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The Influence of Internal and External Factors on Non-Performing Loans In Indonesia's Largest Banking Industry

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Abstrak. Penelitian ini bertujuan untuk mengukur pengaruh proksi faktor internal dari aspek effisiensi yang diukur dengan rasio biaya operasional dan pendapatan operasional (BOPO), likuiditas yang diukur dengan rasio loan-deposit ratio (LDR), ukuran bank yang diukur dengan total asset serta aspek permodalan bank yang diukur dengan capital buffer serta faktor eksternal dengan menggunakan Repo Rate, dan inflasi terhadap kredit bermasalah pada sepuluh industri perbankan terbesar di Indonesia. Metode pemilihan sempel pada penelitian ini menggunakan purposive sampling. Sampel terdiri atas 10 bank terbesar di Indonesia dengan krateria memiliki total asset bank dari keseluruhan total asset perbankan nasional di atas 2%. Data yang digunakan adalah data tahunan sejak tahun 2011 sampai 2020. Hasil penelitian menunjukkan bahwa dari faktor internal bank, BOPO berpengaruh positif dan signifikan terhadap NPL. LDR dan variabel capital buffer diperoleh hasil yang negative signifikan terhadap NPL. Sementara ukuran bank diperoleh hasil yang tidak signifikan terhadap NPL. Dari faktor eksternal diperoleh hasil dimana suku bunga berpengaruh negative signifikan terhadap NPL sedangkan inflasi tidak signifikan terhadap peningkatan NPL.

Kata kunci : NPL, faktor internal, makroekonomi.

Abstract. *This study aims to measure the effectiveness of internal factor proxies from the aspect of efficiency as measured by the ratio of operating costs and operating income (BOPO), liquidity as measured by the loan-deposit ratio (LDR), bank size as measured by total assets, and aspects of bank capital that measured by the capital buffer and external factors using the Repo Rate, and inflation on non-performing loans in the ten largest banking industries in Indonesia. The sample consists of the 10 largest banks in Indonesia with the criteria of having total bank assets of the total national banking assets above 2%. The data used are annual data from 2011 to 2020. The results show that from the bank's internal factors, BOPO has a positive and significant effect on the NPL. LDR, and variable capital buffer, a negative and significant on NPL. While the size of the bank obtained results that are not significant to the NPL. From external factors, the results obtained where interest rates have a significant negative effect on NPLs while inflation is not significant for increasing NPL.*

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Introduction

Economic growth in Indonesia in the first quarter of 2020 was 2.97 percent (central agency for statistics, 2020). During the last ten years, economic growth tends to decline. The economic slowdown that occurred certainly had an impact on the industrial sectors by reducing production by the business world. This will certainly have a major impact on the banking sector.

The banking sector plays an important role in efforts to increase national economic growth. The main role of being a financial intermediary institution is the role of banks in an effort to provide a transformation of liquidity sourced from depositors which is then channeled to debtors who need funds with various forms of interest. In addition, banks also act as agents of development, which can encourage development progress through credit facilities and ease of payment and withdrawals. in the process of transactions carried out by economic actors.

Until now, the largest and the main income in the banking sector in Indonesia is derived from interest income, this is because the main activity of the banking sector that dominates is to collect funds and channel them back in the form of credit. The amount of credit disbursed will determine the bank's profit (Kasmir, 2012). If the bank is unable to extend credit, the funds that have been collected in the form of very large deposits will cause the bank to suffer losses. The amount of credit that can be disbursed by banks is influenced by the number of funds that have been collected from the public or referred to as Third Party Funds (DPK). Based on data from the Otoritas Jasa Keuangan (OJK), in the second quarter of 2020, the portion of loan interest income was recorded at Rp. 138.77 trillion, while in terms of expenses, the interest expense of TPF in banks in August 2020 was Rp. 6,487.84 trillion (Financial Services Authority, 2020). Banks will get liquidity slack with the growth of third-party funds, but the large funds will still be a burden as long as the bank cannot channel them back into credit.

