

The Effect of Loan to Deposit Ratio, BOPO, Non-Performing Loan, and Net Interest Margin Against Lending Rate Base

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ABSTRACT

This research was conducted to determine the effect of LDR, BOPO, NPL, NIM to BLR. The main purpose of this study was to analyze the influence of Loan to Deposit Ratio (LDR), BOPO, Non-Performing Loans (NPL) and Net Interest Margin (NIM) for determining Corporate Base Lending Rate (BLR). Secondary data sources were taken from the Financial Services Authority (OJK). The sampling technique uses purposive sampling at Government Banks in Indonesia every quarter from 2013 to 2018. The data analysis technique uses panel data. Based on research shows that simultaneously Loan To Deposit Ratio (LDR), BOPO, Non-Performing Loan (NPL) and Net Interest Margin (NIM) variables significantly influence the Base Lending Rate (BLR) at a confidence level of 37.92%. In addition, the values shown by the coefficient of determination indicate that the Loan to Deposit Ratio has a significant positive effect on the Base Lending Rate (BLR), BOPO has a significantly positive effect on the Base lending rate, the Non-Performing Loan (NPL) has a negative effect on the Base Lending Rate (BLR), Net Interest Margin (NIM) have a significant negative effect on the Base Lending Rate (BLR).

ABSTRAK

Penelitian ini dilakukan untuk mengetahui Pengaruh LDR, BOPO, NPL, NIM terhadap BLR. Tujuan utama penelitian ini untuk menganalisis pengaruh Loan to Deposit Ratio (LDR), BOPO, Non-Performing Loan (NPL) dan Net Interest Margin (NIM) untuk penentuan Base Lending Rate (BLR) Korporasi. Sumber data sekunder diambil dari Otoritas Jasa Keuangan (OJK). Teknik pengambilan sampel menggunakan purposive sampling di Bank Pemerintah di Indonesia setiap triwulan dari 2013 hingga 2018. Teknik analisis data menggunakan data panel. Berdasarkan penelitian menunjukkan bahwa secara simultan variabel Loan to Deposit Ratio (LDR), BOPO, Non-Performing Loan (NPL) dan Net Interest Margin (NIM) berpengaruh signifikan terhadap Base Lending Rate (BLR) pada tingkat kepercayaan 37,92%. Selain itu, dari nilai-nilai yang ditunjukkan oleh koefisien determinasi menunjukkan bahwa Loan to Deposit Ratio berpengaruh Positif secara signifikan terhadap Base Lending Rate (BLR), BOPO Berpengaruh Positif secara signifikan terhadap Base lending rate, Non-Performing Loan (NPL) berpengaruh Negatif terhadap Base Lending Rate (BLR), Net Interest Margin (NIM) berpengaruh Negatif tidak signifikan terhadap Base Lending Rate (BLR).

Kata Kunci : Base Lending Rate (BLR), Loan To Deposit Ratio (LDR), BOPO, Non-Performing Loan (NPL) dan Net Interest Margin (NIM).

1. INTRODUCTION

The banking industry has experienced rapid development from the time of pre-deregulation to post-banking deregulation. For the National Banking it is very necessary that national banking architects create a healthy and strong banking system. As we know that banking activities are three dominant individuals namely the bank itself, depositors and

borrowers. Mindset that banking profits are only derived from interest on loans has now shifted to not only from interest income on loans but coupled with the existence of e-channel e-channel income owned by banks, or what we know as feebase income. In determining the credit interest rate becomes very important for national banks, especially for the national economy so that the Central Bank in this case

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in Indonesia, namely Bank Indonesia must determine the benchmark interest rate known as the BI rate. On the other hand, the determination of credit interest rates will trigger consumers' decisions in finding loan facilities.

Bank Indonesia began March 31, 2011, requiring banks to widely announce base lending rates (SBDK) to the public. The policy was carried out to increase transparency regarding banking products. This arrangement will improve good governance and be a target for encouraging healthy competition in the banking industry through the creation of better market discipline. Transparency will also increase consumer protection because it can form the same level of playing field between banks and customers / the public, so that the costs and risks of bank credit products will be more easily understood in order to support better credit decision making by customers.

BI also explained, the prime lending rate calculation is the result of the calculation of three components, namely: Cost of funds for credit or (HPDK), overhead costs incurred by banks in the process of giving credit and profit margins set for credit activity.

Criteria for banks that are required to publish SBDK are Banks that on and / or after February 28, 2011 based on the position of the Commercial Bank Monthly Report (LBU) have total assets of Rp.10,000,000,000,000.00 (ten trillion rupiah) or more are required to publish information SBDK. The above prime lending rate does not take into account the risk premium component, the amount of which depends on the bank's assessment of the risk of each debtor / group of debtors such as the amount, time period, risk, and financed projects.

Banking income from loan interest in operations is influenced by bank operational costs (BOPO). BOPO is a ratio group that measures the efficiency and effectiveness of a company's operations by comparing one to another. The lower the BOPO means the more efficient the bank is in controlling its operational costs, with the existence of cost efficiency the greater profits the bank will get.

According to Hashifah Nabilah, Wisnu Mawardi (2016), Base lending rate is the process of implementing bank funding management. In a more competitive banking industry, banks are required to offer low interest rates on loans. The base lending rate or Base Lending Rate becomes a reference for debtors in choosing credit services, so it must be published.

