

# **The Effect of Loan To Deposit Ratio (LDR) and Third Party Funds on Return On Equity (ROE) at PT Bank Rakyat Indonesia (Persero) Tbk Between 2012 and 2021**

**Andrean Mahesta \***

Faculty of Economics and Business, University of Pamulang, Indonesia

## ***Abstract***

*A bank is a financial institution that functions as an intermediary by receiving deposits of money from the judiciary community to channel it back to the community in the form of credit. This study aims to determine how much influence the Loan to Deposit Ratio (LDR) and Third Party Funds have on Return On Equity (ROE). This research was conducted at PT. Bank Rakyat Indonesia (Persero) Tbk for the period 2012-2021. The method of data collection in this study is by downloading financial statements on the PT. Bank Rakyat Indonesia. The data analysis method used in this study used normality test analysis and multiple linear regression analysis. The tests that have been carried out in this study provide results that the Loan to Deposit Ratio has no effect on Return On Equity while Third Party Funds have an effect on Return On Equity.*

**Keywords :** *Loan to Deposit Ratio; Third Party Funds; Return On Equity*

**JEL Classification:** G20; G21

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Corresponding author's email: [andreanmahesta4@gmail.com](mailto:andreanmahesta4@gmail.com)

## Introduction

This research investigates the effect of Loan to Deposit Rasio (LDR) and Third-Party Funds (TPF) on return on Equities (ROE). The research uses the partial test and simulataneously test,

The Loan to Deposit Ratio is a comparison between total loans extended to total third party funds (third party funds are demand deposits, savings and time deposits). This ratio is used to measure a bank's ability to repay withdrawals made by customers (depositors) by relying on loans as a source of liquidity. The higher this ratio, the lower the ability of the bank's liquidity to pay back the withdrawal of funds by depositors. Vice versa. LDR shows how liquid a bank is. The higher the LDR level, the more illiquid a bank is. In an illiquid state, banks will find it difficult to fulfill their short-term obligations, such as sudden withdrawals by customers of their deposits. Conversely, the lower the LDR level, the more liquid a bank is. The bank's increasingly liquid condition shows the large number of idle funds which can reduce the bank's opportunity to obtain greater revenue. The LDR level of a bank must always be maintained so that it is not too low or too high.

To determine the level of bank profitability, it can be measured by profitability ratios, including Return On Equity (ROE). This ratio illustrates the amount of return on total own capital to generate profits. ROE is the ratio between profit after tax to total equity which comes from paid up capital, undivided profits and other reserves collected by a company.

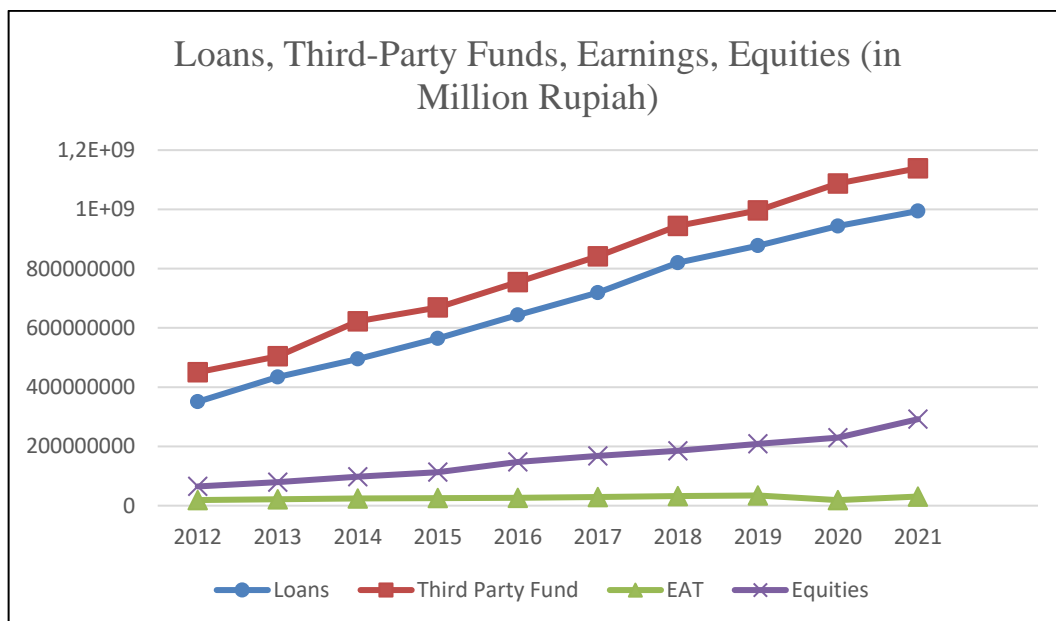
The object study is Bank Rakyat Indonesia (Persero) Tbk (BRI). BRI is public bank which issue stocks to increase it's capital. The majority of stockholders is on government o rit is called State-owned Enterprise. It's function is to stabilize the economy from monetary risks and financial risks BRI is a tool from goverment to control the economy.

