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Analysis of the Effectiveness of the Interest Rate Path Monetary Policy Transmission Mechanism on Non-Performing Loans of Conventional Commercial Banks in Indonesia in 2018–2022

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ABSTRACT

Monetary policy is a policy set by the central bank to influence the circulation of money in the economy, which is reflected in the development of the money supply, interest rates, credit, exchange rates, and various other economic and financial variables. This study aims to analyze the influence of the implementation of women's rights in the Manpower Law on the level of welfare of women workers in the industrial sector. In the context of gender inequality that still occurs, it is important to explore how existing regulations can improve women's living and working conditions. This study uses a quantitative method with a sample consisting of female workers in several industrial companies. Data was collected through surveys that assessed the understanding and implementation of women's rights in the workplace, as well as their impact on their well-being. Data analysis was carried out using statistical techniques to test the hypothesis proposed. The results of the study are expected to provide a clear picture of the effectiveness of existing policies and their contribution to improving the welfare of women workers. The findings are also expected to serve as a reference for policymakers and companies in formulating better strategies to support women's rights in the industrial sector.

Introduction

Monetary policy is a policy set by the central bank to influence the circulation of money in the economy, which is reflected in the development of the money supply, interest rates, credit, exchange rates, and various other economic and financial variables (Anwar et al., 2023). Meanwhile, the monetary policy transmission mechanism is a process that describes how the monetary policy pursued by the central bank affects various economic and financial activities so that it can ultimately achieve the final goal set (Tanjung, 2021). This mechanism is based on the authority of Bank Indonesia which

initially determines the BI Rate so that it affects economic variables and the financial sector before achieving the final goal, namely macroeconomic stability (Asiama & Amoah, 2019).

The effectiveness of the monetary policy transmission mechanism is a measure of the extent to which the monetary policy pursued by the central bank can affect the final goal of monetary policy, namely macroeconomic stability. According to Law Number 4 of 2023 concerning the development and strengthening of the financial sector, the purpose of effectiveness in the monetary policy transmission mechanism is to achieve macroeconomic stability, including sustainable or equitable economic growth, low and stable inflation, and healthy and strong financial stability. According to (Fitriyani et al., 2023) In Indonesia, monetary policy is transmitted into six paths, namely the direct monetary channel or money channel, the interest rate channel, the credit channel, the exchange rate channel, the asset price path, and the expectation path (Zuffar & Rahadian, 2020).

In setting the ultimate target of monetary policy, namely macroeconomic stability, Bank Indonesia sets the BI Rate policy rate with the policy taken in the form of setting the BI Rate through the financial sector and influencing short-term and long-term interest rates. (Shokr, 2020). In this process, effectiveness in influencing policy objectives is very necessary, considering that there are different influences from each variable that the monetary policy mechanism goes through. In this case, to measure the effectiveness using two methods, the first is by financial institutions and non-bank financial institutions. Non-bank financial institutions include capital markets, insurance, venture capital, pawnshops, factoring, leasing, and so on. Meanwhile, bank financial institutions consist of central banks, commercial banks, and people's credit banks, both government-owned and privately owned. (Bakti & Putri, 2019). According to Faizal, et al. (2020), Indonesia as a developing country has a financial system that is still dominated by banks. Banks are financial institutions that are widely known by the public and can encourage economic activities through the services provided.

Sharia banks are not included in the monetary policy transmission mechanism of the interest rate path because of Sharia principles that prohibit usury, namely taking profits from capital without any returns. (Rizal et al., 2019). Riba is haram by law, Islamic banks consider that interest rates or riba are very influential on the economic crisis and prone to instability. Therefore, Islamic banking does not use interest rates in calculating profit-sharing (Duruechi, Chigbu, & Ukpong, 2020). In the monetary policy transmission mechanism, this interest rate path only uses conventional commercial banks in Indonesia. Conventional commercial banks, according to the Financial Services Authority (OJK), are banks that carry out business activities conventionally, refer to national and international agreements and use the interest rate system in carrying out their activities.

