Influence of Macro and Internal Factors of Bank on *Non Performing Loan* (NPL) Bank in Indonesia Year 2011-2015

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Abstract

Non performing loan (NPL) is the risk of bank credit . Banks in Indonesia have NPL higher than other countries in ASEAN. So, it is important to know factors influencing NPL. This Research aims to examine and to analyze macro and bank factor to NPL bank in Indonesia 2011-2015. Statistic tehnique used in this research is Multiple Regression test. The result is simultaneously CAR, Listed, BOPO, LAR, Bi Rate, Exchange Rate, LDR, and ROE positive significant influence to NPL. Based on t test, the result is BOPO, Listed, LAR and LDR significant influence to NPL, while CAR, Bi Rate, Exchange Rate, and ROE no significant influence to NPL. This research expected that it can be useful for management bank to manage NPL. Bank is expected to select the lending of credit the society.

Keywords: NPL, Macro, Intern, Bank in Indonesia

1. Introduction

The Bank has a function as a financial intermediary institution . As a financial intermediary institution, the bank has task to collect funds from the people who have excess funds and then distribute it for people who need the data in the form of loans. Financial management in the form of loans should be done with accurate and appropriate. Banks lend funds to the public have risks in the form of unpaid loans or bad debt. The inappropriateness in distributing the loan may result in bad debts. Bad debts or often referred as *Non Performing Loan* (NPL) can disrupt banking operational performance. This cause of the availability of funds in banks is decreasing so the bank can not perform intermediation function well. If the banking intermediation function is disrupted, the bank's operational activities will also be disrupted. This can degrade banking performance.

Table 1.1
NPL Data of ASEAN Countries and Surroundings

Year	Indonesia	India	Sri Lanka	Malaysia	Philippines	Singapore
2011	2.1441268	2.670195	3,81576807	2.68139031	2.55545772	1.06045561
2012	1.77338189	3.373953	3.62758333	2.01584311	2,22289481	1.04262809
2013	1.68676678	4.027728	5,57505788	1,84914657	2,44086452	0.86694161
2014	2.06681745	4.345849	4.2342145	1.64578546	2.02468665	0.75653286
2015	2,3217722	4.231272	4,32636871	1.62162646	2,13444375	0.8099917

Source: Worldbank Website

From world bank data, the NPL value in Indonesia is below 5% in the last 5 years (2011-2015). These data represent the average NPL in some States of ASEAN and Surroundings. The data in above is the NPL data in ASEAN and Surroundings.

In table 1.1 the number of NPLs banks in Indonesia has fluctuated but is still below 5%. According to Indonesian bank , banks that are said to be healthy have NPL values below 5%. NPL data of bank in Indonesia within the last 5 years (2011-2015) is a decrease in the value of NPLs in 2012 above 1, 77% and 1.68% in 2013. However, the increase in NPL in the next two years 2014-2015 amounted to 2.06% and 2.32%.

The greater NPL level of a bank the more problematic or unhealthy the bank is. Greuning and Bratanovic (2003) say that commercial banks play an important role in the emerging economies where most creditor do not have access to capital markets. Therefore the role of commercial banks in managing funds from the community is very important. It should also be followed by a good performance of bank loan as well. A good loan performance will result in a good bank performance in the economy as well.

Looking at the importance of good loan performance , it is necessary to note that what factors can affect bad credit (NPL). Factors that affect the NPL consist of external factors and internal factors. External factors are factors that come from outside the banking company that is the macro economic conditions in a country , the economic crisis, and the inability of the debtor in managing bank loan funds . While the internal factors are factors that come from within the company that is the specific factors of banking companies, and the inaccuracy of banks in analyzing creditworthiness to the debtor.

Bank specific factors can also affect the number of NPLs in a bank. Klein (2013) says that *Equity to Asset Ratio* and ROE (*Return on Equity*) are negatively correlated with NPLs

while overweight loans are measured by *Loan to Asset Ratio* , and bank lending past liabilities leads higher NPLs. Although bank-level factors have a significant impact on NPLs but overall the bank-level factors explain lower.

Research related to bank NPL level factor has been done by some researchers. Berger and DeYoung (1997) who examined the relationship between NPLs, efficiency costs , and capitalization in US commercial banks 1985-1994 period . There is influence between cost efficiency to NPL. While their describes the cause of NPLs on cost efficiency as a bad luck, because of deterioration of macroeconomic conditions. They explain this cause of cost efficiency to NPLs through poor management hypotheses. Under certain circumstances, this hypothesis holds that low cost efficiency is a sign of poor management practice, then implicated as a result of underwriting loans, oversight and poor controls such as the NPL. William (2004) focuses on the effect of loan quality and cost efficiency among storage banks in Europe in 1990-1998. Podpiera and Weil (2008) analyzed Czech banks between 1994-2005 and Louzis, Vouldis and Metaxas (2010) examined NPL factors in the Greek bond sector supporting the NPL rising hypothesis as poor management practices.