Associated with the calculation of Base Lending Rate or the Basic Credit Interest Rate, namely the Cost of Funds is part of the component calculation

of Base Lending Rate, this triggers the ups and downs of third party deposits, but what if these third party funds are not used productively. LDR (Loan to Deposit Ratio) is a comparison of third party funds with credit or a type of credit, which if not distributed causes many funds to be unemployed. The large number of unemployed funds will result in lower profitability (Adusei, 2015). According to Polat and Al-Khalaf (2014) in his research revealed that LDR is a measure of liquidity and shows the ability of banks to provide additional loans.

Starting in 2014, Bank Mandiri and BRI experienced a decrease in LDR, each of which Bank Mandiri dropped 0.95 percent and Bank BRI dropped 6.86 percent, while Bank BTN from 2014 to June 2018 appeared to have decreased from minus 0.08 percent in 2014, minus 6.12 percent in 2015, even though the LDR was already above 100%. With regard to the decline in LDR, it certainly has an impact on the unemployment of these funds so that the profit is low, does the bank dare to lower the Base Lending Rate or the Base Lending Rate is smaller with these conditions? The recommended percentage of the LDR by Bank Indonesia, the LDR percentage should be in the range of 85 percent to 110 percent (Manurung and Rahardja, 2004: 112). If you see the recommended LDR from Bank Indonesia, it appears that Bank BTN in the position of June 2018 is already above 110%, meaning that Bank BTN is already in an unhealthy condition according to Bank Indonesia, because Bank BTN lacks the capacity of funds that are ready to lend.

The phenomenon of the development of technology in the current decade has made banks strive to utilize technology, hoping to streamline bank operational costs. According to Brando Pratenta Ginting and Syarief Fauzie (2013), the BOPO variable partially has a negative but not significant effect on retail prime lending rates. According to Darna (2012), prime lending rate is associated with an increase or decrease in BOPO although it is very low and the amount of prime lending rate is not only influenced by the BI rate and the amount of BOPO or the efficiency of bank operating costs, but is also influenced by other factors such as the expected profitability of banks, competition and others -other.

The increasing ratio reflects the lack of ability of banks to reduce operational costs and increase operating income which can cause losses because banks are less efficient in managing their business (SE, Internal BI 2004). Bank Indonesia has determined the best number for BOPO ratios is below 90 percent, because if the BOPO ratio exceeds 90 percent to close to 100 percent then the bank can be categorized as

inefficient in carrying out its operations.

Mardi Liya Faradila, 2016, revealed that if the NPL rises, profitability will decline and vice versa. This happens because the bank loses the opportunity to earn income if the level of problem financing increases so that it has a negative impact on profitability in this case, ROA.

The number of NPLs in banks in a country can cause economic stagnation (Zablon, 2015). Non-performing loans are non-performing loans that describe the situation of loan repayment agreements that run the risk of default on loans, and even tend to lead to or suffer potential losses. The potential loss referred to can be in the form of write-offs, causing the burden of credit write-offs by banks and this will reduce the bank's net profit (Permatasari and Retno, 2014). According to Roman and Şargu (2013), the ratio of problem loans to total loan ratio is used to measure the quality of loans and the quality of bank assets indicated by NPLs.

Revenue is an important part that must be achieved by all companies, including banks, one of the steps in maximizing revenue is to measure the ability of banks to manage their productive assets in generating net interest income, or known as NIM (Net Interest Margin).

From the description above, by looking at the Base Lending Rate, Loan to Deposit Ratio, Non Performing Loan, BOPO and Net Interest Margin data, the researchers took the title "Effect of Loan to Deposit Ratio, BOPO, Non Performing Loans, and Net Interest Margin Against Base Lending Rate on State-Owned Banks in Indonesia for the period January 2013 - December 2018".

2. THEORETICAL FRAMEWORK AND HYPOTHESES

Theory

According to Kasmir (2014: 14) in his book the Bank is a business entity that collects funds from the public in the form of deposits and channel them back to the public in the form of credit and or other forms in order to improve the lives of many people. While the banking business includes three activities, namely raising funds, channeling funds and providing other bank services.

According to Law No. 10 of 1998 dated November 10, 1998 concerning banking, it can be concluded that the banking business includes three activities, namely raising funds, channeling funds, and providing other bank services. The activity of collecting and distributing funds is the main activity of the bank while providing other bank services is only a supporting activity

In a Circular Letter of Bank Indonesia SE BI No.15 / 1 / DPNP, Prime Lending Rate is the lowest interest rate used as a basis for banks in determining the lending rates charged to bank customers based on the Bank Indonesia Circular Letter, the calculation of prime lending rate does not include a risk predictive component thus, the prime lending rate component consists of cost of funds, overhead costs and profit margins. The formula for determining SBDK according to SE BI No.15 / 1 / DPNP 2013 is: $SBDK = COLF + OC + SPREAD + CKPN + TAX$ With, COLF = Cost Of Loanable Fund, OC = Overhead Cost, SPREAD = Spread, CKPN = Allowance for impairment losses, TAX = Estimated tax on profits obtained.

Effect of LDR, NPL, BOPO, NIM on Base Lending Rate

The relationship between these variables is expected to explain the effect of the independent variable (influence) on the dependent variable (bound). The dependent variable here is the Base Lending Rate. While the independent variable (influence) consists of LDR (Loan to Deposit Ratio), BOPO (Operational Cost to Operating Income), NPL (Non Performing Loan) ratio, NIM (Net Interest Margin). Where in this study intended to answer whether the Loan to Deposit Ratio, BOPO, Non Performing Loan Ratio and Net Profit Margin affect the Base Lending Rate.