Table 1
Previous Research

It	Author, Year, Title	Variable	Analysis Tools	Result

1	(Koskei & Samoei, 2023) Does Monetary Policy Influence Non-performing Loans of Listed Commercial Banks in Kenya?	-Depend on: NPL -Independent: Benchmark interest rate, bill rate, central bank interest rate, and interbank interest rate	Multiple Regression	Indicates that the benchmark interest rate and bill rate do not affect non-performing loans in commercial banks registered in Kenya. The results of this study also show that central bank interest rates and interbank interest rates affect non-performing loans in commercial banks registered in Kenya.
2	(Sari & Septiano, 2024) The impact of monetary policy and credit risk on bank credit behavior: An analysis of banks listed on the Indonesian stock exchange	-Depend on: Investment Loans, Working Capital Loans, and Consumption Loans -Independent: Interest Rate, NPL, Inflation, Exchange Rate, CAR, and LDR	Generalized Method of Moment (GMM) dan estimasi Dynamic-GMM	Central bank interest rates hurt these three types of credit. Meanwhile, non-performing loans have a positive impact on investment credit and working capital but hurt consumer credit. The interaction between central bank interest rates and non-performing loans negatively impacts investment credit and working capital, but positively impacts consumer credit.

Based on the above background, the objectives of this research are:

1. To find out the effect of Bank Indonesia interest rates on Bank Non-Performing Loans (NPLs) in Indonesia in the short and long term.
2. To find out the effect of Bank Indonesia certificate interest rates on Bank Non-Performing Loans (NPLs) in Indonesia in the short and long term.
3. To find out the effect of commercial bank lending rates on Non-Performing Loans (NPL) of Banks in Indonesia in the short and long term.
4. To find out the effect of commercial bank deposit interest rates on Non-Performing Loans (NPLs) of Banks in Indonesia in the short and long term.
5. To find out the effect of interbank money market interest rates on Non-Performing Loans (NPL) of Banks in Indonesia in the short and long term.

Method

This type of research is a quantitative approach method using descriptive analysis. The type of quantitative research using the processing of numeric data (numbers) with statistical methods is the basis of quantitative research. Quantitative research is a type of research to examines a sample or population with an instrument in the form of data that has a quantitative nature by testing conjectures or hypotheses. This descriptive analysis is used to provide an overview of the research results with data in the form of numbers. The purpose of this study is to find out and analyze the short-term and long-term effects of the monetary policy transmission of interest rate pathways on the non-performing loans of conventional commercial banks in Indonesia. This study uses the Error Correction Model (ECM) method.

Types and Data Sources

The type of data in this study uses data in the form of secondary data with a time series in the period of January 2018 - December 2022 or as many as 60 months. Secondary data is data obtained not from the first source in obtaining data or information but using library studies. This library study comes from various types of sources such as scientific articles, books, journals, ebooks, and so on that are related to the research written.

Data Collection Methods

This variable research requires techniques in data collection to obtain information and facts in answering research questions. The data collection used in the form of secondary data is the technique used in this study. Data is obtained from government agency sources that have been published or provided. The data type used in this study is monthly time series data taken in the period 2018M1-2022M12.

The official data used in this study are data collected from the official websites of government agencies, such as the Financial Services Authority (OJK), Bank Indonesia (BI), the Central Statistics Agency (BPS), as well as library studies through journals, articles, and other official agencies. (Campos, 2019).

Data Analysis Methods

The observation years used in this study include 2018M01 to 2022M012. The basis for the use of the initial year is to meet the basic assumption of 60 observations in quantitative studies. The analysis method used in this study uses quantitative analysis using time series data. The model used in this study is the Error Correction Model (ECM) and as a tool in data processing, namely using the Eviews 12 program. The time series approach was chosen in processing the variables to be tested using the Error Correction Model (ECM) analysis technique, namely to find out or obtain an overview related to the interaction of Bank Indonesia interest rates, interbank money market interest rates, BI certificate interest rates, general deposit interest rates of commercial banks, and commercial bank lending rates.