Berger and De Young (1997) suggest a possible positive cause between high cost efficiency and NPLs. In certain circumstances, they suggest that high cost efficiency reflect a small allocation of resources to monitor loan risk and higher NPL yields going forward. This research is consistent with the invention of Rossi, Schwaiger, and Winkler (2005) who looked at a sample of 278 banks from 9 transition countries from 1995-2002.

Keeton and Morris (1987) say that banks with low capital respond to Moral Hazard incentives with an increased risk of their loan portfolios, which results in higher NPLs going forward. Keeton and Morris (1987) point out that excessive loan rates stand out among banks with low *equity to asset ratios* .

Berger and De Young (1997) and Salas and Saurina (2002) found that there was a negative relationship between the ratio of capital and NPL. In general, Keeton and Morris (1987) argues that the bank wich maintains more risks, including the form of excess loan, lurred bigger losses immediately. The invention were supported by Salas and Saurina (2002) and Jimenez and Saurina (2005).

Research related to economic factors and NPL has been done by a number of researchers. Klein (2013) says that there are significant test results based on non-cycle behavior of NPLs. A general explanation is that higher real GDP growth typically creates more revenue that increases the debt service capacity of the borrower. On the contrary, when there is a slowdown in this study, measurement differences for cost efficiency include

profitability indicators such as ROE and ROA (Louize et al, 2010), *expenditures-to-assets* (Espinosa and Prasad, 2010).

NPLs can occur as a result of the economic crisis. The economic crisis that plagues a country can lead to financial difficulties that can lead to unpaid loans. Rajan and Dhal (2003) found that favorable macroeconomic and financial factors such as maturity, cost and credit terms, bank size, and credit orientation could have a significant effect on commercial banks' NPLs in India. Borge and Boye (2007) found that loan problems were a higher sensitivity to real interest rates and unemployment in the Nordic banking system of 1993-2005.

There are a number of studies related to factors affecting NPLs. Jimenez and Saurina (2005) examined the Spanish banks sector from 1994 to 2003 that NPLs were influenced by GDP growth, high real interest rates and soft loan periods. Babihuga (2007) found that there is an influence between macroeconomic variables and good financial indicators (capital adequacy, profitability and asset quality) to NPLs.

Furthermore, the research conducted by BM Misra and Dhal (2010) suggests that there is a positive influence between *Loan Deposit Ratio* (LDR) and *Non-Performing Loan.* Meanwhile, research conducted by Rajiv Ranjan and Sarat Chandra Dhal (2003) suggests that LDR negatively affect *Non-Performing Loan* . The results related to LDR and NPL show different results.

Subagyo (2005) found that *Capital Adequacy Ratio* (CAR) had a negative effect on *Non-Performing L*oan (NPL). However, these results contradict the research of Yoonhee Tina Chang (2006) which states that there is a positive influence between *Non-Performing Loan* (NPL) with *Capital Adequacy Ratio* (CAR).

Based on the explanation above that the important role of bank intermediation and economic growth with low NPL level and there are still different results related to factors that affect the NPL it is important to examine the Influence of Macro Factors and Internal Banks on *Non Performing Loan* (NPL) Bank in Indonesia.

This study intend to examine and analyze the effect of BI Rate positive significant to the NPL, the effect of the Exchange Rate positive significant to the NPL, influence of BOPO positive significant to NPL, the effect of LDR significant negative NPL, the effect of LAR significantly negative to NPL, the effect of CAR significant negative NPL, the influence of ROE is significantly negative to NPL, the influence of Listed Bank significantly negative to NPL .

This Research expected to be used as a reference by investors when considering their investment decisions in the banking system, and can be taken into consideration for the

bank's customers in the placement of funds in a healthy bank or NPL it meets the BI regulation, can be used by the bank's management to be the new knowledge in order can maintain the health of banks and non-performing loans through the handling of NPLs. In addition, it is beneficial to the government in making macro policies to encourage a good national economy. With the low level of bank NPLs shows that the public is capable of its credit obligations. So that bank intermediation activities can run smoothly and well. It can also encourage the stability of the national banking in Indonesia.

