows that there are indicators that have not yet reached the factor load of 0.5. Load values smaller than 0.5 will be removed from the model and recalculated. There are 1 indicator that do not meet the reliability criteria, namely the Banking ratio indicator (0.256 <0.50), DAR (-0.391 <0.5) and the exchange rate (-0.951 <0.5).



Source: Smart PLS Processed Results (2019).
Figure 1: First Loading Factor Model

Thus, based on existing criteria, banking ratio, DAR and exchange rate indicators are excluded from the measurement of the construct of activity. The next step is to re-execute after the banking ratio, DAR and exchange rate indicators are discarded. The results after the banking ratio indicator, the DAR and the exchange rate from the eliminated construct measurement are presented in Figure 2 below.



Source: Smart PLS Processed Results (2019).
Figure 2: The Second Loading Factor Model

Figure 2 shows that all indicators already have a factor load value greater than 0.7 so that it can be concluded that the indicators used in this study have met the indicator reliability criteria and can be used in research.

4.1 Direct Effects

To find out the direct effect of independent variables on the dependent variable can be seen in Table 1.

Table 1: Direct Effects

	Coefficient	**$T_{Statistic}$**	**P_{Values}**
Macroeconomics → ROA	0,030	0,532	0,595
Leverage Ratio → ROA	0,052	0,509	0,611
Liquidity Ratio → ROA	0,142	2,344	0,019
NPL → ROA	-0,645	5,267	0,000
Macroeconomics → NPL	-0,148	2,047	0,041
Leverage Ratio → NPL	0,255	1,772	0,077
Liquidity Ratio → NPL	-0,106	1,568	0,118

Source: Smart PLS Processed Results (2019).

Based on the data management in Table 4.10, we obtain the equation of line 1 model as follows:

Yit = 0.030X1it + 0.052 X2it + 0.142X3it - 0.645Zit

The path equation above can be interpreted as follows:

1) Coefficient (ρ1) = 0.030, $t_{statistic}$ value of 0.532 and p_{values} of 0.595> α = 0.10 indicates that the macroeconomic has a positive and not significant effect on ROA. Thus, the results of this study reject the hypothesis which states that macroeconomic variables significantly influence ROA.
2) Coefficient (ρ2) = 0.052, $t_{statistic}$ of 0.509 and p_{values} of 0.611> α = 0.10 indicates that the leverage ratio has a positive and not significant effect on ROA. Thus, the results of this study reject the hypothesis which states that the leverage ratio variable has a significant effect on ROA.
3) The coefficient (ρ3) = 0.142, the value of $t_{statistic}$ 2.334 and p_{values} 0.019 <α = 0.10 indicates that liquidity has a positive and significant effect on ROA. Thus, the results of this study accept the hypothesis that the variable liquidity has a significant effect on ROA.
4) Coefficient (ρ4) = -0.645, $t_{statistic}$ value of 5.267 and p_{values} of 0.000 <α = 0.10 indicates that NPL has a negative and significant effect on ROA. So, the results of this study accept the hypothesis that the NPL variable has a significant effect on ROA.

The path 2 equation model is as follows:

Zit = -0,148 X1it + 0.255X2it - 0.106X3it

The path equation above can be interpreted as follows:

1) The coefficient (ρ1) = -0.148, the value of $t_{statistic}$ 2.047 and p_{values} 0.041 <α = 0.10 indicates that the macroeconomic has a negative and significant effect on NPL. Hence the results of this study accept the hypothesis which states that macroeconomic variables significantly influence NPL.
2) The coefficient (ρ2) = 0.255, $t_{statistic}$ 1.772 and p_{values} 0.077 <α = 0.10 indicate that the leverage ratio has a positive and significant effect on NPL. Thus, the results of this

study accept the hypothesis that the leverage ratio variable has a significant effect on NPL.

3) Coefficient ($\rho 3$) = -0.106, $t_{statistic}$ 1.568 and p_{values} 0.118> α = 0.10 indicates that liquidity has a negative and not significant effect on NPL. So, the results of this study reject the hypothesis that the variable liquidity has a significant effect on NPL.

4.2 Indirect Effects

To find out the size of the indirect effect of independent variables on the dependent variable through intervening variables can be seen in Table 2.

Table 2: Indirect Effects

	Coefficient	**$T_{Statistic}$**	**P_{Values}**
Macroeconomics → NPL → ROA	0,096	1,936	0,053
Leverage Ratio → NPL → ROA	-0,165	2,312	0,021
Liquidity Ratio → NPL → ROA	0,069	1,425	0,155

Source: Smart PLS Processed Results (2019).