The *Error Correction Model* (ECM) method restricts the long-term and short-term relationships between research variables and their cointegration relationships but still provides the existence of dynamism in the short term. The following are the general equations of the ECM model:

$$\Delta Yt = \alpha\varepsilon_{t-1} + \beta_1\Delta Y_{t-1} + \beta_2\Delta Y_{t-2} + \cdots + \beta_p\Delta Y_{t-p+1} + \varepsilon_t$$

So that the long-term econometric model with the variables that have been determined in this study is written in the following formal form:

$$NPL_t = \alpha_0 + \beta_1 BIrate_t + \beta_2 rSBI_t + \beta_2 rKRDT_t + \beta_2 rDEPO_t + \beta_2 rPUAB_t + \varepsilon_t$$

The long-term econometric model with the variables that have been determined in this study is written in the following formal form:

$$NPL_t = \alpha_0 + \beta_1 BIrate_{t-1} + \beta_2 BIrate_{t-2} + \beta_3 rSBI_{t-1} + \beta_4 rSBI_{t-2} + \beta_5 rKRDT_{t-1} + \beta_6 rKRDT_{t-2} + \beta_7 rDEPO_{t-1} + \beta_8 rDEPO_{t-2} + \beta_9 rPUAB_{t-1} + \beta_{10} rPUAB_{t-2} + \varepsilon_t$$

Several stages of testing need to be passed so that we can determine the use of the right model for data in conducting this research, namely:

Data Stationary Test

The first stage in estimating the model using time series data is first carried out the stationarity of the data. The purpose of this test is to obtain a stable mean value and random error equal to zero so that the regression model obtained has reliable prediction capabilities and avoids the emergence of spurious regression. Random regression is a situation where the regression results show a high value of the determination coefficient (R2) but the relationship between variables in the model has no meaning (Gujarati, 2004).

Stationary data testing is usually used as a unit root test developed by David Dickey and Wayne Fuller by looking at the probability of Augmented Dickey-Fuller (ADF) by comparing its critical values (Basuki, 2015). To be able to find out whether the data tested has a unit root or not, namely by comparing the ADF t-statistic with the Mc Kinnon critical value.

Hypothesis:

H0 = there is a root of the unit (data is not stationary)

H1 = no unit root (stationary data)

If the t-statistic ADF is greater than the Mc Kinnon critical value (1, 5, 10 percent) then H0 is accepted or in other words, the data is not stationary. However, when the ADF value of t-statistic is smaller than the critical value of Mc Kinnon (1, 5, 10 percent) then H0 is rejected or in other words, the data is stationary (Basuki, 2015). If the results of the data test are not stationary at the level level, differentiation can be made at the First Difference level or the next level to overcome this situation.

Cointegration Test

The Cointegration Test is carried out to detect the stability of long-term relationships between two or more variables. If there is a cointegration between related variables, it means that there is a long-term relationship between these variables. Confrontation tests of two or more time series data show that there is a long-term relationship. Time series data is said to be co-integrated if the residue of the stationary regression rate, then the regression rate will provide an accurate estimate for the long-term relationship.

Uji Error Correction Model (ECM)

The Error Correction Model (ECM) is a model used to correct regression equations between variables that are individually not stationary to return to their equilibrium values in the long term, with the main condition being the existence of a cointegration relationship between the constituent variables (S.R. Ajija, 2011).

The Error Correction Model is a technique used to correct short-term equilibrium towards long-term equilibrium, introduced by Sargan and popularized by Engle and Granger. To use the ECM model, there must be a cointegration relationship between variables. After that, the ECM model is formed using the residuals of its long-term equations or cointegrated equations. The residuals of long-term equations are used as error correction Term (ECT) errors in models that affect short-term equations.

Results and Discussion

Unit Root Test (Stationarity)

In this study, the detection of stationary data was carried out using the Augmented Dickey-Fuller (ADF) test with a real level of 5%. The purpose of this stationery test is to find out whether the variables used are stationary/stable or not. This is done to minimize the occurrence of spurious/false results and lead to wrong conclusions. Data that is not stationary at the level can be tested again at the first-difference level and so on. If the prob.* value is less than α = 5%, then the data is stationary. Conversely, if the value of prob.* is greater than α = 5%, the data is non-stationary.