The development of total third party funds, total credit and quality of bank credit in Indonesia are as follows:

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Table 1: Development of TPF, Total Credit and NPL of Indonesian Commercial Banks for 2016-2020

Indicator	2016	2017	2018	2019	2020
DPK (Rp billion)	4.836.758	5.289.209	5.372.841	5.709.670	6.342.538
Credit (Rp billion)	4.377.195	4.737.972	5.092.584	5.391.846	5.235.027
NPL %	2,93	2,60	2,33	2,50	3,06

Source: Otoritas Jasa Keuangan, 2020

Business stability in the banking sector is strongly influenced by the successful management of their credit and deposits. The importance of lending activities for banks makes banks always develop their credit management to maximize the income received, including maintaining credit distribution. An increase in loan growth can increase bank risk. Based on table 1, where if the bank disburses credit that is greater or almost exceeds the amount of third party funds (DPK), it will cause an increase in the number of bad loans. This can be seen in 2018 where the Bank disbursed 94% of the total DPK into loans, this increased the NPL to 2.50%. And the number of bad loans (NPL) in 2020 continues to increase to 3.06%.

The indicator that can be used to determine the level of non-performing loans in banks is through the ratio of Non-Performance Loans (NPL). Bank Indonesia through the Decree of the Board of Directors of Bank Indonesia No. 30/12/KEP/DIR 1997 stated that banking NPLs are recommended to be below 5 percent. This will have the potential to increase bank profits because it can save funds used as reserves for non-performing loans (idle money). However, banks still need to be aware of excessive credit disbursement, (Putri, Ilmi, & Tricahyadinata, 2018).

Factors that affect non-performing loans come from internal factors related to the implementation of policies and regulations that are within the scope of the bank itself (Riyadi, 2005). One of the factors is the aspect of the availability of bank capital (capital buffer). The cause of the worsening of the crisis is because the capital buffer of banks cannot absorb the failure of banks experiencing a crisis, and banking crisis situation can also occur due to the relationship in the bank's flow in payment of loans in the interbank money market. Therefore, Bank Indonesia took conservative steps to maintain the existence of banks by setting a minimum

amount of capital or the Capital Adequacy Ratio (CAR) by setting PBI No. 3/21/PBI/2001 concerning the Minimum Capital Adequacy Requirement for Commercial Banks of 8 percent.

The efficiency aspect will also have an impact on the risk of bank non-performing loans. Banking as a financial intermediary, in carrying out its activities, has expenses to finance its operational activities (overhead costs). The indicator that can be used to measure the level of bank efficiency is operational expenditure on operating income (BOPO).

According to Bad Luck's theory (1997), a high NPL ratio can be triggered by internal factors as well as various factors originating from the external environment that cannot be controlled by the bank's management. This can be caused by a declining economy such as high-interest rates and inflation. At a time of high credit growth (credit boom), in making policy there will be a dilemma, because in addition to increasing economic growth it will also create vulnerability to the financial sector, in the form of lower lending standards, excessive leverage, and inflation of asset prices (Reinhart & Rogoff, 2003). 2009).

Several studies on internal and external factors that influence the occurrence of non-performing loans have been carried out in various countries, but these studies show different results. So on this occasion, researchers are interested in proving again how these factors influence non-performing loans. This research also examines new things in the form of bank size as seen from total assets and policies on the use of capital buffers in an effort to absorb credit risk. For this reason, it is necessary to conduct research on the factors that influence the occurrence of non-performing loans, both from internal banks and external bank factors in the ten largest banking industries in Indonesia. Non-performing loans use NPL, internal factors are BOPO, LDR, bank size, and capital buffer while external factors are interest rates (repo rate) and inflation.

Research methods

Conceptual Framework and Hypothesis Development

In general, bank lending is influenced by two sides, namely the demand and supply sides, which are the main functions of the banking sector as a financial intermediary institution. The

demand side is described when a prospective debtor or party who needs funds will apply for a loan to the bank. While the supply side is described when a bank offers credit or loans to parties who need funds (Binangkit, 2014).

Until now, the largest income in the banking sector is still dominated by interest income. Deposits (DPK) that are successfully collected by the bank will provide liquidity slack, but a large number of funds will still be a burden as long as the bank is unable to redistribute it in the form of credit. One of the bank's profits is determined by the amount of credit disbursed.