**Table 1 Loans, Third Party Fund, EAT (Earning After Tax), and Equities in Million Rupiah Between 2012 and 2021**

Years	Loans	Third Party Fund	EAT	Equities
2012	350.758.262	450.166.383	18.687.380	64.881.779
2013	434.316.466	504.281.382	21.354.330	79.327.422
2014	495.097.288	622.321.846	24.226.601	97.705.834
2015	564.480.538	668.995.379	25.410.788	113.127.179
2016	643.470.975	754.526.374	26.285.251	147.534.097
2017	718.982.668	841.656.450	29.045.049	168.007.778
2018	820.010.157	944.268.737	32.418.486	185.275.331

2019	877.431.193	996.377.825	34.413.825	208.784.336
2020	943.787.634	1.087.424.950	18.660.393	229.466.882
2021	994.416.523	1.138.743.215	30.755.776	291.786.804

Source: PT Bank Rakyat Indonesia Financial Report's



**Figure 1 Loans, Third-Party Fund, Earnings, and Equities PT. Bank BRI Tbk between 2012 and 2021**

Table 1 shows the value of loans or bank loans distributed, it can be seen that the distribution of loans from 2012 to 2021 has increased. In 2012 the credit value was IDR 350.7 trillion. For credit value in 2013 to Rp 434.3 trillion. Furthermore, in 2014 the credit value was IDR 495 trillion. Then in 2015 it became IDR 564.4 trillion. Furthermore, in 2016 the credit value was IDR 643.4 trillion, then in 2017 it became IDR 718.9 trillion. And in 2018, bank lending increased to IDR 820 trillion. Furthermore, in 2019 and 2020, credit distribution will be IDR 877.4 trillion and IDR 943.7 trillion. Then in 2021 the distribution of credit will be Rp. 994.4 trillion.

The value of Deposits or Third Party Funds at PT Bank BRI Tbk from 2012 to 2020 has continued to increase. From the table above it can be seen that Third Party Funds in 2012 amounted to IDR 450.1 trillion. For 2013 and 2014, it again increased to IDR 504.2 trillion and IDR 622.3 trillion. And in 2015 it increased to IDR 668.9 trillion. Furthermore, in 2016 it was IDR 754.5 trillion, then it increased in 2017 and decreased in 2018 to IDR 841.6 trillion and IDR 944.2 trillion. In 2019 and 2020 there has been a significant increase in debt again, namely IDR 996.3 trillion in 2019 and IDR 1,087.4 trillion in 2020. Then in 2021 it has increased to IDR 1,138.7 trillion.