2. THEORETICAL STUDIES AND THE DEVELOPMENT OF HYPOTHESES

2.1 Non Performing Loan (NPL)

Non Performing Loan is a problematic loan because the loan has not been paid yet. *Non Performing Loan* consists of loans that are in substandard, doubtful and loss. Such problematic loans can disrupt the performance of a company or institution. Some researchers have found results of research related to *Non Performing Loans.*

Research Jimenez and Saurina (2005) examined the Spanish bank sector in 1994-2003 that NPLs were influenced by GDP growth, high real interest rates and soft loan periods. Babihuga (2007) found that there is an influence between macroeconomic variables and good financial indicators (capital adequacy, profitability and asset quality) to NPLs.

2.2 BI Rate

BI Rate is a bank interest rate policy that reflects the monetary policy stance set by BI. BI Rate determination by BI can be implemented in the money market in the form of liquidity management in order to achieve the operational targets of monetary policy. The rising BI Rate followed by an increase in bank lending rates may lead to an increase in non-performing loans (NPLs) because the interest expense borne by debtors will be even more severe. Borge and Boye (2007) research who found that the problem loans is higher sensitivity to real interest rates and unemployment in the Nordic banking system in 1993-2005.

The interest rate of Bank Indonesia (BI Rate) can affect the level of ability to pay principal loan and bank loan interest. If the BI Rate increases then it will increase the amount of bank NPLs. Jimenez and Saurina (2006) examined factors affecting NPLs in Spain showing the result that accelerated GDP, as well as the decline in real interest rates that led to

a decline in loan problems, the provision of rapid credit growth could result in lower credit standards so as to raise NPLs. Louzis et al (2010) examined the NPL factor in Greece which said that the fundamental macro factors (GDP, unemployment, interest rate) and quality of management are factors that affect the number of NPLs.

Based on the results of previous research above it can be formulated hypothesis that is as follows:

H1: BI Rate has a significant positive effect on NPL

2.3 Exchange Rate

The exchange rate is the price of a country's currency against another country's currency. The exchange rate is divided into two, namely the nominal exchange rate and the real exchange rate. Samuelson & Nordhaus (2001) nominal exchange rate is the relative price of currencies of two countries, while the real exchange rate is the relative price of goods between two countries.

One of the most influenced financial and macroeconomic indicators of economic fluctuations is the exchange rate. Changes in the exchange rate are vulnerable to troubled external credit and falling exchange rates due to panic among market participants. The effect of exchange rate on non-performing loans (NPLs) has an impact on economic activity, especially producers who use imported raw materials, so that with the depreciation of the exchange rate, the price of imported raw materials rises and it burdens production costs, ultimately impacting profit and producer income. The producer as a debtor will be affected by the loan repayment at the bank.

Rupiah value increases then will decrease NPL. The strengthening rupiah condition (not hit by the crisis) will reduce the number of bank NPLs. Beck et al (2013) said that the decline in the exchange rate could increase NPLs in a country with high foreign currency borrowing rates against Non-hedging borrowers.

Based on the results of previous research above it can be formulated hypothesis that is:

H2: Exchange Rates have a significant negative effect on NPLs

2.4 BOPO

Operational Cost and Operating Revenue (BOPO) ratio is the ratio to measure bank efficiency. Increased operations will lead to a decrease in profit before taxes so that lower the profit or profitability of banks. Dendawijaya (2001) said that based on the provisions of Bank Indonesia the normal BOPO ranges between 94% -96%.

If the bank is able to manage funds efficiently then the number of bopos can increase. The amount of BOPO increases will increase the NPL of the bank. William (2004) examined the effect of loan quality and efficiency costs among storage banks in Europe in 1990-1998. Low cost efficiency is a bad signal to management practices that imply bad loan guarantees, controls and bad controls that can increase NPLs.

Based on the results of the above research can be formulated hypothesis that is :

H3: BOPO has a significant positive effect on NPL

2.5 LDR

Loan to Deposit ratio (LDR) is the ratio of how much the loan is given to the community with the savings funds collected from the community. Based on the provisions of Bank Indonesia healthy banks if the LDR is 85% -100%. If the number of LDR increases then will increase the number of NPLs. The higher the LDR, the lower the bank's liquidity (Dendawijaya, 2000). The LDR ratio is used to measure liquidity. A high ratio indicates that a bank lends all its funds (*loan-up*) or relatively *illiquid* . On the other hand a low ratio indicates a liquid bank with overcapacity of funds ready to lend (Latumaerissa, 1999). Furthermore, BM Misra and Sarat Dahl (2009) found that LDR has a positive effect on NPL.

Based on the results of the above research can be formulated hypothesis that is:

H4: LDR has a significant positive effect on NPL

2.6 LAR

Loan to Total Asset ratio (LAR) is a ratio that measures how much the percentage of loans compared to the amount of bank assets. If the amount of bank loan is too high compared to bank assets, the bank's operational activities can not run well. If the number of

bank loans increased not followed by loan repayment then lowered the bank's assets. The decreasing amount of bank assets will disrupt bank performance.

