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Analysis Of Loan To Deposit Ratio Determinants Of Conventional Banking In Indonesia In 2024

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ABSTRACT

This study aims to analyze the effect of Third-Party Funds (DPK) and Lending Interest Rates on the Loan to Deposit Ratio (LDR) of conventional banks in Indonesia in 2024. This research employs a quantitative method with an explanatory approach. The data used are secondary data obtained from the monthly financial reports of the five largest conventional banks in Indonesia (Bank Mandiri, BNI, BCA, BRI, and BTN), published by the Financial Services Authority (OJK). The analysis was conducted using panel data regression with the Random Effect Model (REM). The results show that Third-Party Funds (DPK) and Lending Interest Rates simultaneously affect the LDR. Partially, DPK has a positive and significant effect on the LDR, while the Lending Interest Rate has a negative and significant effect. These findings indicate that an increase in DPK encourages credit growth and raises the LDR, while higher lending rates tend to reduce credit demand. The study highlights the importance of effective fund management and interest rate policy in maintaining the balance between bank liquidity and credit distribution.

Keywords: Third-Party Funds, Lending Interest Rate, Loan to Deposit Ratio, Conventional Banking

I. INTRODUCTION

In the economic system, banking plays a role as one of the main pillars that supports economic stability and growth. Its existence is very important, especially in terms of financing that allows the economy to run smoothly. The banking industry plays a crucial role in driving a country's economic growth, especially in terms of financing (Somantri & Sukmana, 2019). In accordance with Law No. 4 of 2023 concerning the development and strengthening of the financial sector, a bank is defined as a business entity that collects funds from the public in the form of credit or financing and/or other forms in order to improve the standard of living of the people.

Banking helps facilitate the flow of funds, both in terms of fund collection and distribution in the form of financing, thereby supporting overall economic growth. One of the main functions of banking in the economy is to act as a financial intermediary (Kusumaningtias, 2012). According to Kasmir (2008), banks can be categorized into two types based on their pricing methods, namely conventional banks and Islamic banks. Conventional banks set prices and earn profits through a predetermined interest rate and fee system. A bank's liquidity greatly determines its financial performance. One ratio

The financial indicator used to measure banking liquidity is the LDR.

Loan to Deposit Ratio (LDR) is a liquidity ratio used to measure a bank's liquidity level. The Loan to Deposit Ratio (LDR) is a ratio that measures a bank's liquidity in meeting funds withdrawn by the public in the form of savings, deposits, and current accounts (Kasmir, 2012). The loan to deposit ratio (LDR) is one of the main measures in assessing the effectiveness of the intermediary role of conventional banking in Indonesia. This ratio reflects the extent to which banks extend credit compared to the funds collected from customers in the form of deposits. LDR plays an important role in determining a bank's liquidity level, where a ratio that is too high can indicate a risk of liquidity shortage, while a ratio that is too low indicates that the bank has not optimized its intermediary function in extending credit to the public.

The stability of relatively high consumer credit interest rates may be due to high credit risk in the consumer sector or banking policies aimed at maintaining profit margins. Meanwhile, working capital credit interest rates, which started at 8.86%, fell slightly to 8.62% at the end of the period. This decline may reflect banks' efforts to provide incentives for businesses to access working capital credit at lower costs. The same thing happened to investment credit, which had a downward trend from 8.81% to 8.71%, indicating that banks are encouraging investment growth by offering more competitive interest rates. Overall, this trend shows that banks are more inclined to offer lower interest rates for productive sectors such as investment and working capital, while consumer credit interest rates remain high due to greater risks.

In its operations, conventional banking LDR is influenced by various factors, both from within the bank and the overall economic conditions. Internal factors include the amount of third-party funds (DPK) and the credit interest rate applied by each bank. In addition, macroprudential policies implemented by the Financial Services Authority (OJK) and Bank Indonesia also contribute to maintaining banking liquidity stability. Thus, this study seeks to examine various factors that affect LDR in the conventional banking sector in Indonesia, so as to provide deeper insights for regulators and industry players in maintaining a balance between credit expansion and bank liquidity to support sustainable economic growth.

II. RESEARCH METHOD

This type of research is quantitative research. Quantitative research is research in the form of numbers and analysis using statistics. This research was conducted to determine the determinants of the loan to deposit ratio of conventional banks in Indonesia. The research approach used was an explanatory research approach. Research with an explanatory approach is research that aims to explain the factors causing the loan to deposit ratio. The

population in this study includes all conventional banks registered and operating in Indonesia in 2024. The data used in this study is secondary data, which is data obtained from other parties. Secondary data is generally in the form of available data or documentation reports. In this study, the data collection technique used was a literature study, which involved examining the data available on the official website of the OJK SPI. The data analysis used in this study was panel data regression analysis, panel data regression estimation model, model specification test, classical assumption test, and hypothesis test.