H1: Loan to deposit ratio, BOPO, NPL and NIM simultaneously influence the Base Lending Rate.

Relationship of Loan to Deposit Ratio (LDR) to Base Lending Rate.

In the research of Hashifah Nabilah, Wisnu Mawardi, 2016, the deposit rate is the interest paid by banks to depositors who have invested their funds in the form of deposits and are paid based on a predetermined grace period. The amount of interest offered, attracts people to invest their funds in the form of deposits. This provides benefits for banks to plan lending to their debtors (Hasibuan, 2006: 79).

However, the proportion of deposits that dominates the composition of third party funds makes the cost of funds larger due to the large interest rates on deposits, so banks set a higher BLR. This is supported by Mbao et al. (2014) which states that an increase in deposit rates has an impact on increasing lending rates and Sudono (2011) which states that interest rates have a positive influence on BLR.

H2: Loan to Deposit Ratio has a positive effect on Base Lending Rate (BLR).

Relationship of BOPO (Operational Cost to Operating Income) to Base Lending Rate.

Operating costs and operating income (BOPO) are a reflection of bank efficiency. The higher the BOPO, the higher the operational burden borne by the bank which can have an impact on the determination of credit interest rates. The loan interest rates are derived from the calculation of the prime lending rate (SBDK) and the risk premium of each customer. So indirectly the ups and downs of BOPO will affect the determination of the prime lending rate of each bank.

From the research of Brando Pratenta Ginting Syarif Fauzie (2013) concluded that the BOPO variable partially has a negative but not significant effect on retail prime lending rate. In line with Darna's research (2012) revealed that BOPO has an influence on SBDK. This study is consistent with the results of research obtained by Darna (2012) where in the results of his study revealed the value of prime lending rate weakly associated with the ups and downs of the BOPO ratio. The weak relationship that occurs between BOPO and SBDK means that the rise or fall of BOPO is not necessarily followed by an increase or decrease in retail SBDK charged by each state-owned bank to the customer.

The results of this study are also supported by the results of a study by Nusantara (2009) which revealed a negative value shown by BOPO indicating that the smaller the BOPO indicates the more efficient the bank is in carrying out its business activities. The results of this test are in accordance with the theory put forward by Riyadi (2004) which states that the lower the BOPO ratio means the better the performance of the bank's management because it is more efficient in using existing resources in the company.

H3: BOPO has a positive effect on the base lending rate.

Relationship of Non Performing Loans to Base Lending Rate

Non Performing Loans (NPLs) reflect bank credit risk, where the higher the level of NPLs, the greater the credit risk borne by the bank. As a result of high NPLs, banks will be more careful (selective) in lending. This is due to the potential for uncollectible loans. The high NPL will increase risk premiums which have an impact on high lending rates. Excessively high loan interest rates will reduce people's demand for credit. The high NPL also resulted in the emergence of greater reserves, so that in the end the bank's capital also eroded.

Thus the magnitude of NPLs is one of the

obstacles in channeling bank credit. In Aloisius Irtantyo Prabowo's research Harjum Muharam (2009) the Non Performing Loan variable (NPL) had no significant effect on lending rates. But according to Arisandi's research (2007) NPL has a positive effect on lending rates.

H4: Non Performing Loans (NPL) have a positive effect on the Base Lending Rate (BLR).

Relationship of Net Interest Margin (NIM) to Base Lending Rate

Net Interest Margin (NIM) is a ratio used to measure the level of profitability, which is the level of bank effectiveness between net interest income compared to the average earning asset. The higher the Net Interest Margin (NIM) ratio shows the more effective the bank's activities in making a profit. In line with this, the theory of money supply presented by Keynes shows that there are other factors outside the interest rate factor that affect lending. This is reflected in the level of interest income that is higher than the interest expense, this shows that the debtor makes payments well and shows the economy is in good condition. Such conditions can indicate that the money supply can be done by banks because of good economic conditions (Sukirno, 2011: 302).

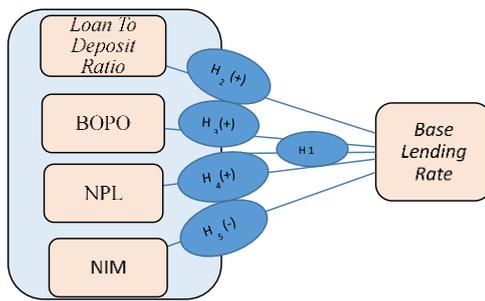
According to Satrio B. Haryanto's research, Endang Tri Widyarti 2017, the results of the study show that Net Interest Margin (NIM) has a significant influence and positive impact on lending. According to research conducted by Iwanicz and Witkowski (2015) shows that Net Interest Margin (NIM) has a positive effect on lending. Another study conducted by Prayudi (2011) states that Net Interest Margin (NIM) has a positive influence on lending. Thus it is estimated that Net Interest Margin (NIM) has a positive influence on lending.

Other research conducted by Igan and Pinheiro (2011) states that Net Interest Margin (NIM) has a positive effect on lending. Researchers suspect that if the NIM has a positive effect on lending, then the NIM has a negative effect on lending rates.

H5: Net Interest Margin (NIM) has a negative effect on the Base Lending Rate (BLR).