Based on data management in Table 2, the coefficient of indirect effects can be interpreted as follows:

1) Coefficient $(X1 \rightarrow Z) * (Z \rightarrow Y) = 0.096$, $t_{statistic}$ 1.936 and p_{values} 0.053 <α = 0.10 indicate that macroeconomics has a significant effect on ROA through NPL.
2) Coefficient $(X2 \rightarrow Z) * (Z \rightarrow Y)$ = -0,165, $t_{statistic}$ 2,312 and p_{values} 0,021 <α = 0,10 show that leverage ratio has a significant effect on ROA through NPL.
3) Coefficient $(X3 \rightarrow Z) * (Z \rightarrow Y) = 0.069$, $t_{statistic}$ 1.425 and p_{values} 0.155> $\alpha = 0.10$ indicates that liquidity has no significant effect on ROA through NPL.

4.3 Total Effect

The magnitude of the effect of the total independent variable on the dependent variable can be seen in Table 5.

Table 3: Total Effects

	Coefficient	**$T_{Statistic}$**	**P_{Values}**
Macroeconomics → NPL	0,096	1,936	0,053
Macroeconomics → ROA			
Macroeconomics → NPL	-0,165	2,312	0,021
Macroeconomics → ROA			
Liquidity Ratio → NPL	0,069	1,425	0,155
Liquidity Ratio → ROA			

Source: Smart PLS Processed Results (2019).

Based on the data management in Table 3, the coefficient of indirect effects can be interpreted as follows:

1) The coefficient $(X1 \rightarrow Y) + (X1 \rightarrow Z \rightarrow Y) = 0.096$, $t_{statistic}$ 1.936 and p_{values} 0.053 $<\alpha = 0.10$ indicate that macroeconomics has a significant effect on ROA through NPL ..
2) Coefficient $(X2 \rightarrow Y) + (X2 \rightarrow Z \rightarrow Y) = -0{,}165$, $t_{statistic}$ 2,312 and p_{values} 0,021 $<\alpha = 0{,}10$ show that leverage ratio has a significant effect on ROA through NPL.
3) Coefficient $(X3 \rightarrow Y) + (X3 \rightarrow Z \rightarrow Y) = 0.069$, $t_{statistic}$ 1.425 and p_{values} 0.155> $\alpha = 0.10$ indicate that liquidity has no significant effect on ROA through NPL.

Testing of structural models is completed by looking at the value of R-Square which is a goodness-fit test of the model. The R-Square coefficient is used to see how much influence the independent variable has on the dependent variable; the greater the value means the greater the effect. Because the number of indicators for each construct varies in number, the analysis of the coefficient of determination is done by looking at the values on the adjusted R-square obtained by calculating the Smart PLS algorithm which can be seen in Table 4.

Table 4: R-Square and Adjusted R-Square Values

	R Square	**Ajusted R Square**
NPL	0,101	0,073
ROA	0,453	0,430

Source: Smart PLS Processed Results (2019).

Table 4 shows that the influence of the macroeconomic, liquidity, and leverage ratio forming an NPL was 7.3%. The remaining 92.7% is explained by other variables outside the study. The influence of macroeconomics, liquidity, leverage ratio and NPL in forming ROA is 43%. The remaining 57% is explained by other variables outside the study. The second test is to see the significance of the influence of independent variables on the dependent variable by looking at the value of the parameter coefficient and the value of t-statistical significance.

5. Discussion

5.1 Effect of Macroeconomics on NPLs

The results showed that the macroeconomic significantly affected NPL. This means that a negative regression coefficient value means that each increase in the factor will decrease the NPL and the effect shown is significant. Then it can be concluded that macroeconomic variables have a significant effect on NPL. Macroeconomic influence has a significant influence and has a negative direction with non-performing loans (NPLs) with a probability level of 0.041 indicating that it does have a statistically significant effect on the significance level of 0.10.

The influence of macroeconomic variables on NPL has been further investigated by Konstantakis, et al. (2016), Viswanadham & Nahid (2015), Shingjergji (2013), Ginting (2016) the results of the study stressed that a deteriorating economic development of a country would be able to increase bad banking loans. Conversely, when the economy improves, the level of bank credit NPL will decrease. Based on the life cycle consumption

theory model proposed by Modigliani and Miller as well as the business cycle theory that GDP growth has a negative and significant effect on NPL, this is because economic growth allows businesses to pay back their credit. While Anto (2012) and Aviliani, et al. (2015), found that high inflation rates pressured the public to have difficulty paying credit, the impact of which was an increase in credit NPLs distributed by banks. Based on data from the Sub-Saharan African Countries, it was found that inflation caused many banks to lose their funds due to higher NPLs.