The continued reliance on credit as the main source of income and the obligation of banks to take responsibility for the risks that may occur make conventional commercial banks more vulnerable to non-performing loans (Apsari & David Kaluge, 2020). The amount of non-performing loans can be measured through the ratio of Non-Performing Loans (NPL). Bank Indonesia through the Decree of the Board of Directors of Bank Indonesia No. 30/12/KEP/DIR 1997 stated that banking NPLs are recommended to be below 5 percent. The high NPL ratio can be influenced by various factors, both influenced by the banking system itself, such as internal factors and external factors, for example, economic phenomena.

The efficiency of a bank's operational activities in collecting and redistributing funds can be measured by the number of operational costs and operating income of the bank. Operational costs occur due to uncertainty regarding the bank's business, including possible losses from operations (Riyadi, 2005).

BOPO is the ratio between operational costs and operating income. Bank with the lower of the BOPO ratio means the better the bank's management performance (Riyadi, 2006). According to Kuncoro & Suhardjono (2002), a bank that is inefficient in its business activities will result in an inability to compete in mobilizing public funds and in channeling these funds to people in need as business capital. The smaller the BOPO indicates the more efficient the bank is in carrying out its business activities. The research of Podpiera & Weill (2008), which states that when operational costs increase, banks will increase the amount of credit to obtain higher interest income, which can lead to non-performing loans in the future.(Chaibi & Ftiti, 2015) which states

that inefficiency has a significant positive effect on bank credit risk in France. This underlies the first hypothesis in this study, namely:

H1: BOPO has a positive and significant effect on NPL

The LDR ratio according to Mulyono (2001) is a ratio that measures the ratio between the number of funds channeled to the public (credit) with the number of public funds and own capital used. The higher this ratio, the lower the bank's liquidity ability (Dendawijaya, 2003). The liquidity of a bank can be measured by the LDR ratio. A high ratio indicates that a bank lends all of its funds (loan-up) or is relatively illiquid. The higher the LDR ratio, indicating the possibility of non-performing loans will also be higher. On the other hand, a bank with the lower ratio indicates as a liquid bank and has funds to lend. As stated by Dendawijaya (2003) and Diyanti & Widyarti (2012) that LDR has a positive effect on the occurrence of NPL, the following hypothesis can be taken:

H2: LDR has a positive and significant effect on NPL

Total assets can be used as a measure of the size of a bank. Bank size is a category of the size of a bank that can be measured based on the total value of assets owned by the bank. In addition, the large size also illustrates that bank management is more capable of diversifying its assets. When the ability to diversify assets is higher, the bank's income is not exposed to risk in one area so risk can be minimized. In addition, an increase in total assets can also describe an increase in the volume of credit because one of the main components in assets is credit. Credit spreads can be reduced by increasing lending. When banks can reduce credit spreads, banks can reduce lending rates (credit interest) so that banks are more competitive. Low credit interest rates can facilitate credit payments because the costs incurred by debtors on several loans are also low. This reduces the number of bad debts because in the endthe number of current loans will increase and vice versa, non-performing loans can be reduced**.** Dendawijaya, 2003 which revealed that

large banks or with high total assets were able to prevent the occurrence of bad loans. This indicatesbank size has a negative and significant effect on NPL

H3: bank size has a negative and significant effect on NPL

Capital is an important factor for banks in the context of business development and accommodating losses. According to (Agustuty & Ruslan, 2019) the factors that affect the crisis in the banking industry because the failures faced by the banks cannot be absorbed by the availability of capital buffers, this is also influenced by the establishment of cooperative relationships between banks in the money market in payment of interbank loans.

Therefore, Bank Indonesia took conservative steps to maintain the existence of the banking system by setting a minimum amount of capital by stipulating PBI No. 3/21/PBI/2001 concerning the Minimum Capital Adequacy Requirement for Commercial Banks of 8 percent. The larger the capital buffer, the higher the bank's ability to anticipate future risk exposure, and vice versa. According to Agustty & Ruslan (2019), bank managers with low capital have moral hazard behavior by channeling high-risk loans accompanied by credit assessments and inefficient debtor monitoring. This moral hazard behavior can increase the score of non-performing loans. When the value of non-performing loans increases, the risk of uncollectible loans that have been disbursed also increases. According to the research (Baselga-pascual, Trujillo-ponce, & Cardone-riportella, 2015) which states that bank capital has a significant negative effect on bank credit risk in 18 countries in the European Region.