Khemraj and Pasha (2005) say that there is a positive influence between NPL and the ratio of loan to total asset (LAR) of banks in Guyana in 1994-2004. The results are consistent with the results of Sinkey and Greenwalt (1991). That the higher profitability value of the larger risk cost (represented by the high LAR) is the higher NPL level during the downward economic period.

Furthermore, Dash and Kobra (2012) analyzed for 10 years the influence of NPLs with some macroeconomic variables and bank-specific factors. The results show that there is a positive influence between LAR and NPL, while credit growth, GDP, inlation has a negative effect on NPL. Level of interest rates and exchange rates have a positive effect on NPLs.

Based on the results of previous research above it can be formulated hypothesis that is:

H5: LAR has a significant positive effect on NPL

2.7 CAR

Credit contains risks must be provided amount of capital by a certain percentage (*Risk Margin*) to the amount of planting. CAR is the basic capital that must be met by the bank. According to Bank Indonesia Regulation (2008), CAR is a ratio showing the extent to which bank assets containing risks (credit, investments, securities, claims to other banks) are financed from the bank's own capital funds in addition to obtaining funds from sources outside the bank, such as public funds, loans (debt), etc.

The higher the CAR, the stronger the bank's ability to assume the risk of any credit or risky earning assets. If a high CAR value (in accordance with Bank Indonesia's 8% provision) means that the bank is capable of financing the bank's operations, and has resilience to the financial crisis. The calculation of bank minimum capital requirement is based on Risk-Weighted Assets (ATMR). In accordance with the assessment of the CAR ratio based on Decree No. DIR BI. 30/12 / KEP / DIR dated 30 April 1997, CAR at least 8%.

The amount of capital adequacy in the bank can overcome the availability of the amount of loan funds in the bank. If the number of nonperforming loans decreases, the amount of CAR will increase. Babihuga (2007) found that there is an influence between

macroeconomic variables and good financial indicators (capital adequacy, profitability and asset quality) to NPLs. Furthermore, Makri et al (2013) found that the capital adequacy ratio had a negative effect on the NPL. This study is in line with the results of research Robert DeYoung (1997) and Salas and Saurina (2002).

Based on the results of previous research above it can be formulated hypothesis that is:

H6: CAR has a significant negative effect on the NPL

2.8 ROE

Bank profitability is generally measured and compared to *return on equity* (ROE). Higher bank returns will be better because banks can add more retained earnings and dividend payouts in cash when profits increase. Profitability as measured by Return on Equity (ROE) can affect NPLs. How much percentage of net income compared to corporate equity will affect the amount of problem loans. The amount of nonperforming loans affects the operations of the company.

Makri et al (2013) found that profitability ratios as measured by ROE negatively affected NPLs. This research is in line with Taktak, and Jellouli (2009a), Cotugno, Stefanelli, and Torluccio (2010), Louzis, Vouldis, and Metaxas (2010).

Based on the results of the above research can be formulated hypothesis that is as follows:

H7: ROE has a significant negative effect on the NPL

2.9 Listed Bank

Listed banks describe banks listed on the Stock Exchange. Banks listed on the Securities Exchange will have higher performance compared to banks not listed on the Indonesia Stock Exchange. Banks listed on the Stock Exchange are banks with large assets and capital, the level of corporate governance is also better to reduce the problem loans than banks that are not listed on the Stock Exchange.

Based on the results of previous research above it can be formulated hypothesis that is:

H8: Listed Bank has a significant negative effect on the NPL

3. RESEARCH METHOD

3.1 RESEARCH DESIGN

Data analysis is a process of simplifying the data into a form that is easier to read and interpreted. In this study used quantitative research. Quantitative research analysis (now, 2006: 65) is a study that can be calculated by the number of specific units or declared with numbers using secondary data.

3.2 Population and Sample

This research population is Conventional Bank that exist in Indonesia in year 2011-2015. research using *purposive sampling* method in sample selection (now, 2006: 136) .

3.3 Method of collecting data

This study uses secondary data. Secondary data (Sekaran, 2006: 65) is the collection of data does not come from the first person. The secondary data sources used in this study are from the *website of* Bank Indonesia *,* Indonesia Stock Exchange *website* , and Bank *website* .