The profit value at PT Bank BRI Tbk from 2012 to 2019 continues to increase and in 2020 it has decreased. And in the following year it has increased again. From the table above it can be seen that the profit value in 2012 was IDR 18.6 trillion. For 2013 and 2014, it again increased to IDR 21.3 trillion and IDR 24.2 trillion. And in 2015 it increased to IDR 25.4 trillion. Furthermore, in 2016 it was IDR 26.2 trillion, then it increased in 2017 and decreased

in 2018 to IDR 29 trillion and IDR 32.4 trillion. From 2019 to 2020, there has been a significant decrease in profit, namely in 2019 it was IDR 34.4 trillion and in 2020 it was IDR 18.6 trillion. Then the equity value at PT Bank BRI Tbk has increased from 2012 to 2021, but in 2018 and 2020 the equity value of PT Bank BRI Tbk has decreased. Then in 2021 it will increase to IDR 30.7 trillion.

The company's equity value from 2012 to 2021 continues to increase. From the table above it can be seen that the company's equity value in 2012 was IDR 64.8 trillion, then in 2013 it was IDR 79.3 trillion, then in 2014 it was IDR 97.7 trillion, then in 2015 it was IDR 113.1 trillion, then for 2016 and 2017 to IDR 147.5 trillion and IDR 168 trillion. In 2018 it was IDR 185.2 trillion, then in 2019 it was IDR 208.7 trillion, then in 2020 it was IDR 229.4 trillion. Then in 2021 it will be IDR 291.7 trillion.

## Literature Review

The Loan to Deposit Ratio is used to measure a bank's ability to repay deposits that are due to depositors and to fulfill credit applications submitted without delay. Based on Bank Indonesia Regulation No. 15/15/PBI/2013 dated 31 December The amount of Loan to Deposit Ratio in conventional banks or Islamic banks which reflects the liquidity of a bank is 78% - 92%.

According to Harahap (2016: 321) this ratio is formulated as follows:

$$\text{Loan to Deposit Ratio} = \frac{\text{Loans}}{\text{Third Party Fund} + \text{Equity}} \times 100 \%$$

If the higher this ratio, the lower the liquidity of the bank concerned, and vice versa if the lower this ratio, the higher the liquidity of the bank concerned. This is as a result of the amount of funds needed to finance credit is getting bigger.

According to Kasmir (2012: 34) "Sources of third party funds come from demand deposits, savings and deposits". Explanation of sources of third party funds as follows:

Giro is a third party deposit in the form of rupiah or foreign currency, which can be withdrawn at any time by using a check, other government means of payment or by way of transfer. Savings are deposits whose withdrawals can only be made according to certain agreed terms but cannot be withdrawn using checks, banknotes, giro and/or other means of payment. Savings withdrawals are usually made easy for customers in withdrawing through ATM machines placed in strategic places where customers need money and can retrieve it

easily. Deposits are deposits that can only be withdrawn according to a certain period of time according to the agreement between the customer and the bank

According to Fahmi (2014:53) the formula is

$$\textit{Third Fund Fund} = \textit{Savings} + \textit{demand deposits} + \textit{time deposits}$$

Return On Equity is used to measure how much net profit will be generated from each rupiah of funds embedded in total equity. This ratio focuses on how the efficiency of the company's operations is translated into profits for the owners of the company.

According to Hery (2015: 195) Return On Equity can be formulated as follows:

$$\textit{Return On Equity} = \frac{\textit{Earning After Tax}}{\textit{Equity}} \times 100\%$$

According to Hery (2015: 194) "states that the return on equity is a ratio that shows how much equity contributes to creating net income."

Therefore, the higher the return on equity means the higher the amount of net profit generated from every rupiah of funds embedded in equity. Conversely, the lower the return on equity means the lower the amount of net profit generated from each rupiah of funds embedded in equity.

