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The Impact of Macroeconomic Indicators and Bank Spesific Factors on Comercial Bank NPLs in the Province of South Sumatera

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Abstrak. Non Perfoming Loan atau kredit bermasalah merupakan rasio yang dapat mempengaruhi stabilitas sistem keuangan perbankan jika NPL tidak dikelola dengan baik maka akan menyebabkan kondisi keuangan menjadi kacau dan akan menimbulkan masalah perekonomian. Tujuan dari penelitian ini adalah untuk menguji dampak indikator makroekonomi dan faktor spesifik bank terhadap rasio Non Perfoming Loan bank umum di Provinsi Lampung. Penelitian ini menggunakan data runtut waktu (time series) dari tahun 2010 triwulan I - triwulan IV. Jenis data yang digunakan adalah data sekunder yang diperoleh dari Badan Pusat Statistik dan Bank Indonesia. Variabel independen yang digunakan adalah indikator makroekonomi seperti inflasi, nilai tukar, BI rate, serta faktor spesifik bank seperti LDR, dengan Non-Perfoming Loan sebagai variabel dependen. Penelitian ini menggunakan metode analisis linier berganda serta asumsi tradisional. Hasil penelitian menunjukkan bahwa variabel makroekonomi dan indikator spesifik bank berpengaruh terhadap NPL, dengan LDR berpengaruh negatif secara parsial terhadap NPL. Nilai tukar berpengaruh positif terhadap NPL, sedangkan inflasi dan BI rate tidak berpengaruh.

Kata kunci : Bank umum; Indikator Makroekonomi; LDR; Non-Perfoming Loan

Abstract. *Non-Perfoming Loan or non-performing loan is a ratio that can affect the stability of the banking financial system if NPLs are not managed properly, it will cause chaotic financial conditions and will cause economic problems. The purpose of this research is to examine the impact of macroeconomic indicators and bank-spesific factors on the Non Perfoming Loan ratio of commercial banks in Lampung Province. The study made use of time series data from 2010QI – 2022QIV. The type of data used is secondary data obtain from the Central Bureua of Statistics and Bank Indonesia. The independent variabeles are macroeconomic indicators such inflation, exchange rate, BI rate, as well as bank-spesific factors such as LDR, with Non-Perfoming Loan serving as the dependent variable. This study employs multiple liniear analysis methods as well as traditional assumptions. The findings revealed that macroeconomic variables and bank specific indikators both affect NPL, with LDR having a partially negative effect on NPL. The exchage rate has a positive effect non-perfoming loans, while inflation and the BI rate have no effect.*

Keywords **:** *Commercial banks; Exchange Rate; LDR; Macroeconomic Indicators; Non-Perfoming Loan*

INTRODUCTION

Financial institutions are classified into two types: bank financial institutions and non-bank financial institutions. Banks are financial institutions institutions that have a role as intermediaries for financial institutions with the public. Banks have the task of collecting and directing funds to the general public. When it comes to distributing funds to the general public, bank financial institutions channel them in the form of credit. In channeling funds in the form of credit. In channeling funds in the principal or principal installments and credit interest to the debtor's ability are assessed from the condition of his business. Credit collectibility is divided into 4 types with several categories, namely current, substandard, doubtful and loss (Djiwandono, 2016). Non-performing loans are often called Non-Performing Loans (NPL). An increasing Non-Performing Loan ratio can hamper bank liquidity and profitability and can disrupt the stability of the banking financial system. If non-performing loans (NPLs) are not managed properly, it will lead to bank failure and financial vulnerability of a country (Prasanna et al., 2014). The higher Non-Performing Loan results in the stability of the financial system in a bad condition and will lead to economic problems (Bonin & Huang, 2001). The banking crisis will increase if financial risks are not addressed immediately. The crisis results in a decrease in lifestyle and quality of life which can reduce economic growth in a short time.