H4: Capital buffer has a negative and significant effect on NPL

Based on the interest rate theory of Loanable Funds, when interest rates rise, people's desire to save will also increase, when banks have more funds, then the bank will increase its lending. They will find it more difficult to repay loans If interest rates are raised, (floating

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interest rates), so that it can cause an increase in the number of non-performing loans. An increase in banking interest rates can hurt the intermediation function which is starting to get excited and credit increases traffic jams (Sudana & Asiyah, 2018), based on this, the fifth hypothesis is:

H5: interest rates have a negative and significant effect on NPL

Inflation is an increase in the price level that occurs continuously which can affect an individual, entrepreneur, and even the government (Mishkin, 2010). Raw material costs will rise and cause production costs to increase when cost push inflation occurs, so the price of goods will also increase. The impact of rising selling prices can make people limit consumption, this of course has an impact on the level of producer profits. As debtors, producers will of course have difficulty in repaying credit, if this happens then the NPL will increase. The results of research conducted by Linda (2015) show that inflation has a significant positive effect on the occurrence of NPL.

H6: inflation has a positive and significant effect on NPL

Research Design

This research is empirical research with a quantitative approach. The subjects of this research are banks operating in Indonesia from 2011-to 2020. The population of this study is focused on commercial banks consisting of bank categories, namely state-owned banks, foreign exchange BUSN, nonforeign exchange BUSN, BPD, joint venture banks, and foreign banks with the following criteria:

Table 2. Sample Criteria

No.	Sample Criteria	Total Bank
1.	Conventional commercial banks operating in Indonesia from 2011-2020	120
2.	Banks that issue financial reports from 2011-2020	120
3.	Banks that have a bank asset ratio value above 2% of the total national banking assets from 2011-2020	10

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The object of this research is secondary data obtained from the company's annual financial statements. The data were analyzed by multiple linear regression which is formulated as follows.

$$Y = \alpha + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \beta 5X5 + \beta 6X6 + \varepsilon \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Description

X_1 = BOPO
X_2 = LDR
X_3 = Total asset
X_4 = *Capital Buffer*
X_5 = Repo Rate
X_6 = Inflassion
Y_1 = NPL

The method of data analysis techniques chosen for in this study is Panel Data Regression with EViews software.

Operational Definition and Measurement of Variables

Operational definitions that explain the meaning of some of the variables studied are described in table 1 as follows:

Table 3: Operational Definitions and Measurement of Variables

No.	Variable	Definition	Measurement
1	Efficiency (X1) (BOPO Ratio)	The level of the bank that carry out of the operational activities.	$\frac{OperatingExpences}{OperatingIncome} X\ 100\%$
2	Liquidity (X2) (LDR ratio)	The difference between the capital ratio owned by the Bank and the minimum required capital requirement	$= \frac{liquidasset - shorttermborrowing}{totaldeposit} X\ 100\%$
3.	Bank size (X3) (total asset)	total assets are a reflection of the size of the bank	Bank size = Total asset

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4	Capital buffer (X2)	The difference between the ratio of capital owned by the Bank with the minimum capital requirements required	Capital Buffer = CAR ratio – Minimum Regulatory Requirement (8%)
5.	Interest rate / repo rate (X5)	the policy interest rate that reflects the monetary policy stance or stance determined by Bank Indonesia and announced to the public.	In this study, the BI rate and the REPO Rate of Bank Indonesia are used from 2011-to 2020
6	Inflation	Inflation is an increase in the price of almost all goods and occurs continuously (Bank Indonesia, 2014)	The inflation rate in this study is obtained from the Inflation Report (Consumer Price Index) based on annual inflation calculations which can be accessed on the Bank Indonesia website.
7	Credit risk (Y) (NPL Ratio)	The risk of loss suffered by the bank is related to the possibility at maturity.	$\frac{TotalNon-performingloan}{totalcredit} X\ 100\%$

Inflation is an increase in the price of almost all goods and occurs continuously

Results and Discussion

The sample of this study is used by the 10 largest banks in Indonesia. Table 4 presents descriptive statistics of research variables:

Table 4: Descriptive Statistics of Research Variables

	X1	X2	X3	X4	X5	X6	Y
Mean	77.83070	87.08600	29.56500	9.957900	6.247900	4.768000	2.668200
Median	79.80000	88.12500	24.19500	8.705000	6.250000	3.700000	2.690000
Maximum	150.8000	108.8600	99.45000	84.15000	7.750000	8.380000	8.800000
Minimum	42.00000	50.27000	2.270000	4.200000	4.250000	2.780000	0.380000
Std. Dev.	13.46971	11.17460	25.60069	8.068437	1.104004	2.131338	1.207516
Observations	100	100	100	100	100	100	100

Source: Output Eviews, 2021

Based on Table 4 show: 1) X1 (BOPO) has a minimum value of 2.00 and a maximum value of 50.80. 2) X2 (LDR) has a minimum value of 50.27 and a maximum value of 108.86. 3) X3 (Bank size) has a minimum value of 2.27 and a maximum value of 99.45 . 4) X4 (The capital

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buffer) has a minimum value of 4.20 and a maximum value of 84.15. 5) X5 (The repo rate) has a minimum value of 4.25and a maximum value of 7.75. 6) X6 (The inflassion) has a minimum value of 2.78and a maximum value of 8.38

The results of the classical assumption test which include normality test, heteroscedasticity test, autocorrelation test, and multicollinearity test:

Multicollinearity Test

This is done to find out whether the regression model has a high or perfect correlation between the independent variables, the Multicollinearity Test can be carried out. Table 5 presents the results of multicollinearity testing using Eviews.

Table 5. Multicollinearity Test

	X1	X2	X3	X4	X5	X6
X1	1.000000	0.399161	-0.190735	0.049748	-0.038208	-0.122894
X2	0.399161	1.000000	-0.007738	0.109892	-0.026652	-0.016935
X3	-0.190735	-0.007738	1.000000	0.042579	-0.025920	0.036144
X4	0.049748	0.109892	0.042579	1.000000	-0.170828	-0.197096
X5	-0.038208	-0.026652	-0.025920	-0.170828	1.000000	0.598077
X6	-0.122894	-0.016935	0.036144	-0.197096	0.598077	1.000000

Source: Output Eviews, 2021

Based on table 5, the variables X1, X2, X3, X4, X5, X6 show their values above 0.80 so it can be concluded that there is no correlation between independent variables or in other words there is no multicollinearity between independent variables.

Heteroscedasticity Test

A heteroscedasticity test is used to test whether in the regression model there is an inequality of variance from the residual of one observation to another observation.

Table 6. Heteroscedasticity Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.

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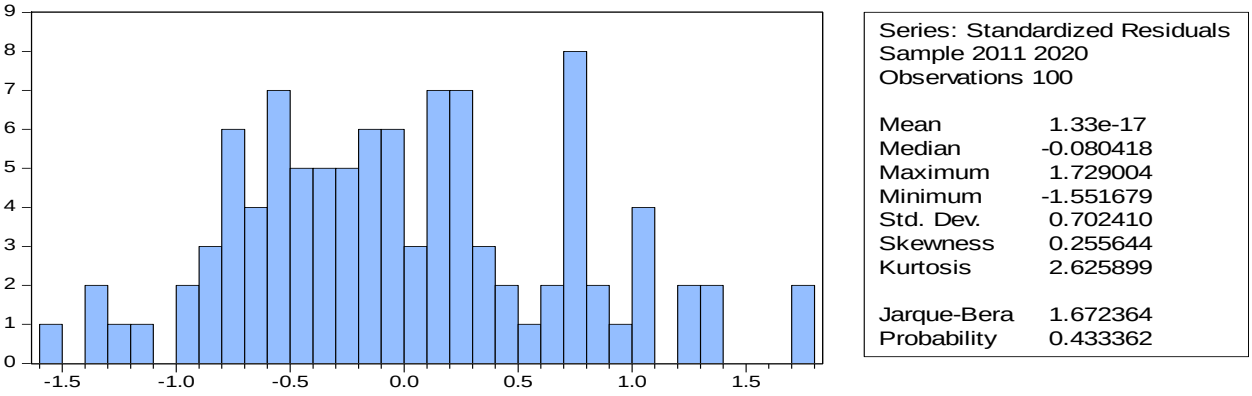
C	0.846883	0.418599	2.023137	0.0462
X1	-0.001875	0.002980	-0.629247	0.5309
X2	-0.003533	0.003869	-0.913077	0.3638
X3	-0.001035	0.001398	-0.740420	0.4611
X4	-0.002072	0.003163	-0.655003	0.5143
X5	-0.006282	0.027020	-0.232485	0.8167
X6	-0.009715	0.014344	-0.677274	0.5001