3.4 Variable Measurement and Operational Definition

1. **Dependent Variables**

NPL

Non Performing Loans are standard proxies of a bank's asset risk. *Non-performing loans* (NPLs) *gross* is a comparison between the amount of non- *current* , *doubtful* , and *bad* loans, with total loans disbursed to customers. According to Bank Indonesia Circular Letter No.6 / 23 / DPNP / 2004 the formula of *Non Performing Loans Gross* is as follows:

NPL gross = Σ (Less Current Loans + Doubles + Loss)
                    Total Loans

Bank Indonesia only allows a maximum limit of 5% for *non performing loans* (NPLs). If it exceeds that number, it affects the bank's soundness. NPL is measured by ratio scale.

2. **Independent Variables**
   a. **BI Rate**

BI Rate is the lending rate set by Indonesian banks. BI rate is measured by using a ratio scale because it uses a percentage.

b. Exchange Rate (Exchange Rate)

The Exchange Rate is the exchange rate of the rupiah against the US dollar. The exchange rate is measured using a nominal scale because it denotes the rupiah.

c. BOPO

The ratio of BOPO to find out how far the bank uses the income to cover its operational costs. BOPO ratio is a proxy of the efficiency of a bank that is often used by Bank Indonesia (Mudrajad, Suhardjono, 2011: 524). BOPO is measured using a ratio scale. BOPO Ratio can be formulated as follows:

BOPO = Operational Cost

Operating Income

d. LDR

Loan to deposit ratio (LDR) is a ratio to measure bank liquidity. The ratio of LDR (Kuncoro and Suhardjono, 2011) is the ratio of the amount of loans granted to communities with public savings. In accordance with Bank Indonesia regulation, the liquidity level of the bank shall be considered as if its LDR is between 85% -10 0%. LDR is measured using a ratio scale.

LDR = Amount of loan granted

Community Fund

e. LAR

Loan to asset ratio (LAR) is the ratio of loans granted to the public and assets owned by banks. LAR is measured using a ratio scale.

LAR = Loan Amount

Total Assets

f. CAR

Capital Adequacy Ratio is a proxy of a bank's capitalization. (Altman, E, Bharath, S and Saunders, A: 2002) said Capital Adequacy is also a central role in *The International Bank's Solvency Standards of The Basel Committee of the Bank for International Settlements* (BIS).

Banks are required to meet the minimum capital requirement or known as CAR (*Capital Adequacy Ratio*), which is measured from the percentage of capital to risk-weighted assets (RWA). Based on the standards set by *The Bank for International Settlements* (BIS), all banks in Indonesia are required to provide a minimum capital of 8% of RWA.

CAR is measured using a ratio scale. The calculation of the CAR ratio in accordance with the standards of Bank Indonesia is

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

g. ROE

According to Kuncoro and Suhardjono (2011), in 1972 David Cole introduced ways of evaluating bank performance through analysis of the bank's profitability ratios on bank performance and equity. ROE is measured using the ratio scale.

The ROE formula is as follows:

$$ROE = \frac{Net\ Income}{Equity}$$

h. Listed Bank

In this study, *Listed Bank* is a *dummy* variable to know the bank is registered or not in Indonesia Stock Exchange (BEI). This variable will be worth 1 if it is listed on BEI and is 0 if it is not listed on BEI. Listed banks are measured using ordinal scales because they use numbers where numbers 1 and 0.

3.5 Data analysis

This study aims to determine the linear relationship of the variables. So using statistical methods to analyze it (now, 2006: 186). The method of analysis is a quantitative method using *statistics* and testing data as follows:

1. Regression Analysis

In this study, the analysis technique used is multiple regression analysis, because the independent variables in this study amounted to more than one. Multiple regression analysis technique is a test technique used to determine the effect of independent variables to the

dependent variable. The equation of multiple regression analysis can be formulated as follows:

$$Y_{NPL} = \alpha + \beta_1 (BI\ Rate) + \beta_2 (\textit{Exchange rate}) + \beta_3 (BOPO) + \beta_4 (CAR) + \beta_5 (L\ DR) + \beta_6 (LAR) + \beta_7 (ROE) + \beta_8 (Listed) + e$$

Information :

Y_{NPL} = Regression Equation Dependent Variable NPL

BI Rate = BI Rate

Exchange Rate = Rupiah Exchange Rate Against US Dollar.

BOPO = Variable Operational Cost and Operating Income of Bank

LDR = Loan To Deposit ratio

LAR = Loan to Total Asset Ratio

CAR = Capital Adequacy Ratio

ROE = Return on Equity

Listed Bank = Control Variable Bank registered on BEI

e = Error

2.   Data Description

Description Data is an analysis that describes the characteristics of the data. Data Description provides an overall description or description of a data viewed from the *mean*, standard deviation, maximum, and minimum values .