Table 2
Results of Unit Root Test at Level Level

Variable	Probability	Conclusion
NPL	0.6421	Not stationary
CHOOSE	0.6492	Not stationary
RSBI	0.6258	Not stationary
RKRDT	0.8300	Not stationary
RDEPO	0.0692	Not stationary
RPUAB	0.8161	Not stationary

Source: Secondary data processing results in Eviews 12, 2024

Based on table 2 of conventional commercial banks based on the results of the unit root test at the level level, shows that all variables have data conditions that are not stationary at the level level. This can be seen from the value of the prob.* all variables are greater than α = 5% with a probability value of 0.6421 for the NPL variable, 0.6492 for the BIRATE variable, 0.6258 for the RSBI variable, 0.8300 for the RKRDT variable, 0.0692 for the RDEPO variable, and 0.8161 for the RPUAB variable. So the decision is to reject Ha and accept H0 which means that all variables are not stationary at the level level, so the integration degree test is continued.

Cointegration Test

After knowing that the data is stationary at the second difference level, the next step is to conduct a cointegration test. The cointegration test is used to provide an initial

indication that the model used has a long-term relationship (cointegration relation). The long-term relationship can be detected by knowing the stationarity of the linear combination between the independent variable and the dependent variable even though the tested variables are not stationary. The results of the cointegration test were obtained by forming a residual obtained by regressing independent variables to dependent variables using the Ordinary Least Square (OLS) method. The residual must be stationary at the level level to be said to have cointegration. The regression results of independent variables to their dependent variables are presented in the table.

Table 3
Results of OLS Cointegration Regression Estimation

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.237415	0.344345	12.30573	0.0000
CHOOSE	-0.158241	0.105789	-1.495814	0.1450
RSBI	0.077631	0.052500	1.478686	0.1450
RKRDT	-0.099994	0.048477	-2.062713	0.0440
RDEPO	0.104264	0.024178	4.132271	0.0001
RPUAB	-0.157586	0.077437	-2.035025	0.0468
R-squared	0.854051			
F-statistic	63.19853			
Prob(F-statistic)	0.000000			

Source: Secondary data processing results in Eviews 12, 2024

The table shows the results of long-term estimates for non-performing loans (NPLs) of conventional commercial banks in Indonesia. From the results of the estimation, it can be seen that the variables of the lending interest rate (rKRDT), deposit interest rate (rDEPO), and interbank money market interest rate (rPUAB) have a significant effect on non-performing loans (NPLs). The results of the analysis of the influence equation on non-performing loans (NPLs) of conventional commercial banks are:

1. Effect of the benchmark interest rate (BIRate) on non-performing loans (NPLs)

   Based on the table above, shows that the probability value of the variable of the benchmark interest rate is 0.1450. This indicates that the value of the prob. The benchmark interest rate > a significant level (α = 0.05% or 5%), namely 0.1450 > 0.05, so it can be concluded that H0 is accepted and H1 is rejected, which means that the variable of the benchmark interest rate does not have a significant effect on non-performing loans in the long term.
2. Effect of Bank Indonesia Certificate Interest Rate (rSBI) on Non-Performing Loans (NPL)

Based on the table above, shows that the variable probability value of the interest rate of Bank Indonesia certificates is 0.1450. This indicates that the value of the prob. The interest rate on bank Indonesia certificates > a significant level (α = 0.05% or 5%), which is 0.1450 > 0.05, so it can be concluded that H0 is accepted and H1 is rejected, which

means that the variable interest rate on bank Indonesia certificates does not have a significant effect on non-performing loans in the long term.

3. Effect of lending interest rate (rKRDT) on non-performing loans (NPL)

Based on the table above, shows that the probability value of the credit interest rate variable is 0.0440. This indicates that the value of the prob. The lending rate < a significant level (α = 0.05% or 5%), which is 0.0440 < 0.05, so it can be concluded that H0 is rejected and H1 is accepted, which means that the lending rate variable has a significant effect on non-performing loans in the long term. The higher the lending rate, the greater the risk of non-performing loans in Indonesian banks.

4. The effect of the deposit rate (rDEPO) on non-performing loans (NPLs)

Based on the table above, shows that the probability value of the credit interest rate variable is 0.0001. This indicates that the value of the prob. The deposit interest rate < a significant level (α = 0.05% or 5%), namely 0.0001 < 0.05, so it can be concluded that H0 is rejected and H1 is accepted, which means that the deposit rate variable has a significant effect on non-performing loans in the long term. The higher the deposit interest rate, the greater the risk of non-performing loans in Indonesian banks.

