

The Impact of Third Party Funds, Loan To Deposit Ratio And Capital Adequacy Ratio On Return On Assets

Case Study of Banking Listed on the IDX 2018-2022 Period

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ABSTRACT

This research aims to determine whether Third Party Funds, Loan to Deposit Ratio, and Capital Adequacy Ratio have a partial and simultaneous effect on Return On Assets. The population in this research is banks registered on the Indonesia Stock Exchange for the period 2018 - 2022, totaling 45 banks, then the sample was determined using the Purposive Sampling method so that a sample of 7 banks was obtained. The analytical methods used are the classical assumption test, multiple linear regression analysis test, t test, f test, and coefficient of determination test. Data testing was carried out using IBM SPSS Statistics 27 Software. The results of this research show that: 1) Third Party Funds partially have a significant effect on Return on Assets. If Third Party Funds experience an increase, this will be followed by an increase in Return On Assets. 2) Loan to Deposit Ratio partially has a significant effect on Return on Assets. A high LDR ratio can cause banks to earn greater profits as loans increase. 3) Capital Adequacy Ratio partially has a significant effect on Return on Assets. A high CAR indicates that the bank has sufficient capital to cover risks that may arise from its operational activities. 4) Third Party Funds, Loan to Deposit Ratio and Capital Adequacy Ratio simultaneously have a significant effect on Return On Assets with a coefficient of determination of 52.2%.

Keywords: Third Party Funds, Loan to Deposit Ratio, Capital Adequacy Ratio, Return On Assets

INTRODUCTION

The banking industry is becoming increasingly important in Indonesia because it is a developing country and makes a major contribution to society. Indonesia's economic development cannot be separated from the role of banking (Ali Musri Syam, 2021). Banks play a very important role in supporting the economy, and are responsible for the majority of financing economic activity. Based on article 4 of Law no. 7 of 1992, Indonesian Banking aims to support the implementation of national development in order to increase equality, economic growth and national stability towards increasing the welfare of the people (Suherman, 2022).

Return on Assets (ROA), the ratio between profit before tax to total assets, is one method for measuring bank profitability. ROA is a performance measure used to find out how effective a business is in gaining profits using the resources it has (Parenrengi & Hendratni, 2018). Based on Indonesian Banking Statistics, namely the average ROA in Commercial Banks, ROA is experiencing a fluctuating trend and this is allegedly because banks were affected by the *Covid-19 pandemic* in 2020 where banks made adjustments to economic conditions at that time. Improving bank performance is one way to increase profitability. Improving bank performance requires costs from operational activities, such as deposits or third party *funds*. UU no. 10 of 1998 states that savings are funds entrusted by the public

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to banks based on fund deposit agreements in the form of demand deposits, deposits, certificates of deposit, savings and/or other equivalent forms. *Third party funds* (TPF), as a measure of a bank's success in financing its operations, are the main funds for bank operations (Kasmir, 2015).

Based on Indonesian Banking Statistics, namely the average TPF at Commercial Banks, the average TPF growth at Commercial Banks is IDR. 6,611,620 billion rupiah and has an increasing trend every year. If the TPF amount increases, banks have the opportunity to achieve higher profitability. According to the *Return on Assets (ROA)* calculation, it is stated that TPF has a positive relationship with profitability (Anggreni & Suardhika, 2014). However, in this study, researchers found that there was a discrepancy in the data with the results of Anggreni and Suardhika's research in 2014, the *Third Party Funds variable* had a positive influence on profitability.

In Bank Indonesia Regulation (PBI) Number 15/7/PBI/2013 it is stated that the *Loan to Deposit Ratio* (LDR) is the ratio of credit provided by banks to third parties in the form of rupiah or foreign currency (forex) to *Third Party Funds* (TPF) which includes current accounts, savings and deposits, excluding inter-bank funds and credit to other banks. Currently, LDR has been changed to LFR based on PBI No. 17/11/PBI/2015, which has a lower limit of 78% and an upper limit of 92%.