Source: Output Eviews, 2021

Based on the results of the Heteroscedasticity Test, the probability value is greater than Alpha 0.05, so it can be concluded that there is no heteroscedasticity problem in the research data.

Normality Test

The normality test aims to test whether in the regression model the confounding variables or residuals are normally distributed.



Source: Output Eviews, 2021

Figure 1: Normality Test

Based on the results of the classical assumption test, the probability value of Jarque-Bera is 0.433362. Thus, the Jarque-Bera probability showed the assumption of normality met if the value is greater than alpha 0.05.

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Table 6, in answering the hypothesis, a partial test is used in multiple linear regression.:

Table 6. Partial Regression Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.502579	1.376174	1.091853	0.2780
X1	0.067713	0.009795	6.912696	0.0000
X2	-0.031429	0.012720	-2.470751	0.0155
X3	-0.002221	0.004596	-0.483313	0.6301
X4	-0.033153	0.010398	-2.303232	0.0325
X5	-0.179102	0.088830	-2.016237	0.0470
X6	-0.031760	0.047157	-0.673498	0.5025

Source: Output Eviews, 2021

The research equation is shown as follows:

$$Y = 1.502 + 0.068X_1 - 0.031X_2 - 0.002X_3 - 0.033X_4 - 0.179X_5 - 0.032X_6 \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

a) 1.502 is a constant which means if the value of the exogenous (X1, X2, X3, X4, X5, X6 = 0) is considered zero or the value of the exogenous variable remains, then the value of npl is 1.502%. b) variable BOPO (X1) of 0.068 means that the increase of 1 percent from BOPO will increase the credit risk by 0.068 percent. c) LDR (X2) of -0.031 means that the increase of 1 percent from LDR will reduce the credit risk by 0.031 percent. d) Bank size (X3) of -0.002 means that the increase of 1 percent from bank size variable will reduce the value of credit risk by 0.002 percent. e) capital buffer (X4) of -0.033 means that the increase by 1 percent from capital buffer will reduce credit risk by 0.003 percent. f) repo rate (X5) of -0.179 means that the increase by 1 percent repo rate will reduce credit risk by 0.179 percent. g) inflation (X6) of -0.032 means that the increase by 1 percent from capial buffer will reduce credit risk by 0.032 percent.

In this study the hypothesis testing is as follows:

Hypothesis Testing 1

Table 5 above shows the regression analysis, X1 (BOPO) on the credit risk (Y) is 0.00 with a p-value of 0.00< alpha 0.05. This shows that efficiency (BOPO) has a positif and significant effect on credit risk. Thus the hypothesis states that efficiency (BOPO) has a positive and significant effect on credit risk is accepted.

If the bank has a high BOPO ratio are not able to carry out their operational activities efficiently and have poor credit scoring abilities, this causes customers who are not eligible or at risk of being accepted, thereby increasing the number of non-performing loans in the future. According to Chaibi & Ftiti (2015) to cover high operational costs, banks set high-interest rates to obtain higher interest income. In the end, this decision affects the ability to pay the interest of each debtor due to the number of fees that must be paid. The results of this study are consistent with the results of research (Chaibi & Ftiti, 2015) which states that inefficiency has a significant positive effect on bank credit risk in France. It is the same with research by Podpiera & Weill (2008), which states that when operational costs increase, banks will increase the amount of credit to obtain higher interest income, which can lead to non-performing loans in the future.

Hypothesis Testing 2

LDR variable on NPL (Y) is 0.015 with a alpha 0.05 > p-value of 0.01. The effect of LDR if it is associated with NPL then shows a negatif and significant effect. Thus the hypothesis testing 2 is rejected.