5. The effect of the interbank money market interest rate (rPUAB) on non-performing loans (NPLs)

Based on the table above, shows that the value of the variable probability of the interbank money market interest rate variable is 0.0468. This indicates that the value of the prob. The interbank money market interest rate < a significant level (α = 0.05% or 5%), namely 0.0468 < 0.05, so it can be concluded that H0 is rejected and H1 is accepted, which means that the interbank money market interest rate variable has a significant effect on non-performing loans in the long term. The higher the interbank money market interest rate, the greater the risk of non-performing loans in Indonesian banks.

The Kostanta value (C) in modeling has a probability value of 0.0000 which means that C has a significant influence on modeling. The results of the estimation of the long-term equation show that R-squared has a value of 0.854051 which means that 85.4051 percent of the non-performing loan (NPL) model can be explained by independent variables, namely the benchmark interest rate (BIRate), the bank Indonesia certificate interest rate (CBI), the lending rate (rKRDT), the deposit interest rate (repo), and the interbank money market interest rate (epub). While the remaining 14.5954 percent is explained by other variables outside the equation.

The estimation results of the long-term equation show that the F-statistic has a value of 63.19853 with a probability of 0.000000. This value is smaller than the real level of 1 percent, so it can be concluded that together all independent variables consisting of the benchmark interest rate (BIRate), the Indonesian bank certificate interest rate (CBI), the lending rate (rKRDT), the deposit interest rate (repo), and the interbank money market interest rate (rPUAB) have a significant influence on the dependent variable, namely non-performing loans (NPL).

Model Error Correction Model (ECM)

The Error Correction Model (ECM) model test was carried out to determine the short-term equation. The formation of the Error Correction Model (ECM) model is intended to determine the changes in variables between the benchmark interest rate (BIRate), the Indonesian bank certificate interest rate (CBI), the lending rate (rKRDT), the deposit interest rate (rDEPO), and the interbank money market interest rate (rPUAB) which have a significant influence (in the short term) on non-performing loans (NPLs). A commonly used form of description of the *Error Correction Model* (ECM) equation is shown in the formula:

D(NPL) = C (1) + C (2) *D (BIRATE) + C (3)*D(RSBI) + C (4)*D (RKRDT) + C(5)*D(RDEPO) + C(6)*D(RPUAB) + C (7)*ECT(-1)

Information:

NPL = Non-Performing Loans
C (1) = Constant
C (2) to C(7) = Coefficient of each variable
BIRATE = Benchmark Interest Rate
RSBI = Bank Indonesia Certificate Interest Rate
RKRDT = Lending Interest Rate
RDEPO = Deposit Interest Rate
RPUAB = Interbank Money Market Interest Rate
ECT = Error Correction Model

The output results of the *Error Correction Model* (ECM) method in this study are presented in the table:

Table 4
Hasil *Error Correction Model* (ECM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.019659	0.013950	1.409255	0.1647
D(SELECT)	-0.190858	0.084393	-2.261547	0.0279
D(RSBI)	0.004913	0.060995	0.080550	0.9361
D(RKRDT)	0.595974	0.199137	2.992777	0.0042
D(RDEPO)	-0.033464	0.095700	-0.349679	0.7280
D(RPUAB)	-0.069232	0.053271	-1.299614	0.1995
ECT (-1)	-0.469265	0.131328	-3.573230	0.0008
R-squared		0.472141		
Adjusted R-squared		0.411234		
F-statistic		7.751846		
Prob(F-statistic)		0.000006		

Source: Eviews Output Results 12, 2024 (processed)

Based on the regression results in the table above, it can be known that the model equation is as follows:

D(NPL) = 0.019659 - 0.190858*D(BIRATE) + 0.004913*D(RSBI) + 0.595974*D(RKRDT) - 0.033464*D(RDEPO) - 0.069232*D(RPUAB) - 0.469265*ECT (-1)

Information:

NPL = Non-Performing Loans
BIRATE = Benchmark Interest Rate
RSBI = Bank Indonesia Certificate Interest Rate
RKRDT = Lending Interest Rate
RDEPO = Deposit Interest Rate
RPUAB = Interbank Money Market Interest Rate

The equation above is a model of non-performing loans (NPL) dynamics for the short term, where the NPL variable is not only influenced by D(BIRATE), D(RSBI), D(RKRDT), D(RDEPO), and D (RPUAB) but can also be influenced by the variable error term et. The value of the coefficient is significant to be placed into a model that serves as a short-term correction to achieve a long-term equilibrium. The smaller the value of it, the faster the correction process will be toward long-term equilibrium. Therefore, in the ECM model, the variable it is often said to be an inertia factor, which is less than zero et < 0. In this model, the nikai coefficient et is -0.469265 which indicates that the NPL value is above the long-term value, this value must indeed be negative and significant. This shows that the error correction term is 46.92%.