Many of previous research investigate PT Bank Rakyat Indonesia (Persero) Tbk, with different variables. *Third party funds, LDR, non-performing loans (NPL) have a significant positive effect on the number of credit but Return on Assets has a significant negative effect on the number of credit* (Puspasari et al., 2020). In the short term, LDR lag 2 has significantly affected on ROA but in long term, LDR has not significantly affected on ROA but NIM, NPL and BOPO are significant. In short term, BOPO lag 1 and 2 have significantly negative effect to ROA but NIM and NPL have not affected. (Hidayat et al., 2022). LDR, NIM, NPL, and BOPO have significantly affected stock price at PT Bank Rakyat Indonesia (Persero) Tbk.

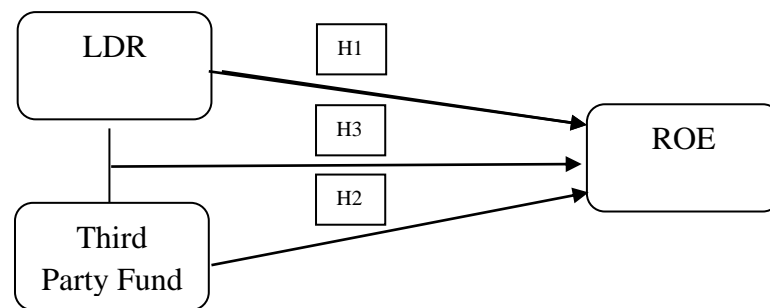
Previous studies show that for PT Bank Rakyat Indonesia Tbk do not investigate LDR and third party fund on ROE. Those are the different between this research and previous studies at PT Bank Rakyat Indonesia (Persero) Tbk.

The previous studies of LDR on ROE have been investigated. LDR was significant on ROE at PT Mandiri (Persero) Tbk (Maroni & Simamora, 2020). LDR was not significant on

ROE at PT BNI (Persero) Tbk (Wahyuti & Pratiwi, 2020) and in banking sector(Maulida et al., 2022).

Third Party Fund (TPF) was not significantly positive on ROE at PT Bank Mega Tbk(Hatiana & Pratiwi, 2020), and listed in Indonesian Stock Exchange (Hasibuan et al., 2021). LDR has not significantly affected ROA but TPF is significantly negative at PT Bank CIMB Niaga, PT Bank Mega Tbk, and PT Bank Windu Kentjana Tbk(Ferawati, 2020).

To find out the relationship between the independent variable and the dependent variable used in this study, it can be seen in the following figure:



**Figure 2 LDR and Third Party Fund on ROE**

Based on the above framework, the research hypotheses proposed in this study are as follows:

H1: It is suspected that there is an effect of Loan to Deposits Ratio (LDR) on Return On Equity (ROE) in PT Bank Rakyat Indonesia (Persero) Tbk.

H2: It is suspected that there is an influence of Third Party Fund on Return On Equity (ROE) in PT Bank Rakyat Indonesia (Persero) Tbk.

H3: It is suspected that there is an effect of of Loan to Deposits Ratio (LDR) and on Return On Equity (ROE) in PT Bank Rakyat Indonesia (Persero) Tbk.

## Research Methods

This research is quantitative research. The object study is PT Bank Rakyat Indonesia (Persero) Tbk. The type of data are secondary data. The data is from 2012 to 2021. This

research uses three variables. LDR and Third Party Funds are independent variables. Return on Equity is dependent variable.

**Table 2 Operational Variables**

<b>Variables</b>	<b>The Name of Variables</b>	<b>Formulas</b>	<b>Scalas</b>
<b>X1</b>	<b>LOAN TO DEPOSIT RATIO</b>	<i>Loan to Deposit Ratio</i> $= \frac{\text{Loans}}{\text{Third Party Fund} + \text{Equity}} \times 100 \%$	<b>Ratio</b>
<b>X2</b>	<b>THIRD PARTY FUND</b>	<i>Third Party Fund</i> $= \text{Savings} + \text{Demand Deposits} + \text{Time Deposits}$	<b>Nominal</b>
<b>Y</b>	<b>RETURN ON EQUITY</b>	<i>Return On Equity</i> $= \frac{\text{Earning After Tax}}{\text{Equity}} \times 100\%$	<b>Ratio</b>

Table 2 shows the operational variables. Three variables are measured by multiple regression to see the significance among them. Before using multiple regression, BLUE estimator must be tested so the model is valid for this research.