Based on Indonesian Banking Statistics, namely the average LDR in Commercial Banks, it is concluded that the LDR decreases every year. In 2018, 2019 and 2021 the LDR ratio does not match or exceeds the limits determined by Bank Indonesia. A high LDR ratio can cause banks to achieve higher income due to more credit distribution and more liquidity risk because the funds available for short-term needs are increasing. minimal. On the other hand, a low LDR ratio can cause banks to have fewer idle funds because liquidity risk decreases and banks provide less credit to customers. According to several studies, the LDR ratio can have a positive effect on a company's ROE and ROA. If the LDR is high, bank profits (in the form of interest) increase, this causes the ROE and ROA ratios to also increase (Invesnesia, nd).

According to Dendawijaya (2005), CAR is a ratio that shows the extent to which all bank assets containing risk (such as credit, investments, securities and other bank bills) are financed from the bank's own capital funds and from funds outside the bank, such as public funds, loans. (debt), etc. Based on Indonesian Banking Statistics, namely the average LDR at Commercial Banks, it is concluded that CAR increases every year, but there will be a decrease in 2022 by 0.01%. If the CAR ratio is low, then the bank has a small level of capital, which will prevent the bank from experiencing inevitable losses. This condition will affect the bank's ability to continue its operations. Poor performance reduces public trust, thereby reducing profitability. (Pinasti & Mustikawati, 2018).

This research was conducted with the objectives: 1) To determine the influence of *Third Party Funds* on *Return on Assets*. 2) To determine the effect of *Loan to Deposit Ratio* on *Return on Assets*. 3) To determine the effect of the *Capital Adequacy Ratio* on *Return on Assets*. 4) To determine the influence of *Third Party Funds*, *Loan to Deposit Ratio* and *Capital Adequacy Ratio* on *Return on Assets*.

METHODS

The type of research used in this research is quantitative. The subjects used in this research are banks listed on the Indonesia Stock Exchange. The object of this research was to determine the relationship between the independent variable and the dependent variable. This research explains the influence of TPF, LDR, and CAR on ROA. This research was conducted from November 2023 – May 2024 with the research location being banks listed on the Indonesia Stock Exchange for the period 2018 – 2022.

The population in this research is banks listed on the Indonesian Stock Exchange for the 2018-2022 period, totaling 45 banks. The sampling technique in this research used a *purposive sampling method*. Dana P. Turner (2020) states that *purposive sampling* is a sampling method used if the researcher already has a target to research (Sampoerna

University, 2022). The researchers' criteria for sampling were: 1) Banks listed on the Indonesia Stock Exchange for the period 2018 to 2022. 2) Banks have core capital of more than 40 trillion Rupiah. 3) The Bank publishes audited annual financial reports for the 2018 – 2022 period. Banks that meet these criteria to become research samples are 7 banks consisting of Bank BRI, Bank BCA, Bank Mandiri, Bank BNI, Bank Danamon, Bank CIMB Niaga, and Bank Panin.

In this research, data collection was carried out using documentation techniques from the annual financial reports published by each sample bank. The data testing method used is the classic assumption test which consists of:

1. Normality test. According to Duli (2019), the normality test is carried out to determine whether the residual values are well distributed. This is done using graphical as well as statistical methods.
2. Heteroscedasticity Test. The purpose of the heteroscedasticity test is to determine whether there is a difference in variance in the residuals between two observations. If there is a constant similarity of variances (homoscedasticity), then the regression model meets the requirements (Duli, 2019).
3. Multicollinearity Test. The purpose of the multicollinearity test is to determine whether there is high correlation between the independent variables in the multiple linear regression model. *Variance inflation factor (VIF)*, *Pearson correlation* between independent variables or by looking at *eigenvalues* and *condition index* are statistical tools commonly used to evaluate multicollinearity (Duli, 2019).
4. Autocorrelation Test. A good regression model in the autocorrelation test is free from autocorrelation symptoms. This shows whether the confounding error in period t and the confounding error in the previous period t- 1 are correlated with each other (Firdaus, 2021).