Effect of the Benchmark Interest Rate on Non-Performing Loans

In the short term, the benchmark interest rate (BI Rate) has a significant effect on non-performing loans. If in the short term the benchmark interest rate increases, it will reduce the risk of non-performing loans so that it will decrease, and vice versa. If in the short term, the benchmark interest rate decreases, it can increase the risk of non-performing loans in Indonesian banks. This is in line with the interest rate theory expressed by Keynes, namely that a high benchmark interest rate will reduce the money supply (JUB) and credit demand will decrease, as a result of which the demand for money for speculative purposes will decrease, which will indirectly control the condition of non-performing loans.

In the long term, the benchmark interest rate (BI Rate) partially has an insignificant effect. The probability value of the BI Rate variable is 0.1450 because the probability value must be less than the real level of 5 percent. This shows that an increase or decrease in the BI Rate in the long term does not affect non-performing loans. The higher or lower the BI Rate will not have an impact on the increase or decrease in non-performing loans (NPLs) in the long term. This may also be because credit in the long term is less affected by interest rate fluctuations, fixed interest rates or long-term agreements with debtors can stabilize credit payments even if the BI Rate changes. The results of this study support research conducted by (Ambawani & Wahyudi, 2024) which states that the benchmark interest rate (BI Rate) does not have a significant effect on non-performing loans. Also,

research (Taiwo & Mike, 2021) states that the benchmark interest rate has no significant effect on non-performing loans.

Effect of Bank Indonesia Certificate Interest Rate on Non-Performing Loans

In the short and long term, the variable interest rate on Indonesian bank certificates (CBI) does not have a significant effect on non-performing loans. From the results of the short-term and long-term tests, it is known that the hypothesis was rejected with a probability value greater than the real level of 5 percent. Although the SBI interest rate is an important instrument in monetary policy, its effect on non-performing loans in the long and short term is not significant due to various structural and policy factors that exist in the banking system and the economy as a whole. This is in line with the Commercial Loan theory related to bank liquidity, which states that if banks place their funds in Bank Indonesia Certificates (SBI), it will disrupt bank liquidity and will have an impact on reducing credit distribution so that it can minimize the existence of non-performing loans.

The results of this study are supported by research conducted (Fajriati et al, 2022) which states that the interest rate on Indonesian bank certificates does not significantly affect non-performing loans or NPLs, this is because the interest rate on Indonesian bank certificates is not responsive in affecting non-performing loans.

Effect of Lending Interest Rates on Non-Performing Loans

In the short and long term, the lending rate variable (rKRDT) has a significant effect on non-performing loans (NPLs). From the results of the short-term and long-term tests, it is known that the hypothesis is accepted with a probability value smaller than the real level of 5 percent. Lending rates are an important variable in analyzing the occurrence of non-performing loans because high or unstable lending rates can contribute to the occurrence of non-performing loans. This is in line with the theory expressed by Joseph Stiglitz, namely that an inappropriate credit rate policy or an imbalance in determining credit interest rates can affect credit quality and cause non-performing credit risks.

The results of this study are supported by research conducted by (Bahruddin & Masih, 2018) Which states that lending interest rates have a significant influence on non-performing loans in the long term and the short term. The results of this study are also in line with research conducted by (Mahrous et al., 2020) Which states that lending interest rates have a significant effect on non-performing loans. If the lending rate increases, then the risk of non-performing loans will also increase.

Effect of Deposit Interest Rates on Non-Performing Loans

In the long term, the deposit interest rate (rDEPO) variable has a significant effect on non-performing loans (NPLs). Deposit rates can affect non-performing loans in Indonesian banks in the long term through increased cost of funds, changes in borrower behavior, and their impact on macroeconomic stability. Banks must balance the interest rates they offer on deposits to maintain probability and minimize credit risk. High deposit interest rates are often related to rising credit rates, which will make it difficult for debtors to pay installments and increase the risk of non-performing loans.