3.   Hypothesis testing

Hypothesis test aims to determine the hypothesis used in research accepted or rejected. Hypothesis test consists of three kinds are statistical F test, test the coefficient of determination ($R^{2)}$, and t test. Here are three kinds of hypothesis test:

a.   Analysis of Variance (ANOVA) / Test F Statistics

F test is used to determine the influence of significance of independent variables simultaneously to the dependent variable. The degree of significance of trust used in this study was 0.05. If the value of F calculation results greater than the value of F table then all independent variables simultaneously have a significant effect on the dependent variable. Or If the value of the significance of the independent variable to the dependent variable is less than 0.05 then the independent variable significantly affects the dependent variable.

b.   The coefficient of determination ($R^{2)}$ or R Square

Determination coefficient test shows that how much independent variable can influence or explain the dependent variable used in the research.

T test is used to determine the influence of the significance of independent variables partially to the dependent variable .

4. DATA ANALYSIS

4.1 Data Analysis

Data analysis is used to answer the research problem. The results of data analysis based on the purpose of this study . The purpose of this study is to test empirically the macro and internal factors of banks to Banking NPLs in Indonesia in 2011-2015.

4.2 Sample Research Data

The sample data used in this study are 32 Banks in Indonesia in 2011-2015. A total of 32 banks were categorized into 2 of the banks listed on the Stock Exchange or not listed on the Stock Exchange. In this study obtained 160 observation data in 2011-2015. This research data passed the classical assumption test that includes normality, heteroscedasticity, auto correlation and multicolonierity.

4.3 Descriptive Statistics

Table 4.1
Descriptive Statistics

	N	Minimum	Maximum	Mean		Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic	Std. Error	Statistic	Std. Error
CAR	160	, 1000	, 4638	, 179758	, 0038554	, 0487672	2,276	, 192	9,729	, 381
NPL	160	, 0006	, 0890	, 021405	, 0012738	, 0161126	1,422	, 192	2,489	, 381
Listed	160	, 0000	1,0000	, 725000	, 0354109	, 4479162	-1.017	, 192	-, 977	, 381
BOPO	160	, 1620	1.7705	, 832989	, 0138350	, 1750005	, 437	, 192	7,110	, 381
LAR	160	, 4038	, 9200	, 662006	, 0071075	, 0899033	-, 088	, 192	, 846	, 381
BIRATE	160	, 0575	, 0775	, 069000	, 0006706	, 0084823	-, 402	, 192	-1,771	, 381
EXCRATE	160	9113,0000	13726,0000	11412,600000	137.1564006	1734,9064869	-, 132	, 192	-1,535	, 381
LDR	160	, 3205	1.4072	, 838044	, 0103028	, 1303218	-, 114	, 192	3,327	, 381
ROE	160	-, 2509	, 4249	, 123343	, 0079289	, 1002941	-, 059	, 192	1.599	, 381
Valid N (listwise)	160									

Table 4.1 shows that the variable *Capital Adequacy Ratio* (CAR) of the bank in Indonesia has a minimum value of 0.1, the maximum value of 0.4638 and the average value of CAR of 0.179. Bank MNC (Bumiputera) Tbk (BABP) in 2011 recorded a CAR value of 0.1 and is the minimum CAR value of banks in 2011-2015. Bank SBI 2015 recorded a CAR value of 0.4638 and represents the maximum CAR value of banks in 2011-2015. Based on Bank Indonesia regulation, the minimum CAR value is 8%. The results indicate that banks in Indonesia have a good capital adequacy. The value of bank CAR in Indonesia in 2011-2015 is greater than 8%.

The *Bank's Non Performing Loan* (NPL) value in Indonesia in 2011-2015 has a minimum value of 0,0006, a maximum value of 0.089, and an average NPL of 0.021. Based on Bank Indonesia regulation, the maximum value of NPL is 5%. Bank Index in 2013 recorded a NPL of 0.06% so that the value is the minimum value of bank NPLs in 2011-2015. Bank of India Indonesia (BSWD) in 2015 recorded a NPL of 8.9% so that the value is the maximum value of bank NPLs in 2011-2015. The average NPL of the Bank for 2011-2015 is 2.1%, so the average of bank NPLs in Indonesia is smaller than the maximum value of Bank Indonesia regulations. Therefore, bank NPLs for 2011-2015 are performing well.

Listed variable is a dummy variable indicating that value 1 is a value for a bank listed on the BEI and a value of 0 for a bank not listed on the Stock Exchange. A value of 0 is a minimum value and a value of 1 is the maximum value.