5.2 The Effect of Leverage Ratio on NPL

The results showed that the leverage ratio significantly affected the NPL. This means that a positive regression coefficient means that any increase in leverage ratio will increase the NPL and the effect shown is significant. It can be concluded that the leverage ratio variable has a significant effect on NPL. Companies that use too high a debt composition indicate that the company has not been able to finance its assets from the company's operating results. In addition, companies with high leverage also have the risk to be taken over by creditors when the company is unable to fulfill its obligations. With a variety of risks posed by the use of debt by companies, the impact on increasing the level of is required by investors. If it is associated with the concept of investment, then a high level of returns will be accompanied by high risks.

Thus, the regression equation formed shows that leverage has a significant positive effect on systematic risk. This means that the higher the leverage the company has, the greater the systematic risk. The results of this study are in accordance with the existing theory which states that when a company has a level of leverage that is too high; it will be able to go bankrupt (Utaraja, 2005). This is due to the higher use of leverage by companies, the higher the risk of companies not being able to pay debts (Indra, 2006). The same thing also expressed by Jogiyanto (2005) which states that the relationship between leverage measured using DER and stock risk is positively related, because where every change in the increase in DER will increase investment risk to a certain point. But this contradicts the results of research by Subagio (2005), Wahyu Nurani (2005) and Latifa (2012) who find that leverage has a significant negative effect on systematic risk.

5.3 Effect of Liquidity on NPLs

The results showed that the liquidity ratio did not significantly influence NPL. This means that a negative regression coefficient value means that any decrease in the liquidity ratio will increase the NPL and the effect shown is not significant. It can be concluded that the liquidity variable has no significant effect on NPL. According to Lukman Dendawijaya (2005: 116) Loanto Deposit Ratio (LDR) is the financial ratio of banks that have a relationship with aspects of the bank's liquidity. This ratio serves to measure the ability of banks in refinancing fund withdrawals by depositors by relying on lending as a source of liquidity. The results of the current study indicate that the Loan to Deposit Ratio has no significant effect on Non-Performing Loans.

This research is in line with research conducted by Dyah Ayu Wandadari (2015) and Km. Suliastri, et al (2014) which shows that the Loan to Deposit Ratio has a positive effect on Non-Performing Loans. The results of the analysis of the influence of the Loan to Deposit Ratio (LDR) on non-performing loans (Loans) in research on commercial banks in Indonesia in the 2009-2015 period stated that the LDR had a significant positive effect. This can be judged by the ability of banks to carry out their intermediary functions, namely in managing loans disbursed, where the higher the loans disbursed, the higher the potential for non-performing loans and vice versa.

The results of this study support the existing theory that the higher the LDR level of a bank, the greater the chance of the occurrence of problem loans in a bank. This is because if the funds raised by banks are channeled in the form of credit excessively while low public savings will lead to the risk of non-collection of high loans which will later lead to problem loans. Statistical results give the meaning that the liquidity information that is described by the LDR published in the financial statements is less used by investors in analyzing financial information for investment decision making. Empirical findings indicate that in assessing returns and risks and the company's future prospects, investors have not considered LDR. This shows that investors consider that the LDR of banking companies that have gone public will be in a safe position, because each bank has carried out its liquidity risk management properly and is always under the supervision of Bank Indonesia. This is proven by the average LDR of banking companies that has never passed the maximum limit set by Bank Indonesia 110%.

5.4 Effect of Macroeconomics on ROA

The results showed that macroeconomic factors did not significantly influence NPL. This means that a positive regression coefficient value means that any increase in factors will reduce the ability of earnings and the effect shown is insignificant. Then it can be concluded that the exchange rate and inflation variables have no significant effect on profitability (ROA), this may be caused by the exchange rate that is not too large each year and the impact of interest costs on profits (return) and investment (capital expenditure).

The results of this study are in line with the research of Alper and Anber (2011: 149) macroeconomic factors do not affect profitability while based on the author's research macroeconomic affects profitability. However, the results of this study are not in line with research conducted by Athanasoglou, Brissimis, and Delis (2005: 25) the level of inflation and the level of economic growth affect profitability while based on the author's research the inflation rate has no effect and the level of economic growth influences meaning there is a difference between the results obtained by Alper and Anber, namely the inflation rate variable. Likewise, Karim's research, Sami, Hichem (2010: 53) found that the rate of economic growth and the rate of inflation had a positive and significant effect on profitability while based on the author's research the inflation rate had no effect and the rate of economic growth had an effect meaning there was a

difference between the results obtained by Alper and Anber, namely on the inflation rate variable.