Framework

The picture frame of mind is as follows:



3. RESEARCH METHOD

Research variable

Based on the theoretical basis and research hypotheses on the influence analysis, the variables used in this study include the independent variables and the dependent variable which the independent variables consist of:

1. Loan To Deposit Ratio (LDR): X1
2. (BOPO): X2
3. Non Performing Loans (NPL): X3
4. Net Interest Margin (NIM): X4
5. Base Lending Rate (BLR): Y

The dependent variable in this study uses Non Base Lending Rate (BLR) symbolized by Y while the independent variables include Loan To Deposit Ratio (LDR), BOPO, Non Performing Loans (NPL), Net Interest Margin (NIM) symbolized by X1, X2, X3, X4.

Loan To Deposit Ratio (LDR)

This ratio is used to find out how much the Bank's ability to repay obligations to customers who have invested their funds by providing loans to banks BUMN in Indonesia from January 2013 to December 2018. Formula:

$$\text{LDR} = (\text{Total Credit}) / (\text{Total Deposits}) \times 100\%$$

Operational Costs Operating Income

The ratio of Operating Costs to Operating Income (BOPO) or the ratio often called efficiency ratio is used to measure the ability of bank management in controlling operational costs to operating income at state-owned banks in Indonesia from January 2013 to December 2018. The formula

$$\text{BOPO} = (\text{Total Operating Costs}) / (\text{Total Operating Income}) \times 100\%$$

NPL (Non Performing Loan)

Non-performing loan ratio (NPL) shows the ability of bank management in managing non-performing loans provided by banks. Credit in this case is credit given to third parties, not including credit to other banks. Non-performing loans are loans with substandard, doubtful and bad quality. NPL ratio at state-owned banks in Indonesia from January 2013 to December 2018.

$$\text{NPL} = (\text{Total Non-performing Loans}) / (\text{Total Loans}) \times 100\%$$

Net Interest Margin (NIM)

The Net Interest Margin Ratio is used to measure the ability of bank management to manage their productive assets to generate net interest income. Net interest income is derived from interest income less interest expense from the pooled funds. Sources of bank funds consist of: (1) funds from the first party (own capital), (2) funds from second parties (loans from other banks), (3) funds from third parties (funds from the public). NIM ratio in state-owned banks in Indonesia from January 2013 to December 2018.

$$\text{NIM} = (\text{Net Interest Income}) / (\text{Earning Assets}) \times 100\%$$

Base Lending Rate

In a Circular Letter of Bank Indonesia SE BI No.15 / 1 / DPNP, Prime Lending Rate is the lowest interest rate used as a basis for banks in determining the lending rates charged to bank customers based on the Bank Indonesia Circular Letter, the calculation of prime lending rate does not include a risk predictive component thus, the prime lending rate component consists of cost of funds, overhead costs and profit margins. BSL (Base Lending Rate) or SBDK ratio is taken from OJK Publication Report data for the period of January 2013 to December 2018.

Determination of Samples

The population in this study is the Financial Reports of SOE Banks in Indonesia, namely Bank Mandiri, Bank BRI, Bank BNI '46, and Bank BTN.

Data Types and Sources

The sampling of the population is done by using a purposive sampling method, which is a sampling technique based on certain criteria determined in accordance with the research objectives. The determination criteria for sampling are the quarterly SOE Bank Publication Financial Reports for the period 2013 to 2018.

Analysis Method

The analytical method used in this study is Multiple Regression Analysis. This analysis is used to test the effect of the five independent variables on the dependent variable. Following are the regression equations used in this study:

$$Y_{it} = \alpha + \beta_1 X_{1it-1} + \beta_2 X_{2it-1} + \beta_3 X_{3it-1} + \beta_4 X_{4it-1} + e_i$$

Information :

Y_{it} = Base Lending Rate

α = Constant

$\beta_1 - \beta_4$ = Regression Coefficient

X1t-1 = Loan To Deposit Ratio (LDR)
 X2 t-1 = BOPO
 X3 t-1 = Non Performing Loan (NPL)
 X4 t-1 = Net Interest Margin (NIM)
 i = Bank i (1,2,3,4)
 t = Period to t (quarterly)

4. DATA ANALYSIS AND DISCUSSION

Descriptive statistics

Descriptive analysis is used to provide information and general description of the data variables used in the study, namely the variable Base Lending Rate (BLR), Loan To Deposit Ratio (LDR), BOPO (Operational Costs Against Operational Income), Non Performin Loans (NPL), Net Interest Margin (NIM). Descriptive Analysis provides a description of the minimum, maximum, average (Mean), and Standard deviation of each of these variables. To find out the descriptive statistics of the research can be seen in table 4.1 below:

Table 4.1

Descriptive Statistics of Research Variables

Variable	N	Min	Max	Mean	Std. Dev.	
BLR	overall	96	9.75	12.5	10.5701	0.543264
LDR	overall	96	77.52	112.83	92.23802	9.398884
BOPO	overall	96	59.93	89.91	73.10698	8.125371
NPL	overall	96	1.55	5.01	2.772188	0.9197119
NIM	overall	96	4.17	9.06	6.176458	1.311863

Source: Secondary data processed

Hypothesis testing

To determine the best test model approach to be used, a panel data test is performed with the following steps:

Chow test

Chow test is a test to determine whether the Common Effect (CE) or Fixed Effect (FE) model is the most appropriate to be used in estimating panel data. If Result: H0: Select Pooled Least Square / Common Effect Model (CE) H1: Select the Fixed Effect Model (FE). From the results of the CHOW Test on STATA 12 the following results were obtained:

Table 4.2

CHOW Test Results

F Test	3,79
Prob>Test	0,0069
Overall R ²	0,1014

From Table 4.2 above obtained Prob> F = 0.1014 which means the value > α or above 0.05 so that the conclusion Fail to Reject H0 so that the best model of CHOW Test is chosen using the Common Effect Model (CEM).