Operational Cost and Operating Income Variables (BOPO) has a minimum value of 0.162, a maximum value of 1.77 and an average value of BOPO of 0.832. Bank NISP Tbk (NISP) in 2015 recorded a BOPO value of 0.162 and is the minimum BOPO value of banks in 2011-2015. Bank SBI 2015 recorded BOPO value of 1.77 and is the maximum BOPO value of banks in 2011-2015. Based on the provisions of Bank Indonesia BOPO value is in the value of 80-100%. Banks that have BOPO value exceeding 100% then the bank is not efficient in managing its operational activities. The average BOPO of 83.2%, the bank in Indonesia in 2011-2015 has a good performance BOPO.

The *Loan to Total Asset Ratio* (LAR) variable has a minimum value of 0.4038, a maximum value of 0.92 and an average LAR of 0.662. Bank Mitraniaga in 2011 recorded a LAR value of 0.4038 and is the minimum bank LAR value in Indonesia in 2011-2015. Bank BII Tbk (BNII) in 2011 recorded a LAR value of 0.92 and represents the maximum bank LAR value for 2011-2015. Bank LAR value in Indonesia in 2011-2015 shows good value.

The Bi Rate variable has a minimum value of 0.0575, a maximum value of 0.0775 and an average Bi Rate of 0.069. The minimum Bi rate of 0.0575 occurs in 2012 and the Bi Rate of 0.0775 occurs in 2014.

The Exchange Rate variable has a minimum value of Rp 9,113, a maximum value of Rp 13,726 and an average exchange rate of Rp 11,412. the minimum value of Exchange Rate of Rp 9113 occurs in 2011 and the maximum value of the Exchange Rate occurs in 2015.

Variable *Loan to Deposit Ratio* (LDR) bank in Indonesia 2011-2015 has a minimum value of 0.3205, 1.4072 and the maximum value of the average LDR value of 0.838. The minimum LDR value of 0.3205 is recorded by Nusantara Parahyangan Tbk (BBNP) bank in 2015. The maximum LDR value of 1.4072 is recorded by Bank Saudara Tbk (SDRA) in 2013. The average value of bank LDR in Indonesia is 83.8% perform well in the banking intermediation role to the public. Therfore, the bank LDR in Indonesia in 2011-2015 is performing well.

Bank Indonesia ROE variables in 2011-2015 have a minimum value of -0.2509, a maximum value of 0.4249, and an average ROE of 0.123. The minimum value of ROE -0.2509 is recorded by Bank SBI 2015. Maximum value of ROE 0.4249 is recorded by Bank BRI Tbk (BBRI) in 2011. The performance of bank ROE in Indonesia in 2011-2015 shows the value is less good because there are several banks that have ROE performance reaches a negative number. Nevertheless, the average value of bank ROE in Indonesia in 2011-2015 is 0.123. The average ROE of 0.123 shows a positive ROE but good performance for the banking industry.

4.4 Data Analysis And Discussion

4.4.1 Coefficient of Determination

Table 4.2

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	, 439 [a]	, 193	, 150	, 0148534	1.887

a. Predictors: (Constant), ROE, LDR, CAR, BIRATE, Listed, BOPO, LAR, EXCRATE

b. Dependent Variable: NPL

Based on Table 4.2, the adjusted R square value (coefficient of determination) of 0.15 which means that the effect of CAR, Listed, BOPO, LAR, LDR, Bi Rate, Exchange Rate and ROE to NPL by 15%, while the remaining 85% influenced by other variables outside of this research model.

4.4.2 Test F

Table 4.3
ANOVA [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	, 008	8	, 001	4,513	, 000 [b]
	Residual	, 033	151	, 000		
	Total	, 041	159			

a. Dependent Variable: NPL
b. Predictors: (Constant), ROE, LDR, CAR, BIRATE, Listed, BOPO, LAR, EXCRATE

Table 4.3 shows that the F value of statistical count is 4.513 with a significance value of 0.000. The significance value of 0,000 <0.05 then the effect of CAR, Listed, BOPO, LAR, Bi Rate, Exchange Rate, LDR and ROE variables on NPL is positive. Thus simultaneously independent variables are CAR, Listed, BOPO, LAR, Bi Rate, Exchange Rate, LDR and ROE have a significant positive effect on NPL dependent variable of 3.453.