The results of the study are in line with Keynes' theory, namely the theory of liquidity preference which explains that interest rates are the result of liquidity preference.

High deposit rates can increase the cost of funds for banks, which in turn leads to an increase in lending rates. Higher lending rates can increase the repayment burden for borrowers, increasing the risk of non-performing loans. Additionally, high interest rates can reduce investment and consumption, which can negatively impact the economy as a whole, contributing to an increase in the risk of non-performing loans (NPLs) in the banking sector.

In the short term, the deposit interest rate does not affect non-performing loans. This is because banks tend to focus on long-term performance and manage their credit risk. Borrowers also need time to respond to changes in interest rates. They may not immediately feel the impact of the increase in deposit rates on their lending rates, so the risk of default does not increase immediately. This is in line with research conducted by (Puspita, 2019) stating that deposit interest rates do not have a significant effect in the short term on non-performing loans (NPLs).

The Effect of Interbank Money Market Interest Rates on Non-Performing Loans

In the long term, the variable interbank market interest rate (rPUAB) affects non-performing loans (NPLs). Interbank money market interest rates have a significant effect on non-performing loans in Indonesian banks in the long term due to the higher cost of funds, challenges in liquidity management, and the impact of unstable macroeconomic conditions. In the long term, these factors can cumulatively increase the risk of non-performing loans in the banking sector. High PUAB interest rates are often associated with unstable economic conditions, in the long run, less stable economic conditions can affect income and ability to repay loans and increase the risk of non-performing loans.

The results of the study are in line with Joseph Schumpeter's theory, namely regarding the business cycle theory, the PUAB interest rate often reflects macroeconomic conditions and business cycles. For example, in deteriorating economic conditions or a recession, central banks may raise the PUAB interest rate to control inflation or address economic instability. In these times, many debtors (both individuals and companies) can experience financial difficulties that make them unable to meet loan repayment obligations, which in turn contributes to an increase in non-performing loans. It is also in line with research conducted by (Koskei et al, 2023) which states that interbank market interest rates have a significant effect on non-performing loans in banks. And also in line with research (Kasana et al, 2023) which states that interbank money market interest rate variables have a significant influence on non-performing loans.

In the short term, the interbank money market interest rate (rPUAB) does not have a significant effect. The probability value of the rPUAB variable is 0.1995, and the probability value must be less than the real level of 5 percent. Interbank money market interest rates are more oriented towards funding costs for banks and financial institutions. While this may affect the bank's operating costs and funding strategies, its impact on non-performing loans may not be immediately apparent. Banks may adjust their borrowing costs to customers, but this does not happen quickly or on a large scale that directly affects the risk of non-performing loans. The results of this study are also in line with research conducted by (Fajri et al., 2021) which stated that interbank money market interest rate

variables do not significantly affect non-performing loans in banks. And it is also supported by research by (Iqbal et al., 2023) which explains that interbank money market interest rates do not have a significant effect on non-performing loans (NPLs) in Indonesian commercial banks.

Conclusion

Based on the analysis of data on the influence of independent variables, namely the benchmark interest rate (BI Rate), Bank Indonesia certificate interest rate (rSBI), lending rate (rKRDT), deposit interest rate (rDEPO), and interbank money market interest rate (rPUAB) on non-performing loans (NPLs) at conventional commercial banks in Indonesia during 2018 to 2022, it can be concluded that the benchmark interest rate (BI Rate) does not have a significant influence on non-performing loans in the long term. Even though it has an effect in the short term. On the other hand, the Bank Indonesia certificate rate (rSBI) also did not show a significant influence on non-performing loans in both the long and short term. On the other hand, lending interest rates (rKRDT) have a significant influence on non-performing loans both in the long and short term. Furthermore, the deposit rate (rDEPO) shows a significant effect in the long term but has no effect in the short term. Interbank money market interest rates also have a significant influence in the long term but have no effect in the short term. Finally, together, the variables BI Rate, rSBI, rKRDT, rDEPO, and rPUAB have an influence on non-performing loans both in the long and short term.

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