Breusch-Pagan Lagrange Multiplier Test.

Based on the results of the Chow test, the best approach model results obtained using CE (Common Effect), then the next test uses the Breusch-Pagan Lagrange Multiplier Test. BREUSCH-PAGAN test is performed to choose the best estimation model between Random Effect or Common Effect. The hypothesis is as follows: H0: Common Effect Model (CE), H1: Random Effect Model (RE), Reject H0 if Prob> Chibar2 = $<\alpha$, Fail to Reject H0 if Prob> Chibar2 = α .

From the Breusch-Pagan Test at STATA 12 the following results were obtained:

Table 4.3

BREUSCH-PAGAN Test Results

Chibar2 (01)	0,000
Prob>chibar2	1,000

From Table 4.3 above obtained Prob> chi2 = 1.0000 which means the value > α so that the conclusion fails to reject H0 so that the best model of the BREUSCH-PAGAN model is chosen. This test uses the Common Effect Model (CEM).

Panel Data Regression Model through the Common Effect Model (CEM) Approach

The results of the CEM approach panel data regression are as follows:

Table 4.4

Common Effect Model Panel Data Regression Results

Variable	Beta	P>(t)
Constanta	6,511627	0.000
LDR	0,017371	0.032
BOPO	0,0468385	0.000
NPL	-0,3189103	0.000
NIM	-0,0135882	0.749
F-Test	15,51	
Signifikansi F	0.000	
Adj R-squared	0.3792	

T Test >> See P> (t) >> If <Alpha, then it is significant

Test F >> See Prob> F >> If <alpha, then it is significant

Mathematical model equation:

$$Y_t = 6,511 + 0.017 \text{ LDR} + 0.0468 \text{ BOPO} - 0.318 \text{ NPL} - 0.013 \text{ NIM}$$

Classic assumption test

To get the results of testing a hypothesis that is free from bias in multiple linear models, then the classic assumption test is first performed. The classic

assumption test in this study uses 4 tests, namely: Multicollinearity Test, heteroscedasticity test, autocorrelation test, and normality test. The classic assumption test is performed with the help of STATA 12 software. After conducting a panel data regression test using the Common Effect, it is then performed with the Classic Assumption Test with the following results:

Multicollinearity Test

Multicollinearity test aims to test that the regression model found a correlation between independent variables (independent). A good regression model should not occur correlation between independent variables. To detect the presence or absence of multicollinearity, it can be seen the tolerance value and the opposite variance inflation factor (VIF). Multicollinearity occurs when the tolerance value <0.10 and VIF value > 10 . The following are the results of multicollinearity test.

Variabel	VIF	Conclusion
BOPO	4,97	Free Multikolinearitas
NPL	2,96	Free Multikolinearitas
LDR	2,91	Free Multikolinearitas
NIM	1,60	Free Multikolinearitas
Mean VIF	3,11	Free Multikolinearitas

From Table 4.5 above there is no VIF value greater than 10, it can be said that the model meets the assumptions of non-multicollinearity, meaning that no violations occur

Heteroscedasticity Test

Heteroscedasticity test aims to test whether in the regression model there is a variable inequality from the residuals of one observation to another. If the variable is fixed, then it is called homokedasticity and if it is different is called heteroscedasticity. A good regression model is homokedasticity. This study uses the Breusch-Pagan / Cook-Weisberg test for heteroskedasticity. Heterokedasticity Test Results using Breusch-Pagan / Cook-Weisberg test for heteroskedasticity according to table 4.6:

Table.4.6

Heterokedasticity Test

Remarks	Value	Conclusion
Chi2 (1)	3.76	Free of Heterokedastisitas
Prob> chi2	0.0526	

Prob> Chi2 = 0.0526 where above alpha means that there is a failure to reject H0 or there is no heterokedastisitas but homokedastisitas, it means there is no violation.

Autocorrelation Test

Autocorrelation test is used to test whether in the linear regression model has a correlation

between the error of the intruder in t-tide with the error of the intruder in the period t-1 (previous) (Ghozali, 2006: 95). If there is a correlation, then there is a problem called the autocorrelation problem. One way to detect the presence of autocorrelation is the utocorrelation test or Wooldridge test for autocorrelation according to table 4.7 as follows:

Table 4.7

Autocorrelation test / Wooldridge test for autocorrelation

Remarks	Value
F (1, 3)	78,060
Prob> F	0.0031

Prob> F = 0.0031, the result is less than Alpha, so the HO refutation occurs when autocorrelation means there is a violation, but this test is not used because the research data uses panel data, while the autocorrelation test is used when the data is time series data.

Normality test

Normality Test aims to test a regression model, dependent variable, independent variable, or both have normal distribution or not. A good regression model is if all data are normally distributed or close to normal. Shapiro Wilk's normality test results can be seen from Table 4.8 shows the following:

Table 4.8

Shapiro Wilk Normality Test

Z	2,029
Prob> F	0.02125

From Table 4.8 it appears Prob> z = 0.02125 where below 0.05 means Failure to reject H0 is not normally distributed means a violation has occurred. Because the normality test is basically not a BLUE (Best Linear Unbias Estimator) requirement and some opinions do not require this condition as something that must be fulfilled, this normality test is not used.