4.4.3 Test t

Table 4.4
Test t

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	, 009	, 018		, 503	, 616		
	CAR	-, 020	, 027	-, 061	- 750	, 455	, 812	1,231
	Listed	, 009	, 003	, 264	3,230	, 002	, 802	1,247
	BOPO	, 017	, 009	, 183	1.862	, 065	, 555	1.802
	LAR	-, 057	, 018	-, 320	-3,189	, 002	, 531	1.883
	BIRATE	-, 077	, 341	-, 041	-, 226	, 821	, 166	6,020
	EXCRATE	8,088E-8	, 000	, 009	, 048	, 962	, 159	6,290
	LDR	, 047	, 013	, 381	3,682	, 000	, 500	1.998
	ROE	-, 018	, 016	-, 112	-1,108	, 270	, 520	1.922

a. Dependent Variable: NPL

Based on the analysis result from table 4.4 it is known that the double linear regression model is

Y $_{NPL}$ = 0.009 - 0.75 CAR + 3.23 Listed + 1.862 BOPO - 3,189 LAR - 0.226 BIRATE + 0,048 EXCRATE + 3,682 LDR - 1,108 ROE

Table 4.4 shows that the significance values of CAR,, Bi Rate, Exchange Rate, and ROE are greater than 0.05. From the results it is known that the variables CAR, Bi Rate, Exchange Rate, and ROE does not affect the NPL of banks in Indonesia in 2011-2015. Whereas, Listed variable has a significance value of 0.002, LAR has a significance value of 0.002 and LDR has a significance value of 0.000. The significance value of LAR and LDR variables is smaller than 0.05 then Listed, LAR and LDR variables affect the NPL of banks in Indonesia in 2011. BOPO variables have a significance value of 0.065. The significance value of 0.065 <0.1 then the variable BOPO affect the NPL at the level of significance of 10%.

The value of t listed variable is 3.23 with significance 0,002 hence can be interpreted that listed bank have significant positive effect to NPL. Banks listed on the IDX have a larger NPL opportunity than banks not listed on the IDX. This is because people tend to borrow at banks listed on the IDX rather than those not listed on the IDX so that the potential of NPLs increased greater than not listed on the Stock Exchange. These results are different from the hypothesis of this study that states that listed banks have a significant negative effect on the NPL.

Value of t variable of LAR equal to -3,314 with significance 0,001 hence can be interpreted that LAR have significant negative effect to NPL variable. If the LAR value increases then the NPL will decrease. Banks are selective in providing loans to the public so as to minimize the number of NPLs. Although the number of loans increased compared to total assets but the number of NPLs decreased because of selective banks in providing loans to the public. Increase in the number of community loans followed by repayment of loans. The Bank performs its intermediation function well. These results are different from the research hypothesis which states that LAR has a significant positive effect on NPL.

The value of LDR variable t is 3,682 with significance 0.000 hence can be interpreted that LDR have significant positive effect to NPL. If the LDR value increases then the NPL will also increase. The amount of loans to the public is greater than third party deposits, the NPL value tends to increase. Banks are more lending to the public than receiving third-party

deposits so NPL rates tend to increase. Cause the people who borrow can not pay off the loan so that there is bad credit (NPL) and the channeling of funds does not occur well. The results of this study are consistent with the results of research conducted by Dendawijaya (2000), Latumaerissa (1999), and BM Misra and Sarat Dahl (2009).

Value of t variable BOPO equal to 1,862 with significance equal to 0,065 hence can be interpreted that BOPO have positive significant effect to NPL at level of signifikansi 10%. High BOPO values indicate that banks are inefficient in managing operating costs and operating income. BOPO value increases then the number of NPLs can increase. Bad credit (NPL) makes the cost of the company increased. The results of this study are consistent with the results of William's (2004) study which states that the level of bank efficiency affect NPL.

5. CONCLUSIONS AND SUGGESTIONS

5.1 Conclusions

1.   Simultaneously CAR, Listed, BOPO, LAR, Bi Rate, Exchange Rate, LDR and ROE variables significantly influence Bank NPLs in Indonesia in 2011-2015.

2.   Bank macro factors do not affect the number of bank NPLs in Indonesia in 2011-2015. The terms of interest rate from Bank Indonesia (BI Rate) have no effect on bank NPL. Similarly, the macro factor of the rupiah exchange rate against the US dollar (Exchange Rate) has no effect on the bank's NPL. Bank NPLs in Indonesia in 2011-2015 are not sensitive to Indonesia's macro conditions.

3.   Internal factor of bank more influence to NPL than macro factor. It can be known from the result of internal factor of bank that is LAR, LDR, Listed and BOPO have significant effect to NPL of bank. Bank management and governance policies can control bank NPL levels. How the bank selects community loans in order to avoid non-performing loans (NPLs).

4.   Partially Listed, LAR, LDR and BOPO variables significantly influence the NPL.

5.2 Suggestions

1.   Bank management should play an active role in carrying out the bank intermediation role so that it can control the NPL level of the bank. Good bank

management can minimize the number of bank NPLs and anticipate the impact of Indonesia's macro conditions.

2.   Further research on factors affecting NPLs should consider longer periods of time in order to obtain more sample observation. In addition, also need to consider other factors of this study.

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