In Indonesia, the current NPL level of commercial banks can be said to be in good condition because the ratio level is below 5%. Indonesia, which has 38 provinces, certainly has its own NPL level, although Indonesia's NPL is good, there are several provinces that have a higher NPL level than the national NPL and even the NPL ratio exceeds the credit health standards set by Bank Indonesia. Sumatra Island has several provinces where the level of Non-Performing Loan is at the credit standard set by Bank Indonesia. The NPL level of Indonesian commercial banks from the first quarter of 2021 to the fourth quarter of 2022 has decreased except in 2021, the first quarter with a ratio of 3.17 to the second quarter with a ratio of 3.24 and then until the fourth quarter of 2022 the NPL has decreased. Whereas on the island of Sumatra in 2022 the province of South Sumatra has a higher NPL rate than the NPL of Indonesia and other provinces. South Sumatra commercial banks experienced an increase until the NPL level exceeded 5%.

The Non-Performing Loan rate in 2021 has decreased in the first quarter by 3.62, in the second quarter by 3.55, in the third quarter by 2.7 until in the fourth quarter the NPL has increased by 5.59. In 2022 the NPL for the first quarter was 5.44, the second quarter was 5.1, the third quarter was 5.01, and the fourth quarter was 4.72. If the NPL is compared to 2021, the NPL value in 2022 has increased quite far. For this reason, commercial banks in South Sumatra Province need a strategy to decide on the right solution in reducing the NPL level and maintaining the NPL condition to remain stable in order to avoid losses to the bank. One of the solutions that can be done in dealing with this problem, namely by knowing what factors can cause non- performing loans so that they can be controlled through appropriate rules.

Literature Review

Non Performing Loan

A bank's capacity to manage bad debts can show the bank's performance. The lower the bad debts, the more effective the bank is in allocating credit funds. One of the ratios that can measure bad debts or non-performing loans is Non Performing Loan (NPL). Non-Performing Loan is the ratio of non-performing loans to total loans.; the results of this comparison yield a ratio that indicates the smoothness with which customers pay credit. A high Non-Performing Loan demonstrates the bank's inability to manage the business, as evidenced by the emergence of banking liquidity, profitability, and solvency issues. Bank failure makes profits decline and affects the bank's ability to set aside reserves according to credit classification (Dwihandayani, 2018). Failure to repay loans causes banks to be unable to receive profits from loan interest and principal payments which can be a risk to the company's long term. In addition, it also has an impact on increasing the required reserves and accumulating losses from the financial system in the field of private investment (Rifat, 2016).

Inflation

Inflation instability is one of the problems that can worsen the country's economic performance, which will have an impact on the quality of bank performance. Inflation is a condition where the prices of goods in general tend to rise and occur continuously within a certain period of time. (Syaputra & Adry, 2019). Inflation is a factor that can cause financial risk. An increase in inflation will result in a loss of purchasing power. When there is inflation, it has an effect on increasing spending because the higher the level of spending, the higher the level of inflation on consumption. Inflation also has a real effect on reducing the income of the community and companies, which will have an impact on debtors who will have difficulty repaying loans to banks (Prasetyo, 2020).

BI Rate

Bank Indonesia interest rate or BI rate is one of the indicators of monetary policy and market operations that can affect the amount of money in circulation in Indonesia. The Bank Indonesia interest rate serves as the standard interest rate; As the interest rate at Bank Indonesia rises, banks' deposit interest rates rise as well. With an increase in deposit interest rates, banks' costs for third-party funds rise, resulting in more funds issued by banks. If this happens, the loan interest rate increases and the Non-Profoming Loan rate gets bigger (Dwihandayani, 2018)

Exchange Rate

The exchange rate compares the value of one country's currency to the value of another country's currency. Based on the financial accelerator theory, it explains that the problem of weakening exchange rates in a country can

affect non-performing loans or Non-Performing Loans (Derinda Febrianti Sakinah, 2021). Because the debtor's loan level capital is linked to the dollar, the NPL ratio rises when the exchange rate against the dollar rises (Palupi & Azmi, 2019).