Determination Coefficient Test and F Test

The coefficient of determination test is performed to determine the effect of the entire independent variable used on the Base Lending Rate. The coefficient of determination test is measured based on the Adjusted R Square value generated from the analysis of multiple linear regression models. The results of the determination coefficient test are presented in table 4.9 below.

Table 4.9

Determination Coefficient Test

Model	R	R Square	Adjusted R Square	Prob>F	a
4	91	0,4053	0,3792	0	0,05

Attachment source 4

Based on the results of Table 4.9 obtained Adjusted R Square of 0.3792 (37.92%). This shows that the independent variables used in this study can affect the Base Lending Rate of 37.92%, while the remaining 62.08% is influenced by other variables used in this study.

Based on the F Test results obtained that Prob> F = 0,000 which is less than alpha (0.05). This shows that together the independent variables used in the study affect the Base Lending Rate (BLR), meaning the H1 hypothesis is accepted.

Individual Parameter Test

Individual parameter test is a test to see the effect of each independent variable on the Base Lending Rate. As well as how much the level of influence of each of these variables. Individual parameter test in this study was used to measure the influence of Loan To Deposit Ratio (LDR), BOPO, Non Performing Loans (NPL), and Net Interest Margin (NIM) on Base Lending Rate (BLR) analyzed using the statistical t test produced in the multiple linear regression model. The results of multiple linear regression models to see the effect of the independent variable on the Base Lending Rate as the dependent variable are presented in table 4.10.

Variable.	Coef	P> [t]	Remarks	Conclusion
LDR	0.017371	0.032	H2 Accepted	Significantly positive effect
BOPO	0.0468385	0.000	H3 Received	Significantly positive effect
NPL	-0,3189103	0,000	H4 Rejected	Significantly negative effect
NIM	-0,0135882	0.749	H5 Rejected	No significant negative effect

Discussion

Hypothesis 1 (one) states that the Loan to deposit ratio, BOPO, NPL and NIM simultaneously influence the Base Lending Rate. The results showed that together with the independent variables namely Loan to deposit ratio, BOPO, NPL and NIM used in the study affect the Base Lending Rate (BLR). This is indicated from the value of Prob> F = 0,000 <alpha (0.05) which means that it is significant, and the Adjusted R Square result is 0.3792 (37.92%), indicating that the Loan to deposit ratio, BOPO, NPL and NIM affect the Corporate Base Lending Rate of 37.92%. This means that the Loan to deposit ratio, BOPO,

NPL and NIM that are reported by BUMN Bank banks every quarter will affect the corporate Base Lending Rate at the BUMN bank

Hypothesis 2 (Two) states that the Loan to Deposit Ratio has a positive effect on the Base Lending Rate (BLR). The results showed that the LDR variable had a positive effect on the Base Lending Rate, which proved to be significant on the Base Lending Rate (BLR). This is indicated by the positive coefficient value of 0.017371, which means that the LDR has a positive effect on the Base Lending Rate, and the value of P> [t] = 0.032 is still below alpha (0.05), which means that the LDR has proven significant to the Base Lending Rate.

Loan To Deposit Ratio (LDR) is the ratio of loans disbursed compared to the amount of third party funds. Loan To Deposit Ratio (LDR) is important because it must be reported by banks every month to Bank Indonesia and must be published. Bank Indonesia set the Standard for this LDR ratio is 80% to 110%, meaning that if banks with a ratio around that area are classified as healthy.

The large number of unemployed funds will result in lower profitability (Adusei, 2015). According to Polat and Al-Khalaf (2014) in his research revealed that LDR is a measure of liquidity and shows the ability of banks to provide additional loans. The results showed that the greater the Loan To Deposit Ratio (LDR) ratio, it would have an impact on the increase in the Base Lending Rate. This means that the increase in loan delta is greater than the increase in third party funds will cause an increase in Loan To Deposit Ratio (LDR). Delta increases lending that is greater than the delta increase in third party funds that has exceeded the upper limit set by Bank Indonesia, which is 110%, encouraging banks to make policies to reduce lending by raising lending rates and will reduce lending rates if the Loan to Deposit Ratio limit has been touch the lower limit of 80%. Therefore, managers make a policy to minimize risk to the standard Loan to Deposit Ratio by providing understanding to the lending department to always coordinate with the fund collection section, so that it is always committed to maintaining the ratio of loans channeled to third party funds so that lending rates can be controlled well.

The results of this study are not in line with the research of Ni Luh Ita Nofita, A.A. Ketut Ayuningsasi, I Wayan Yogi Swara (2017) stated that the Loan to deposit ratio partially had no effect on the credit extended. Previous studies have not found any direct research. The effect of the LDR on the BLR, if you see the cause and effect of the increased LDR can increase credit distribution, the increase in

lending should be reduced by increasing the BLR. This complements the opinion of H Mbaio et al. (2014) which states that an increase in deposit rates has an impact on increasing lending rates and Sudono (2011) which states that deposit rates have a positive effect on the Base Lending Rate. High interest on deposits triggers a large amount of deposits so that the bank is very possible to extend credit, due to opportunities for lending, the delta of lending has increased sharply. The increase in credit delta disbursement that is too large compared to the third party fund collection delta that exceeds the 110% limit is what causes banks to determine policies to raise credit interest rates, so that credit distribution decreases.

Hypothesis 3 states that BOPO has a positive effect on the Base Lending Rate. The results showed that BOPO was proven to have a positive effect on Base Lending Rate. This is indicated by the coefficient value of 0.0468385 which means that BOPO has a positive effect on the Base Lending Rate, and the value of $P > [t] = 0,000$ is still below alpha (0.05), meaning that the BOPO is proven to be significant towards the Base Lending Rate.