## Results and Discussions

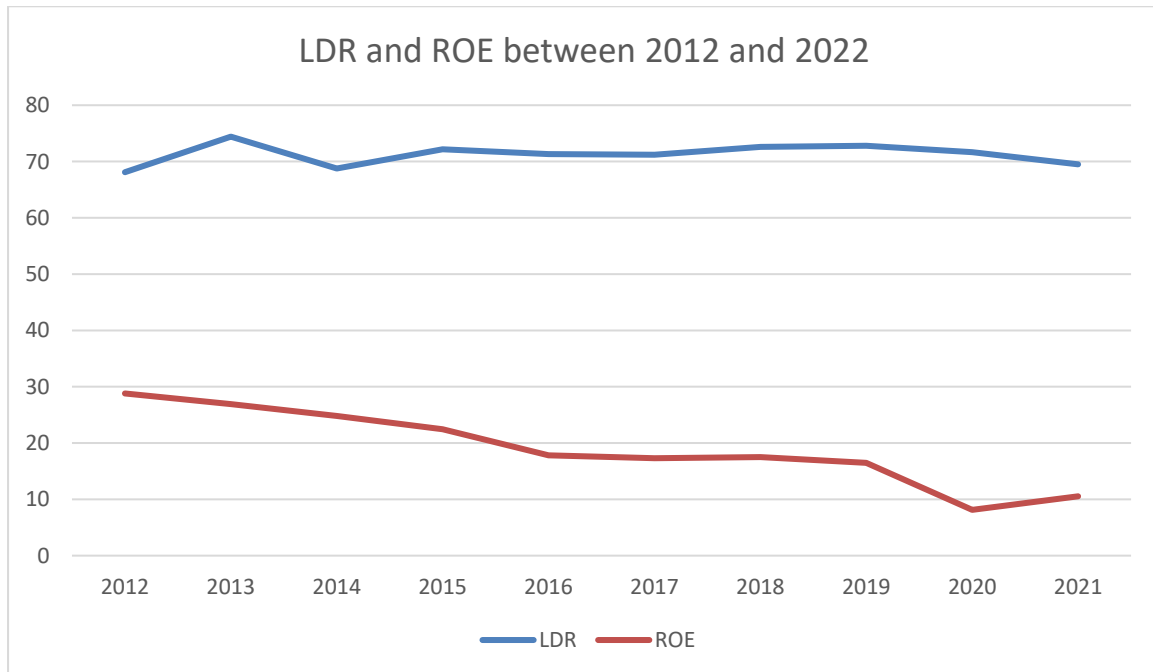
### Results

**Table 3 LDR, TPF, and ROE between 2012 and 2021**

<b>Years</b>	<b>LDR (%)</b>	<b>TPF (in Million Rupiah)</b>	<b>ROE (%)</b>
2012	68,10	450.166.383	28,80
2013	74,42	504.281.382	26,92
2014	68,76	622.321.846	24,80
2015	72,17	668.995.379	22,46
2016	71,33	754.526.374	17,82
2017	71,21	841.656.450	17,29