Loan to Deposit Ratio

LDR compares the amount of credit distributed by the bank to the funds obtained by the bank. Loan deposit ratio describes the bank's ability to repay depositor withdrawals by relying on loans provided as a source of liquidity (Dwihandayani, 2018). Because the higher the LDR level, the higher the level of non-performing loans. The higher the LDR level, the greater the likelihood that a bank lends all of its funds or that the bank's liquidity is poor. According to Bank Indonesia, a good LDR safe limit is in the range of 75% - 100% and for the LDR safe limit is 110%.

The research conducted by riko setya wijaya in 2019 with the title of the influence of economic factors on non-performing loans at commercial banks in Indonesia with the results of foreign exchange variables, and the inflation rate has no significant effect on NPLs, whereas the BI rate does (Setya Wijaya, 2019). There is research that has been conducted by Sinaga J, Muda I, and Silalahi in 2020 with the title the effect of bi rate, exchange rate, inflation, and third party fund (dpk) on credit distribution and its effect on nonperforming loan (npl) on xyz commercial segment bank, obtained the results of research on DPK and exchange rates In the commercial bank segment of XYZ, Inflation, the BI rate, and lending all have a significant impact on NPLs, whereas inflation, the BI rate, and lending have no impact on NPLs (Sinaga et al., 2020). Research by minh long in 2020 with the title factors affecting non-perfoming loans (NPLs) of banks: the case of viettnam obtained research results interest rates and capital structure have a positive effect on NPLs and ROA, inflation, credit growth has a negative effect on NPLs (Long et al., 2020).

Research by nurismalatri in 2017 with the title analysis of macroeconomic influences on Indonesian banking non-performing loans obtained the results of exchange rates, BI rates and inflation have an influence on NPLs (Nurismalastri, 2017). Research by abid, ouertani, ghorbel in 2013 under the title macroeconomic and bank-specific determinants of non-performing household loans in Tunisia: dynamic panel data obtained NPL is influenced by the growth rate of real GDP, inflation and real loan levels (Abid et al., 2014). The next research by jamil salem al zaidanin in 2021 with the research title, namely the determinants of NPL conventional banks in the Arab Emirates with the results of ROA has a negative significant effect on NPLs, whereas liquidity and LDR have a positive effect.ROA has a negative significant effect on NPLs, whereas liquidity and LDR have a positive effect (Zaidanin, 2021). Furthermore, research conducted by in 2019 with the title of factors affecting non perfoming loans in banking in Indonesia obtained research results LDR, BOPO and loan interest rates affect NPL, while inflation and exchange rates have no effect on NPL (Palupi & Azmi, 2019).

METODE

The data used in this research is time series data with secondary data sources obtained from Bank Indonesia, BPS and other official websites. The object of research is Commercial Banks located in South Sumatra Province using quarterly data for the period 2010Q1-2022Q4. This is a quantitative study that seeks to determine the effect of independent variables on the dependent variable. With regard to the independent variables being macroeconomic indicators such as inflation, exchange rates, BI rates, and bank-specific factors such as LDR, and the dependent variable being Non-Performing Loan. Multiple linear regression with the following equation was used in this study:

NPL = a + β1 INF + β2 Exchange Rate + β3 LDR + β4 BIrate + e

Description: NPL = Non Perfoming Loan; a = Constant; β 1-4 = Coefficient of variable in quarter; INF = Inflation; Exchange Rate = Exchange Rate; LDR = Loan to Deposit Ratio; BI Rate = Reference Interest Rate; e = Error Term

Table 1
Determibant Coefficient $(R)^2$

F-statistic	2.561329	Prob. F(4,47)	0.0506
Obs*R-squared	9.306550	Prob. Chi-Square(4)	0.0539
Scaled explained SS	8.435727	Prob. Chi-Square(4)	0.0769

Source: Processed data

Determination is used to determine how much influence the independent variables of inflation, such as inflation, exchange rate, LDR,

and BI rate variables have on the dependent variable, namely Non Perfoming Loan (NPL) of commercial banks in South Sumatra province (R2). If the coefficient of determination (R^2) is close to one, it means that almost all information from the dependent variable can explain how far the independent variable data in a study.

HASIL

Based on the data analysis results, it is determined that the Jaque-Bera value is 3.8400079 and the probability of 0.146601 is larger than the value of 0,05 which implies that the data is normally distributed.