BOPO is the ratio of operating costs compared to operating income. BOPO ratios are important because they must be reported by banks every month to Bank Indonesia and must be published. Bank Indonesia sets the Standard for BOPO ratios not to exceed 90%, meaning that if a bank has a BOPO ratio above 90%, the bank is inefficient.

In terms of obtaining income, the bank will have income if the pricing credit is greater than the cost of funds. The desired profit of the bank in making transactions is the maximum profit. Determination of profit is determined by the amount of credit interest rates (Kasmir, 2008). According to Kiryanto in (Sun'an and Kaluge, 2007), setting loan interest rates is a dilemma for banks. Even though in reality, credit interest rates that tend to be still high will cause credit disruptions.

The results showed the greater the ratio of BOPO will have an impact on the increase in Base Lending Rate. This means that the increase in operational cost delta is greater than the increase in operating income delta will cause an increase in BOPO. Delta increases operating costs that are greater than the delta increase in operating income that has exceeded the limit set by Bank Indonesia, which is 90%, encouraging banks to make policies to cover operational costs by raising credit interest rates. Therefore, managers make a policy to minimize the risk of increasing BOPO by providing understanding to management to control BOPO at a

position below 90%, so that they are always committed to maintaining the BOPO ratio so as not to impact the increase in the corporate Base Lending Rate.

The results of this study are not in line with the research of Brando Pratenta Ginting Syarief Fauzie (2013), concluding that the BOPO variable partially has a negative but not significant effect on retail prime lending rates. This is due to the increase in the delta of operational costs which is greater than the delta of the increase in operating income, which encourages state-owned banks to raise the base lending rate to cover operational costs. The results of this study differ from Brando Pratenta Ginting Syarief Fauzie (2013), due to the dependent variable used is the Corporate Loan Base Interest Rate, the higher operational costs encourage bank management to cover operational costs by raising corporate lending rates.

Hypothesis 4 states that the Non Performing Loan (NPL) has a positive effect on the Base Lending Rate. The results showed that the Non Performing Loan (NPL) had a negative effect on the Base Lending Rate. This is indicated by the coefficient value of -0.3189103, which means that the Non Performing Loan (NPL) has a negative effect on the Base Lending Rate, and the value of $P > [t] = 0,000$ is still below alpha (0.05), meaning that the Non Performing Loan (NPL) is proven significant against the Base Lending Rate.

Non Performing Loan (NPL) is the ratio of total arrears in arrears, doubtful, and loss compared to the total loans disbursed. The Non Performing Loan (NPL) ratio is important because it must be reported by banks every month to Bank Indonesia and must be published. Bank Indonesia sets the NPL standard set by BI at a maximum of 5%, meaning that if a banking NPL with a ratio above 5% is classified as unhealthy.

Non-performing loans are non-performing loans that describe the situation of loan repayment agreements that run the risk of default on loans, and even tend to lead to or suffer potential losses. The potential loss referred to can be in the form of write-offs, causing the burden of credit write-offs by banks and this will reduce the bank's net profit (Permatasari and Retno, 2014). The number of NPLs in banks in a country can also cause economic stagnation (Zablon, 2015). According to Roman and Şargu (2013), the ratio of problem loans to total loan ratio is used to measure the quality of loans and the quality of bank assets indicated by NPLs.

The results of this study indicate an increase in the Non Performing Loan (NPL) ratio will have an

impact on the decrease in the Base Lending Rate. This means that the delta increase in lending is greater than the delta increase in the total loan disbursed will cause an increase in Non-Performing Loans (NPL). Delta increase in lending is greater than the delta increase in total loans disbursed that has exceeded the upper limit set by Bank Indonesia which is 5%, encouraging banks to make policies to reduce lending rates. Therefore, managers make a policy to minimize risks to the Non Performing Loan (NPL) standard by providing understanding to the lending division to always be careful with always cross checking, implementing a comprehensive credit supervision system through continuous guidance, so that they are always committed to maintaining Non Performing Loan (NPL) ratio is below 5%.

The results of this study are in line with the results of research by Aloisius Irtantyo Prabowo Harjum Muharam (2009) which states that the Non Performing Loan (NPL) variable does not have a significant effect on lending rates. And not in line with Arisandi's research (2007) which states that NPL has a positive effect on lending rates. This is due to the economic conditions between 2013 and 2018, where the increase in Non-Performing Loans (NPLs) is actually not followed by an increase in credit interest rates because corporate credit debtors will be more difficult to pay high credit interest.

Hypothesis 5 states that Net Interest Margin (NIM) has a negative effect on the Base Lending Rate. The results showed that the Net Interest Margin (NIM) had a negative effect on the Base Lending Rate. This is indicated by the coefficient value of -0.0135882 which means the Net Interest Margin (NIM) has a negative effect on the Base Lending Rate, and the value of $P > [t] = 0.749$ ie above alpha (0.05) means that the Net Interest Margin (NIM) is not significant against the Base Lending Rate.