The results of this study support previous research conducted (Purwidianti & Rahayu, 2015), (Dwi Poetry & D Sanrego, 2011) which stated that LDR had a negative effect on non-performing loans. The increase in the Loan to Deposit Ratio reduces the non-performing loans of state-owned banks because the quality of risk management of state-owned banks is quite good so that the amount of loans disbursed does not increase the non-performing loans of state-owned banks. Meanwhile, research conducted (Firmansyah, 2015) showed that LDR had a positive

effect on non-performing loans.

Hypothesis Testing 3

Table 5 above shows the regression analysis, X3 (bank size) on NPL (Y) with coefficient value 0.630, alpha 0.05 < p-value 0.63. This shows that bank size has no significant effect on credit risk. The hypothesis 3 that bank size that measured by total aseet has a negative significant effect on NPL is rejected.

The results of this study are consistent with the research (Lassoued, 2017) and (Louzis, Vouldis, & Metaxas, 2012) which state that size has no significant effect on bank credit risk. shows that the magnitude of the increase in bank assets is not matched by the magnitude of the increase in lending.

Hypothesis Testing 4

The regression analysis of X4 (capital buffer) on NPL shows the coefficient value of is 0.032, a p-value of 0.032 < alpha 0.05. This shows that capital buffer has a significant effect on credit risk. The hypothesis 4 that capital buffer has a negative and significant effect on NPL is accepted.

The results of this study indicate that bank capital represented by the availability of a capital buffer must be able to cover all business risks faced by banks, including the risk of losses that occur due to non-performing loans. One of the functions of bank capital is to bear the bank's credit risk because the credit disbursed carries risks in the future and if that risk occurs, the bank must bear the loss. The results of this study are consistent with the research (Baselga-pascual, Trujillo-ponce, & Cardone-riportella, 2015) which states that bank capital has a significant negative effect on bank credit risk in 18 countries in the European Region.

Hypothesis Testing 5

The regression analysis in table 5 above, the coefficient value is 0.047, a p-value of 0.047 < alpha 0.05. This shows that the repo rate has a significant effect on credit risk. The hypothesis

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5 that the interest rate (repo rate) has a negative and significant effect on NPL is accepted.

Research (Zouari-ghorbel, 2014) supports the results of this study, where the repo rate (interest rate) has a negative effect on the occurrence of credit risk (NPL). Based on the interest rate theory of Loanable Funds, when interest rates rise, people's desire to save will also increase, when banks have more funds, then the bank will increase its lending. NPL can increase if credit increases. They will find it more difficult to repay loans If interest rates are raised, (floating interest rates), so that it can cause an increase in the number of non-performing loans. An increase in banking interest rates can have a negative impact on the intermediation function which is starting to get excited and credit increases congested.

Hypothesis Testing 6

Based on table 5 above, 0.502 the coefficient value with alpha 0.05 < a p-value shows that variable X6 (inflation) has a significant effect on NPL. The hypothesis 6 is rejected.

The results of this study are supported by research conducted by (Th, Lê, & Di, 2014), which stated that inflation did not affect non-performing loans. This can provide an illustration with increasing inflation causing the desire of debtors to keep their funds in the bank will decrease, thus causing DPK will experience a decline and have an impact on credit distribution which is getting smaller, causing NPLs to decrease.

Conclusion

Based on the results of the tests that have been carried out, the results of research on internal and external factors that can affect the level of non-performing loans in the banking industry in Indonesia are obtained. From the bank's internal factors, BOPO has a positive and significant effect on NPL. LDR, and capital buffer, which results in a significant negative effect on NPL. While the size of the bank obtained results that are not significant to the NPL. From external factors, the results obtained where interest rates have a significant negative effect on NPLs while inflation is not significant for increasing NPL.

Bad management theory explains that poor management indicates that management is

not able to manage existing funds so that the cost is getting low, the cost inefficiency will be lower too or in other words, if the cost is low, the cost will be more efficient. In practice, management is not successful in day-to-day operations or in making a credit portfolio, nor is it able to carry out lending activities properly. The process of providing bad credit activities will result in high non-performing loans. The higher the bad credit, the lower the credit quality

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