Table 2
Multicollinearity Test

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
INFLASI	0.006837	16.49057	2.542928
KURS	0.007890	139.6399	4.202806
LDR	4.48E-05	92.69874	3.288549
SB	0.016394	60.46783	3.130106
C	0.965652	106.4919	NA

Source: Processed data

Based on the results of the multicollinearity test, it is known that the VIF value of each variable is less than 10 so it can be concluded that there are no symptoms of multicollinearity between the independent variables in the regression model.

Table 3
Autocorrelation Test

R-squared	0.469257	Mean dependent var	2.952500
Adjusted R-squared	0.424087	S.D. dependent var	0.904847
S.E. of regression	0.686679	Akaike info criterion	2.177311
Sum squared resid	22.16180	Schwarz criterion	2.364931
Log likelihood	-51.61009	Hannan-Quinn criter.	2.249240
F-statistic	10.38878	Durbin-Watson stat	0.948935
Prob(F-statistic)	0.000004		

Source: Processed data

In the autocorrelation test, the Durbin-Watson test is used, and the result is a value of 0.948935 where the value is greater than -2 and less than 2, indicating that the regression model is autocorrelation-free. To determine whether there are symptoms of heteroscedasticity in the model, namely by using the Glejser test. Symptoms of heteroscedasticity will be seen from Obs * R- squared at the Prob.Chi-Square value. If Prob Chi-Square is greater than (0.05), the model does not have heteroscedasticity, as shown in the table below: Based on the Glejser test in Table 3. with a Chi-square prob value of 0.0539 has a higher value than α (0.05). According to this evidence, it is possible to conclude that the regression model exhibits no signs of heteroscedasticity. According to the findings of the classical assumption testing analysis, it is possible to conclude that the regression model can be used for estimation because it is BLUE (Best Linear Unbiased Estimator).

If you want to see the extent to which the independent variables (inflation, exchange rate, LDR and BI rate) have an influence on the dependent variable (Non Perfoming Loan),

Table 4
Multiple Regression Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFLASI	0.085711	0.082687	1.036574	0.3052
KURS	0.360458	0.088827	4.057968	0.0002
LDR	-0.019938	0.006692	-2.979569	0.0046
SB	-0.192465	0.128040	-1.503164	0.1395
C	1.853532	0.982676	1.886209	0.0655

Source: Processed data

Table 4. yields the multiple linear regression equation shown below:
NPL = 1.853532 + (0.085711)Inflation + (0.360458)Exchange Rate + (-0.019938)LDR + (-0.192465)BI rate

The regression equation above yields a constant value of 1.853532, indicating that if the independent variables of inflation, exchange rate, LDR, and BI rate are considered fixed or constant, there is a change in the dependent variable of 1.853532, indicating that the Non-Performing Loan of commercial banks in Lampung province will increase by 1.853532. The regression equation shows that the inflation variable has a positive constant value (one-way) of 0.085711, implying that a 1% increase in inflation will result in an increase in NPLs of 0.85711 units if all other variables are held constant. In the exchange rate or exchange rate variable, it can be seen that the coefficient shows a positive sign (one-way) with a value of 0.360458, which can be interpreted to mean that if the exchange rate rises, the NPL will rise by 0.360458 assuming all other variables remain constant.

For the LDR variable, it can be seen that the coefficient is negative (opposite direction) of -0.192465, which means that when it is assumed

that there is an increase in LDR, If all other variables remain constant, it will result in an increase in NPL of 0.192465. Finally, the interest rate variable shows a negative constant (opposite direction) of - 0.192465, which means that the interest rate variable has an opposite relationship with the Non-Performing Loan rate.

The t test aims to determine the significant effect of the independent variable on the dependent variable.