Net Interest Margin (NIM) is a ratio used to measure the level of profitability, which is the level of effectiveness of banks between net interest income compared to the average earning assets. The Net Interest Margin (NIM) ratio is important because it must be reported by banks every month to Bank Indonesia and must be published. Bank Indonesia sets the Net Interest Margin (NIM) standard set by BI above 5% to be classified as healthy. The theory of money supply presented by Keynes shows that there are other factors outside the interest rate factor that affect lending

The results of this study indicate a decrease in the Net Interest Margin (NIM) ratio will have an

impact on increasing the Base Lending Rate. This means that the increase in net interest income delta is smaller than the increase in earning assets will cause a decrease in Net Interest Margin (NIM). Delta's increase in lending is smaller than the delta of the increase in earning assets at the minimum limit set by Bank Indonesia, which is 5%, encouraging banks to adopt a policy of raising lending rates. Therefore, bank management made a policy to maximize CASA (Current Account Saving Account) funds because of their low costs.

The results of this study complement Satary B. Haryanto's research, Endang Tri Widyarti 2017, which states that Net Interest Margin (NIM) has a significant effect and positive impact on lending. According to research conducted by Iwanicz and Witkowski (2015) shows that Net Interest Margin (NIM) has a positive effect on lending. Another study conducted by Prayudi (2011) states that Net Interest Margin (NIM) has a positive influence on lending. Thus it is estimated that Net Interest Margin (NIM) has a positive influence on lending. Other research conducted by Igan and Pinheiro (2011) states that Net Interest Margin (NIM) has a positive effect on lending. The above results suggest that if the NIM has a positive effect on lending, then the NIM has a negative effect on lending rates but is not significant. This is due to the increased NIM which has an impact on the lower loan interest rates, which allows banks to be able to extend more loans.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Based on the results of the research discussion previously described, the following conclusions can be concluded:

1) Test and analysis results show that together the independent variables used in the study are Loan to Deposit Ratio, BOPO, Non Performing Loans, and Net Interest Margin significantly influence Base Lending Rate (BLR).

2) Test and analysis results show that the Loan to Deposit Ratio has a positive effect on the Base Lending Rate (BLR) and is proven significant. This finding is not in line with research by Ni Luh Ita Nofita, A.A. Ketut Ayuningsasi, I Wayan Yogi Swara (2017) stated that the Loan to deposit ratio partially had no effect on the credit extended. This complements the opinion of H Mbao et al. (2014) which states that an increase in deposit rates has an impact on increasing lending rates and Sudono (2011) which states that deposit rates have a positive effect on the Base Lending Rate. High interest on deposits triggers a large amount of deposits so that the bank is very possible to extend credit, due to

opportunities for lending, the delta of lending has increased sharply. The increase in credit delta disbursement that is too large compared to the third party fund collection delta that exceeds the 110% limit is what causes banks to determine policies to raise credit interest rates, so that credit distribution decreases.

3) Test results and analysis show that BOPO is proven to have a significant positive effect on Base Lending Rate. This finding is not in line with research by Brando Pratenta Ginting Syarief Fauzie (2013) concludes that the BOPO variable partially has a negative effect but is not significant on the base lending rate (SBDK) retail. This is due to the increase in the delta of operational costs which is greater than the increase in the delta of operating income to encourage state-owned banks to raise the base lending rate to cover high operational costs.

4) Test and analysis results show that Non-Performing Loans (NPL) have a negative effect on the Base Lending Rate. This finding is not in line with research by Aloisius Irtantyo Prabowo Harjum Muharam (2009) which states that the Non Performing Loan (NPL) variable does not have a significant effect on lending rates. And not in line with Arisandi's (2007) research, that NPL has a positive effect on lending rates. This is because banks will not be careless, if the NPL of corporate credit increases then raises the base rate of the corporate credit, but rather so that the credit can return well by lowering the base rate of credit.

5) Test and analysis results show that Net Interest Margin (NIM) has no significant negative effect on Base Lending Rate. This finding complements Satrio B. Haryanto's research, Endang Tri Widyarti 2017, which states that Net Interest Margin (NIM) has a significant influence and positive impact on lending. According to research conducted by Iwanicz and Witkowski (2015) shows that Net Interest Margin (NIM) has a positive effect on lending. Another study conducted by Prayudi (2011) states that Net Interest Margin (NIM) has a positive influence on lending. Thus it is estimated that Net Interest Margin (NIM) has a positive influence on lending. Other research conducted by Igan and Pinheiro (2011) states that Net Interest Margin (NIM) has a positive effect on lending. The above results suggest that if the NIM has a positive effect on lending, then the NIM has a negative effect on interest rates on loans accepted but not significantly. This is due to the increased NIM which has an impact on the lower loan interest rates, which allows banks to be able to extend more loans.

Research Limitations

In this study there are several limitations of the study, including the following:

1. The research period used in this study is relatively short, namely from 2013 to 2018.

2. This research is only focused on the internal performance variables of banking companies in the form of financial ratios of Loan To Deposit Ratio, BOPO, Non Performing Loans, Net Interest Margin and Base Lending Rate without regard to the macro banking factors of BUMN banks or other economic risk factors outside the performance of state-owned banks.

3. Net Interest Margin is not able to predict the Base Lending Rate.

Suggestion

Some suggestions to consider due to limitations in this study are:

1. For further research to use longer time sample data not only 6 years.

2. For further research, the independent variables used in the form of financial ratios related to internal performance plus the external financial ratios of banking companies such as inflation, the development of other macro factors.

3. Net Interest Margin (NIM), which is used as a ratio measure, is unable to predict the Base Lending Rate (BLR), so another measure can be used to predict the lending rate. This is because banks will be more careful when the NIM goes down to raise lending rates, while raising lending rates is stalling. The recommended Net Interest Margin (NIM) for predicting Base Lending Rate (BLR) includes: Return On Asset (ROA)

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