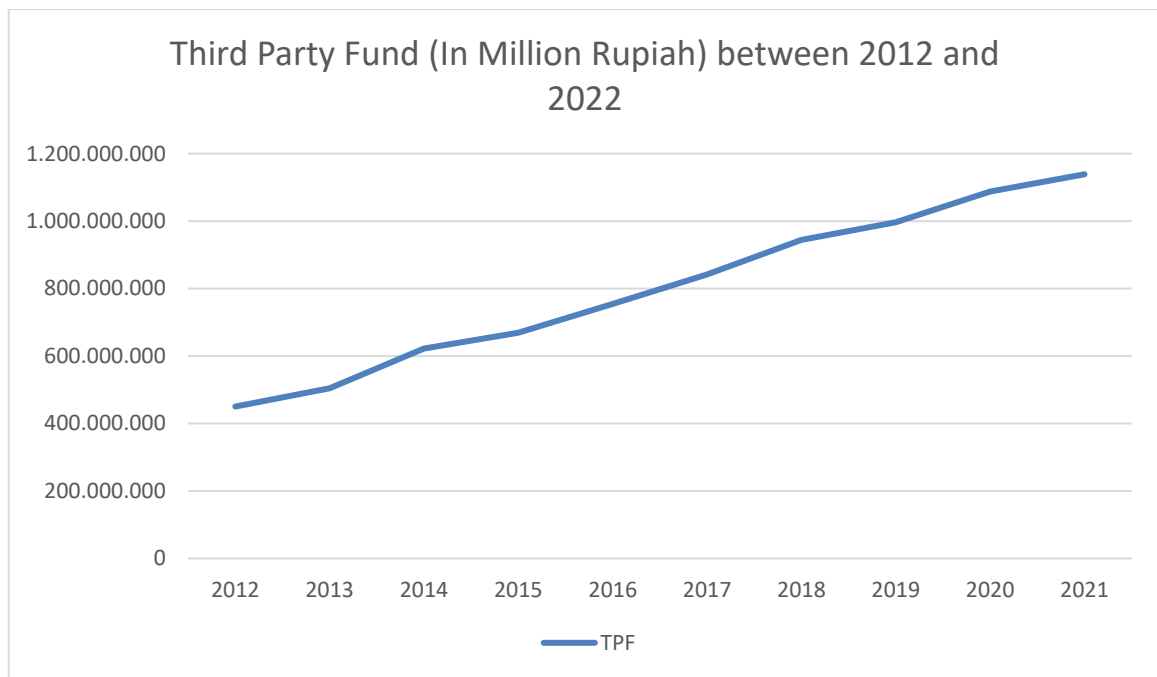
Years	LDR (%)	TPF (in Million Rupiah)	ROE (%)
2018	72,60	944.268.737	17,50
2019	72,81	996.377.825	16,48
2020	71,67	1.087.424.950	8,13
2021	69,51	1.138.743.215	10,54

Sumber : Self-Processed, 2022



**Figure 3 LDR and ROE between 2012 and 2021**





**Figure 4 Third Party Fund (in Million Rupiah) between 2012 and 2022**

Table 3 shows Loan to Deposit Rasio (LDR) remain between 2012 and 2021. ROE decreased between 2012 and 2022. Third Party Fund increase every years.

**Table 4 The Results of Multiple Regression between LDR and TPF and ROE**

		<b>Coefficients<sup>a</sup></b>				
		Unstandardized		Standardize		
		Coefficients		d		
Model		B	Std. Error	Beta	T	Sig.
1	(Constant)	413.403	51.029		8.101	.000
	LDR	.165	.388	.048	.425	.683
	Ln (TPF)	-45.698	5.360	-.962	-8.526	.000

a. Y is ROE

Based on the table of partial test results of the Loan to Deposit Ratio to Return On Equity, the t value is 0.425 and the t table is 2.364 or the value is  $0.425 < 2.364$ . which means partially it can be concluded that the Loan to Deposit Ratio has no effect on Return On Equity.

Based on the table of partial test results of Third Party Funds on Return On Equity, the t value is -8.526 and the t table is -2.364 or  $-8.526 < -2.364$ . which means partially it can be concluded that Third Party Funds have a significant effect on Return On Equity.