5.5 Effect of Leverage Ratio on ROA

The results showed that the leverage ratio variable which proxy by DER has a positive and not significant effect on earnings ability which proxy by ROA. A positive regression coefficient value means that any increase in factors will reduce the ability of earnings and the effect shown is insignificant. So, it can be concluded that the leverage ratio variable has no significant effect on ROA. Theoretically, this positive influence is in accordance with the concept of Agus Sartono (2010) which states that ROA as the company's ability to obtain profits available to shareholders is influenced by the size of the company's debt, if the proportion of debt increases; the profitability ratio will also be large. Debt is a profit lever. The debt obtained by the company, which is the company's external capital, is used for company activities. Correspondingly, the profits received were even greater. So, the return for capital owners who are profitability is also even greater.

The findings of this study support the results of Theresa's research (2012) which shows that there is a negative and most dominant influence of the leverage variable as measured by the debt to equity ratio on the magnitude of changes in profitability. This happens because the composition between debt and own capital in funding companies is very unbalanced, because each use of capital has a different effect on profits earned by the company. This means that for each unit of addition to the debt to equity ratio there will be a decrease in profitability. In this study it can be seen that the debt equity ratio of property and real estate companies significantly influences profitability. But contrary to research by Nur Alizna (2009) which states that the debt equity ratio has a significant positive effect on profitability.

The high value of the debt equity ratio indicates the amount of debt used by the company. In the property and real estate companies that are sampled in this study, it appears that the total debt that dominates is short-term debt, so the interest expense that must be paid by the company is not too large. So, it can be said that the company has a fairly good performance, where the debts are considered as debt that is not too dangerous and supports the company to develop.

5.6 Effect of Liquidity on ROA

The results showed that the liquidity ratio which proxy by LDR has a significant effect on ROA. This means that a positive regression coefficient value means that any increase in increased liquidity will increase the ability of earnings and the effect shown is significant. It can be concluded that the LDR variable has a significant effect on ROA.

In general, a low LDR carries more risk than a high LDR, but sometimes a low LDR shows that company leaders use current assets effectively. That is if the balance is adjusted to the minimum needs only and the accounts receivable turnover from inventory is increased to the maximum level. The amount of cash needed depends on the

size of the company and especially on the amount of money needed to pay current debts, various routine expenses and emergency expenses.

This liquidity has a close relationship with profitability, because liquidity shows the level of available working capital needed in operational activities. The higher the liquidity is, the lower the profitability will be and vice versa the lower the liquidity is, the higher the profitability. The results of this study are consistent with the results of research published by Kurniawati, et al (2018) and Dewi and Kirya (2015) which state that liquidity has a significant effect on ROA. On the other hand, the increase in liquidity of a bank means the availability of funds to be channeled from the results of its profits. While the results of this study contradict the results of research conducted by Al-Kari and Nature (2013) which states that liquidity has a negative effect on bank ROA.

5.7 Effect of NPL on ROA

The results showed that NPL had a significant negative effect on ROA. This means that any increase in NPL will cause the company's ability to generate profits decline. This also applies vice versa when NPL decreases, meaning ROA will increase. This is consistent with the theory put forward by Lukman Dendawijaya (2009) which suggests the effect of Non-Performing Loans (NPLs) on the ability of companies to generate profits with assets and equity owned is due to non-performing loans, banks will lose the opportunity to earn profits and adversely affect profitability and profitability. Furthermore, As Mahmoedin (2002) if there is a problem credit that leads to bad credit and harms the company, then the level of profitability is definitely disturbed.

The results of this study support the results of research conducted by Sunarya (2018). Gharaibeh (2015), Subandi and Ghozali (2013), Al Kari and Alam (2013), Islahuddin and Shabri (2014), Prasetyo and Darmayanti (2015) in which stated that NPL had a negative and significant effect on ROA. On the other hand, the increase in NPLs in a bank will reduce the level of bank profitability.

5.8 Effect of Macroeconomics on ROA through NPL

The results showed that macroeconomic factors significantly influence ROA through NPL. Then it can be concluded that the inflation variable has no significant effect on ROA through NPL.

The higher the inflation rate, the higher the NPL level because inflation occurs is caused by increased goods and people's purchasing power decreases, in other words the income of bank customers / debtors will also decrease so that the ability of debtors to meet their obligations will also decrease and will have declining level bank profitability.