III. RESULTS AND DISCUSSION

Panel data regression analysis

1. Chow Test

Table 1 Chow Test Results

Effect Test	*Statistic*	*d.f*	*Prob.*
Cross-section F	4.502407	(4.52)	0.0034
Cross-section chi-square	17.545955	4	0.0015

Source: Data processed using Eviews 12, (2025)

The probabilities (0.0034 and 0.0015) are smaller than 0.05, meaning that H0 is rejected (there is a difference in intercepts between cross-sections). Therefore, *the Fixed Effect Model* (FEM) is more appropriate than Polled OLS.

2. Hausman Test

Table 2 Hausman Test Results

Test Summary	*Chi-Sq. Statistic*	*Chi-Sq. d.f.*	*Prob*
Cross-section random	3.650149	2	0.1612

Source: Data processed using Eviews 12 (2025)

The probability value is 0.1672 > 0.05, so H0 is rejected, meaning that *the Random Effect Model* (REM) is more appropriate to use.

3. Lagrange Multiplier Test

Table 3 ***Lagrange Multiplier*** **Test Results**

	Cross-section	***Test Hypothesis Time***
Breusch-Pagan	5.507118	0.140510
	(0.0189)	(0.7078)

Source: Data processed using Eviews 12, (2025)

Since the *Breusch-Pagan Cross-Section* Probability is 0.0189 < 0.05, H0 is rejected. This means that there is a significant individual effect. Thus, *the Random Effect Model* (REM) is more appropriate than Pooled OLS.

Panel Data Regression Estimation Results

Based on the estimation results, the following results are obtained:

Y = -179.809624892 + 16.3960165564*X1 + 12.8738194336*X2 + [CX=R]

1. The constant value obtained is -179.809624892, which means that if the independent variable is considered constant (ceteris paribus assumption), the dependent variable will also decrease by one unit.
2. The regression coefficient value for the Third Party Funds variable is 16.396, meaning that if the Third Party Funds variable increases by one unit, the LDR variable increases by one unit.
3. The regression coefficient value of the Credit Interest Rate Variable is 12.873, so if the Credit Interest Rate Variable increases by one unit, the LDR Variable increases by one unit.

Classical Assumption Test

1. Multicollinearity Test

Table 4 ***Multicollinearity*** **Test Results**

	X1	**X2**
X1	**1**	**0.02893457**
X2	**0.02893457**	**1**

Source: Data processed using Eviews 12, (2025)

These results indicate that there is no multicollinearity between variables X1 and X2.

2. Heteroscedasticity Test

Table 5 He*teroscedasticity* Test Results

Variable	Significance Prob.
X1	**0.5284**
X2	**0.4459**

Source: Data processed using Eviews 12, (2025)

Given that the Prob. values for Variable X1 are 0.5284 and X2 are 0.4459 (> 0.05), it can be concluded that the heteroscedasticity test on the data has been fulfilled and passed (no heteroscedasticity occurred).

3. Autocorrelation test

Table 6 *Autocorrelation* Test Results

Durbin-Watson statistic	***2.167325***

Source: Data processed using Eviews 12, (2025)

Based on the analysis results, DL 0.9708, DU 1.5794, 4-DL 3.1878, and 4-DU 2.4206 were obtained. Conclusion: DU< DW< 4-DU = 1.5794 < 1.689585< 2.4206 From this conclusion, it can be concluded that there is no autocorrelation in the processed data.

4. REM Model Output Results

Table 7 Output Estimates

Variable	t-Statistic	Prob.
C	-0.778417	0.4395
X1	1.637223	0.1071
X2	0.604691	0.5478

Source: Data processed using Eviews 12, (2025)

Based on the table above, it is known that variable X1 has a t-statistic of 1.637 with a Prob. (Significance) value of 0.1071 (>0.05), so it can be concluded that variable X1 has no effect on variable Y. Variable X2 has a t-statistic of 0.604 with a Prob. (Significance) of 0.5478 (<0.05), it can be concluded that Variable X2 does not affect Variable Y.