**Table 5 The Coefficient of Determination**

<b>Model Summary<sup>b</sup></b>				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.956 <sup>a</sup>	.913	.888	2.24637

a. Predictors: (Constant), Loan to Deposit Rasio, Third-Party Fund

b. Dependent Variable: Return On Equity

Source: The results of SPSS in 2022

Based on the table above, it can be seen that the Adjusted R Square value is 0.888 or 88.8%. This shows that the total variation in Return On Equity caused by the Loan to Deposit Ratio and Third Party Funds is 88.8% and the remaining 11.2% is not present in this study.

**Table 6 The F-test**

<b>ANOVA<sup>a</sup></b>						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	371.645	2	185.823	36.825	.000 <sup>b</sup>
	Residual	35.323	7	5.046		
	Total	406.969	9			

a. Dependent Variable: Return On Equity

b. Predictors: (Constant), Third Party Fund, Loan to Deposit Ratio

Source: The results of SPSS in 2022

Based on the table of simultaneous test results of Loan to Deposit Ratio and Third Party Funds to Return On Equity, the f count is 36.825 and the f table is 4.74 or the value is  $36.825 > 4.74$ . which means simultaneously it can be concluded that the Loan to Deposit Ratio and Third Party Funds have an effect on Return On Equity.

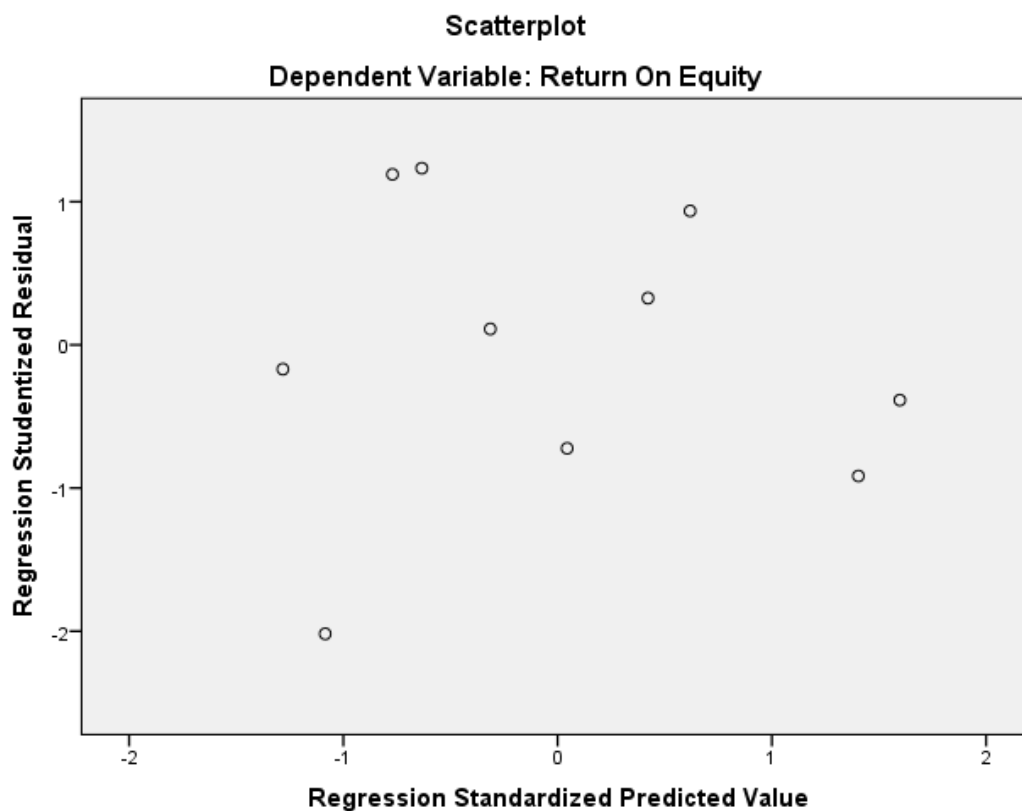
**Table 7 Normality Test**

<b>One-Sample Kolmogorov-Smirnov Test</b>		
		Unstandardized Residual
N		10
Normal Parameters <sup>a,b</sup>	Mean	.0000000
	Std. Deviation	1.98111026
Most Extreme Differences	Absolute	.118
	Positive	.103
	Negative	-.118

Test Statistic	.118
Asymp. Sig. (2-tailed)	.200 <sup>c,d</sup>
a. Test distribution is Normal.	
b. Calculated from data.	
c. Lilliefors Significance Correction.	
d. This is a lower bound of the true significance.	