5.9 The Effect of Leverage Ratio on ROA through NPL

The results showed that the leverage ratio significantly affected ROA through NPL. It can be concluded that NPL can be used as an intervening variable on the effect of leverage ratio on ROA. Companies that have high DER tend to have low profit ability. Conversely companies that have a low DER tend to have high ROA. Harahap (2010: 303) states that

DER illustrates the extent to which owner's capital can cover debts to outsiders. The smaller the DER, the better it will be. For the security of outsiders, the best ratio if capital is greater than the amount of debt or at least the same. A high DER value influences ROA acquisition which causes the acquisition of a company's ROA value to be low. This is caused by the payment of costs incurred due to debt or larger loans. Declining corporate profits cause the value of ROA to be low. This study supports the research conducted by Endah Dewi Purnamasari who found that the Debt to equity ratio affects ROA.

The value of most of the bank's capital is obtained from customer funds in the form of savings and allocated to other customers in the form of loans with the profit obtained by the bank for the transaction in the form of loan interest which is usually higher than the interest on savings. Obtaining income from the customer's loan interest becomes the bank's main income, meaning that the more customers entrust their money to be saved with the bank, the more banks will obtain a high level of ROA by minimizing the risk of default on savings of borrowed customers.

5.10 Effect of Liquidity on ROA through NPL

The results showed that the liquidity ratio did not significantly influence ROA through NPL. It can be concluded that NPL cannot be used as an intervening variable on the effect of the ratio of liquidity to ROA. The LDR ratio which is in the best range determined by Bank Indonesia shows that the relevant bank has successfully carried out its intermediation function, namely funding and lending well. When the LDR is too low, the funds collected by banks have not been utilized optimally in the form of lending, so that interest income received is even less. If the aim of the company's management is to pursue profit, then the strategy to increase lending rates will be chosen and ultimately increase the potential for debtors to default. High lending is expected to be able to reduce the NPL ratio**.**

6. Conclusion

The conclusions in this study which is based on the results of data processing are described as follows:

1) Macroeconomic significantly influences NPL. The negative regression coefficient value means that any increase in macroeconomic factors will reduce the value of the NPL and the effect shown is significant.
2) The leverage ratio does not significantly influence the NPL. The positive regression coefficient value means that any increase in leverage ratio will increase the NPL and the effect shown is not significant.
3) Liquidity ratio does not significantly influence NPL. The positive regression coefficient value means that any increase in liquidity will increase the NPL and the effect shown is not significant.
4) Macroeconomic does not significantly influence ROA. The positive regression coefficient value means that any increase in macroeconomic factors will increase

ROA and the effect shown is insignificant. Then it can be concluded that macroeconomic variables have no significant effect on ROA.

5) Leverage ratio does not significantly influence ROA. The positive regression coefficient value means that each increase in the leverage ratio will increase the ROA and the effect shown is not significant.
6) Liquidity ratios have a significant effect on ROA. The positive regression coefficient value means that any increase in liquidity will increase ROA and the effect shown is significant.
7) NPL has a significant negative effect on ROA. This means that any increase in NPL will cause the ROA value to decrease.
8) Macroeconomics significantly influence ROA through NPL
9) Leverage ratio has a significant effect on ROA through NPL.
10) Liquidity has insignificant effect on ROA through NPL.

7. Suggestion

Suggestions in this study of banking in Indonesia are described as follows

1) The influence of macroeconomic variables that have an insignificant effect on the NPL ratio of banks in Indonesia must be followed up by various relevant stakeholders in order to maintain the level of bank NPLs at a relatively low level. The government should issue policies that concentrate to the impact on changes in macroeconomic variables, especially those related to exchange rates and inflation. The government must be able to stimulate the stability of the exchange rate and inflation, because the increased exchange rate and inflation can increase the level of bank NPL that occurs. Furthermore, the government feels it is necessary to keep the price level at a relatively low and stable level.
2) Inflation will reduce the economic activity of the community which in turn can disrupt the ability to pay for credit. This is necessary so that the fiscal and monetary policies issued by the government and Bank Indonesia must support each other. The policies issued by the government are not counterproductive to monetary policies issued by BI in support of increasing credit and keeping NPLs at a low level.
3) NPLs have a negative effect on bank profitability. Therefore, in order to reduce the NPL value from year to year, banks must establish or have the precautionary principle to apply to problem loans. Companies must be able to reduce the presence of substandard loans, doubt and the existence of bad loans so that ROA can increase.
4) By stabilizing and maintaining the LDR ratio in an ideal position and taking into account the quality of the loans extended to avoid the occurrence of problem loans so that they can benefit from the loans extended to banks.
5) Further researchers are advised to increase the time span and number of samples to obtain more accurate data and research results. Future studies are also

recommended to examine other factors that affect profitability, for example Third Party Funds (DPK), and Loan to Funding Ratio (LFR).

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