1. Inflation Inflation on Commercial Bank Non-Performing Loans in South Sumatra Province has a tcount value of 1.036574 and a probability of 0.3052 > 0.005. As a result, In conclusion, inflation has no effect on non-performing loans.
2. Rates. The exchange rate on Non-Performing Loan (NPL) of commercial banks in South Sumatra province has a tcount value of 4.057968, with a chance of 0.0002 < 0.05. As a result, the exchange rate has a significant positive effect on NPL.
3. LDR. The Loan to deposit ratio variable on commercial banks' NPL in South Sumatra province has a tcount value of -2.979569, with a probability of 0.0045 < 0.05. As a result, it is possible to conclude that LDR has a negative and significant impact on NPL.
4. BI Rate. The central bank interest rate on commercial banks' non-performing loans in South Sumatra province is -1.503164, with a probability of 0.1395> 0.05. As a result, the BI Rate has no effect on NPL.

The simultaneous test analysis, also known as The f test is used to see if all of the independent variables have an effect on theindependent variable at the same time or whether they have no influence at all.

Table 5
Multiple Linear regression data processing results

R-squared	0.942245	Mean dependent var	2.614167
Adjusted R-squared	0.930087	S.D. dependent var	0.690211
S.E. of regression	0.182500	Akaike info criterion	-0.381085
Sum squared resid	0.632816	Schwarz criterion	-0.135657
Log likelihood	9.573024	Hannan-Quinn criter.	-0.315973
F-statistic	77.49453	Durbin-Watson stat	1.650993
Prob(F-statistic)	0.000000		

Source: Processed data

Simultaneous tests and partial tests are performed on the outcomes of multiple linear regression data processing models, and the results show that the inflation, exchange rate, LDR, and BI rate All of these variables have a significant impact on Nonperforming Loans (NPL). The F table value is 77.49453 with a probability f statistic of 0.000000 < 0.005. In the study, the test results were obtained with an R-square (R2) value of 0.469257, implying that the coefficient of determination was 46.9257 percent, implying that there is a strong correlation relationship between the variables of inflation, exchange rate, LDR, and Bi rate on nonperforming loans (NPL) of commercial banks in South Sumatra Province. The analysis results show that inflation, exchange rates, LDR, and Bi rate both have a 46.9257 effect on NPL of Commercial Banks in South Sumatra Province, with the remainder influenced by other variables not examined in this study.

Inflation Has No Effect on Non-Performing Loan

Based on the findings ofresearch using multiple linear regression, it was found that the rise and fall of inflation had no influence on NPL at banks for business in South Sumatra province. From these results because when inflation rises it causes panic in the community so that the upper-class people will withdraw their savings and buy consumer goods so that banks will be rushed and experience bankruptcy.

Exchange Rate Affects Non-Performing Loan

From the results of the study, the exchange rate has a positive effect on Non-Performing Loan, When the exchange rate rises in part, the number of non-performing loans rises, this is because when the exchange rate rises, the rupiah value will weaken, which will cause capital outflow or flight of public capital abroad. The increasing exchange rate against the dollar will increase the demand for dollars. This is in accordance with the financial accelerator theory explaining the problem of weakening exchange rates in a country can affect non-performing loans or Non-Performing Loans.

LDR Negatively Affects Non-Performing Loan

The LDR variable has a partially negative impact on NPL, which impliesthat any change in the exchange rate affects Non-Performing Loan. This happens, because when the rupiah exchange rate against the dollar increases, it means that the rupiah exchange rate depreciates, so that the price of other currencies becomes more expensive so that the demand for forex will decrease and Non-Performing Loan will decrease.

Interest Rate Influence on Non-Performing Loans

The BI rate variable has a partial effect on Non-Performing Loan, which means that an increase in the BI rate has no effect on the Non-Performing Loan ratio. This happens because the increase in interest rates is carried out gradually and usually the increase in interest rates occurs in a short period of time, so it does not really affect the NPL of commercial banks in South Sumatra Province.

CONCLUSIONS

According to the results of multiple linear regression estimation using eviews 12, macroeconomic indicators and bank-specific factors have an influence on Non-Performing Loan, while the exchange rate variable has a positive influence on Non-Performing Loan, LDR has a negative influence on NPL, and the variables inflation and BI rate have no effect on NPL of commercial banks in South Sumatra Province.

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