Source: The results of SPSS in 2022

Based on the results of the Kolmogorov-Smirnov test in the picture above, it shows the Asymp.sig value. (2-tailed) of 0.200 which is greater than 0.05. These results indicate that overall the variables are normally distributed because their significance value is greater than 0.05.



**Figure 5 Heteroscedasticity Test**

From the picture above it can be seen that the points spread randomly and are spread both above and below zero on the Y axis. It can be concluded that there is no heteroscedasticity in the regression model, so the regression model is feasible to use.

**Table 8 Autocorrelation Test**

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**Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.956 <sup>a</sup>	.913	.888	2.24637

a. Predictors: (Constant), Dana Pihak Ketiga, Loan to Deposit Ratio

b. Dependent Variable: Return On Equity

Sumber: Hasil SPSS yang diolah tahun 2022

Based on the results of the autocorrelation test in the table, the Durbin-Waston value is 2.24637. This value is compared with the table value using a significance value of 5%. The number of samples or  $n = 10$  and the number of independent variables is 2 ( $k = 2$ ), then the values obtained from the Durbin-Waston table, the 4-dua value is 2.3587 and the du value is 1.6413. So it can be concluded that  $Du < dw$  or  $2.24637 < 2.3587$ . Thus it can be concluded that there is no positive or negative autocorrelation seen from the decision table or there is no autocorrelation (hence  $h_0$  is accepted).

**Table 9 Multicollinearity**

Coefficients <sup>a</sup>			
Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Loan to Deposit Ratio	.974	1.027
	Dana Pihak Ketiga	.974	1.027

a. Dependent Variable: Return On Equity

Source : The results of SPSS in 2022

Based on the table above, the VIF results of the independent variables are less than 10. This shows that there is no multicollinearity between the independent variables in the regression model. The results of calculating the tolerance value also show that there are no independent variables that have a tolerance value of less than 0.10, which means there is no correlation between the independent variables.

## Discussions

LDR is not significant on ROE at PT Bank Rakyat Indonesia Tbk The effect of LDR never investigated before. The result is the same as LDR on ROA in long term at PT Bank Rakyat Indonesia Tbk (Hidayat et al., 2022). It is also is as same as the results at PT Mandiri

(Persero)(Maroni & Simamora, 2020), PT BNI (Persero) Tbk (Wahyuti & Pratiwi, 2020), and in banking sector (Maulida et al., 2022). LDR parameter is 0.165 showing that the the increase LDR one percent will increase ROE 0.165%.

Third Party Fund is significantly negative effect on ROE at PT Bank Rakyat Indonesia. It is similar to PT Bank CIMB Niaga, PT Bank Mega Tbk, and PT Bank Windu Kentjana Tbk using multiple regression as method (Ferawati, 2020). The Ln (TPF) parameter is -45.698 showing that the increase Third Party Fund 1% will decrease ROE 45.698%.

## Conclusion

Based on the results of data analysis regarding the Loan to Deposit Ratio and Third Party Funds to Return On Equity, it can be concluded that Loan to Deposit Ratio has no effect on Return On Equity. So it can be concluded that Ha1 was rejected. Third Party Funds affect Return On Equity so it can be concluded that Ha2 is accepted. Loan to Deposit Ratio and Third Party Funds simultaneously affect Return On Equity. So it can be concluded that Ha3 is accepted.

## Acknowledgement

This research is self-funded.

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