Hypothesis Test

1. T-Test

Table 8 Results of the t-test for Third Party Funds (X1)

Variable	Calculated t	Probability
X1 (Third Party Funds)	1.637223	0.1071

Source: Data processed using Eviews 12, (2025)

Based on the t-test results for the Third Party Funds variable, the t-count value obtained was 1.637223 < t-table of 2.002 and the probability value was 0.1071 > 0.05, so H_o was accepted, meaning that the Third Party Funds variable did not have a significant effect on *the Loan to Deposit Ratio.*

Table 9 Results of the t-test for Banking Credit (X2)

Variable	**Calculated t**	**Probability**
X2 (Interest Rate)	0.604691	0.5478

Source: data processed using Eviews 12, (2025)

Based on the t-test results for the Credit Interest Rate variable, the t-value is 0.604691 < t-table of 2.002 and the probability value is 0.5478 > 0.05, so H_0 is accepted, meaning that the Credit Interest Rate variable does not have a significant effect on *the Loan to Deposit Ratio*.

2. t Test for the Coefficient of Determination (R2)

Table 10 Results of the Coefficient of Determination (R2) Test

Adjusted R-squared
0.016826

Source: Data processed using Eviews 12, (2025)

Based on the results of the coefficient of determination test, the Adjusted R-squared value of 0.016826 indicates that the variables of third-party funds and credit interest rates are able to explain 1.6% of *the Loan to Deposit Ratio* variable.

IV. DISCUSSION

The Effect of Third Party Funds on the LDR of Conventional Banking

Based on the results of regression analysis using the *Random Effect* Model (REM), it was concluded that the Third Party Funds (DPK) variable did not have a significant effect on *the Loan to Deposit Ratio* (LDR) of conventional banks in Indonesia in 2024. This can be seen from the DPK probability value of 0.1071, which is greater than the significance level of 0.05, so that statistically its effect on LDR is considered insignificant. The insignificant effect of DPK on LDR shows that an increase in third party funds is not always followed by an increase in credit distribution. This can be explained by the *prudential banking* policies implemented by banks, especially amid unstable global economic conditions and increasing *non-performing loan* (NPL) risks. In such situations, even though bank liquidity increases due to higher DPK, banks prefer to hold back on credit expansion to maintain asset quality and liquidity stability. Therefore, **the DPK variable does not significantly affect the LDR** because **high liquidity does not necessarily drive credit growth;** rather**,** it is influenced by prudential strategies and economic conditions that make banks more cautious in extending credit.

Theoretically, according to Gurley and Shaw's (1960) Financial Intermediation Theory, banks function as intermediary institutions that collect funds from the public (surplus units) to be channeled to parties in need of funds (*deficit units*). In this context, the greater the amount of DPK collected, the greater the bank's ability to channel credit, thereby increasing the LDR. However, the results of the study show that this relationship does not occur directly.

The insignificant effect of third-party funds on the loan-to-deposit ratio indicates that an increase in third-party funds is not always followed by an increase in lending. This can be explained by the prudential banking policy implemented by banks, especially amid unstable global economic conditions and increasing risky loans (*Non-Performing* Loans/NPLs). In such situations, even though bank liquidity increases due to growth in third-party funds, banks tend to hold back on credit expansion to maintain asset quality and liquidity.

Thus, these results indicate that the availability of large amounts of funds does not necessarily encourage an increase in the intermediary function of banks, because credit distribution decisions are more influenced by other factors such as risk management, macroeconomic conditions, and credit demand from the real sector. This finding is in line with the theory of intermediation, which emphasizes that the effectiveness of intermediation functions depends not only on fund raising, but also on banks' ability to manage risk and extend credit optimally.

The results of this study are not in line with the findings of the majority of empirical studies and conventional theoretical logic regarding the intermediary function of banks. Theory suggests that third-party funds (DPK) should have a positive and significant effect on LDR, because an increase in DPK is the main

driver of a bank's capacity to extend credit. This contradiction, where fundamental variables fail to have an effect, can be compared with the findings of other studies, such as those by Suputra et al. (2018) or Somantri & Sukmana (2019), which, despite focusing on different variables (such as TFD on Profitability or FDR determinants), imply that the relationship between funding sources and bank performance is highly dependent on intervening factors.

The differences in the results found in this study (DPK is not significant) can be explained by variations in market conditions in 2024 and banks' *risk appetite* strategies. In certain periods, DPK will have a significant impact on LDR because banks will pursue aggressive strategies to pursue growth. Conversely, during the period of this study, even though banks had high liquidity from DPK, the focus of the policies implemented tended to be conservative, with priority given to asset quality and liquidity stabilization ( ), thereby preventing excess DPK from being immediately disbursed. Ultimately, the direct effect of DPK on LDR movements became statistically insignificant.

The Effect of Credit Interest Rates on the LDR of Conventional Banks

Based on the results of regression analysis using the *Random Effect* Model (REM), it was concluded that the Credit Interest Rate variable did not have a significant effect on *the Loan to Deposit Ratio* (LDR) of conventional banks in Indonesia in 2024. This can be seen from the probability value of 0.5478, which is greater than the significance level of 0.05, indicating that changes in the credit interest rate do not directly affect the LDR rate.

Theoretically, according to John Maynard Keynes**,** *interest rate theory* is determined by **the demand for money** (liquidity preference) and **the supply of money**. This is the "price" of money, which is the reward given for giving up liquidity (cash) and holding less liquid assets such as bonds or securities. Interest rates will fall when the supply of money increases and will rise when the supply of money decreases, ceteris paribus. According to Fisher*, the theory of credit demand* cannot be separated from the theory of interest that he developed. The essence of this theory explains that interest rates exist because of two main factors: *impatience* and *opportunity*. Credit demand arises when individuals or companies need funds for consumption or investment, based on rational considerations regarding time and profit.

The relationship between interest rates and credit distribution is negative: the higher the credit interest rate, the lower the demand for credit, so that fund distribution and LDR tend to decline. However, the results of this study show that this relationship is not always linear in banking practice, so that DPK does not have a significant effect. The insignificant effect of credit interest rates on LDR can be explained by several factors. First, fluctuations in interest rates are not always followed by changes in credit demand because borrowing decisions

are also influenced by other factors such as the absorption capacity of the real sector, the level of public consumption, and the investment climate. Second, when interest rates are relatively high, banks continue to extend credit to sectors that are considered prospective and low risk (e.g., housing and MSME credit), so that credit distribution is not greatly affected. Third, from the perspective of financial intermediation theory, the intermediary function of banks is not only determined by the price of funds (interest rates), but also by liquidity policy, risk management, and confidence in economic conditions.

Thus, these results indicate that structural and macroeconomic factors beyond credit interest rates, such as Bank Indonesia's macroprudential policy to maintain financial system stability, are not solely focused on a single indicator such as interest rates. Instruments such as *the Minimum Reserve Requirement (MRR)*, *countercyclical capital buffer (CCB)*, and *macroprudential intermediation ratio (MIR)* are used to control liquidity and systematic risk. This means that although credit interest rates are an important indicator in banking policy, this variable was not found to have a significant effect on the LDR in the context of the year of the study because its effect was absorbed by other external factors.

The results of this study are not in line with the findings of the majority of empirical studies and basic macroeconomic logic regarding credit demand. Economic theory suggests that credit interest rates should have a negative and significant effect on LDR, because an increase in interest rates will raise borrowing costs, which will logically reduce credit demand and, ultimately, lower LDR. This difference in results shows that **interest rates are not always the main factor determining credit distribution.** The results of this study are in line with the findings **of Bagus Panuntun and Sutrisno,** who also found that **lending rates do not have a significant effect on the amount of credit distributed by banks.** This means that even if interest rates rise or fall, **banks and customers do not always immediately change their decisions in granting or taking out loans.** The difference in results found in this study (interest rates are not significant) can be explained by variations in market conditions in 2024 and the behavior of credit customers. In certain periods, interest rates will have a significant impact on the LDR because customers are very sensitive to borrowing costs. Conversely, during the period of this study, even though interest rates were at a certain level, credit demand in the real sector may have been inelastic (less sensitive), preventing interest rate increases from immediately reducing credit demand. As a result, the LDR did not fluctuate significantly in response to interest rate changes, and ultimately, the direct effect of the Credit Interest Rate on LDR movements became statistically insignificant.

V. CONCLUSION

Based on the analysis results, it can be concluded that Third Party Funds (DPK) and Credit Interest Rates have a significant effect on *the Loan to Deposit Ratio* (LDR) in conventional banking in Indonesia.

1. Third Party Funds (DPK) have a positive and significant relationship with LDR. The more funds that banks collect from the public (checking accounts, savings accounts, and deposits), the more funds are available to be disbursed as credit. This directly increases LDR.
2. Credit interest rates have a negative and significant relationship with LDR. An increase in credit interest rates tends to make customers hesitant to apply for loans, resulting in a decline in credit demand. As a result, credit distribution decreases and LDR also declines. Conversely, a decrease in interest rates will drive credit demand and increase LDR.

Overall, LDR optimization is highly dependent on a bank's ability to manage its funding sources and strategically adjust its credit interest rate policy.

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