The data analysis method uses multiple linear regression analysis, which is a linear regression model that implies more than one independent variable (Ghodang and Hantono, 2020). The linear regression test is used to determine and explain the influence of the TPF, LDR, CAR variables on ROA.

Formula:

$$Y = \alpha + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \varepsilon$$

Information:

Y = ROA

X1 = TPF

X2 = LDR

X3 = CAR

e = random error term

To test the hypothesis, use the T Test (partial), F Test (simultaneous), and Co efficient of Determination (R^2).

1. T Test (Partial). The t test was carried out to determine the influence of the independent variable partially on the dependent variable. According to Mulyadi (2020), to test whether each independent variable has a significant effect on the dependent variable partially, namely with $\alpha = 0.05$.
 - a. If the significance level is <0.05 then the independent variable partially influences the dependent variable.
 - b. If the significant level is > 0.05 then the independent variable does not partially influence the dependent variable.
2. F Test (Simultaneous). According to Panjawa & Sugiharti (2021), the simultaneous significance test (F test) is an analysis of variance (ANOVA). If the significance is <0.05 then H_0 is not accepted. Meanwhile, if the significance is >0.05 then H_0 is accepted (Ilham Mutu, 2020). Formula:

$$F_H = \frac{R^2 / k}{(1 - R^2)(n - k - 1)}$$

Information:

R^2 = Multiple correlation coefficient squared

- K = Number of independent or independent variables
- N = Number of samples
- 3. Coefficient of Determination (R^2). To find out how good a regression line is on research data, the Coefficient of Determination (R^2) is used. The coefficient of determination has a value between 0 and 1 and is not negative.

RESULTS AND DISCUSSION

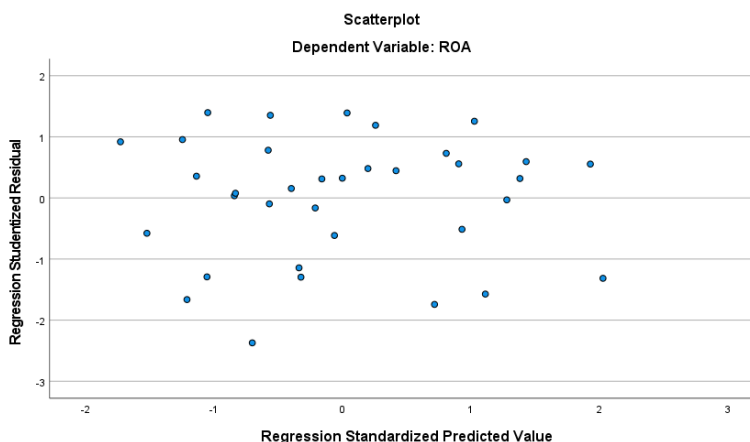
Normality test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residuals	
N		35	
Normal Parameters ^{a, b}	Mean	.0000000	
	Std. Deviation	.61399881	
Most Extreme Differences	Absolute	.137	
	Positive	.102	
	Negative	-.137	
Statistical Tests		.137	
Asymp. Sig. (2-tailed) ^c		.096	
Monte Carlo Sig. (2-tailed) ^d	Sig.	.093	
	99% Confidence Interval	Lower Bound	.086
		Upper Bound	.101

Normality test results can be seen by looking at the Asymp value. Sig in the table of normality test results using the Kolmogorov-Smirnov method. The test results show that the data is normally distributed because it gets an Asymp.Sig value of 0.096 > 0.05.

Heteroscedasticity Test



The results of the Scatterplot test in the image above show that the points are spread out irregularly. Therefore, it can be concluded that the independent variables in this study do not experience symptoms of heteroscedasticity.

Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients Beta	Q	Sig.	Collinearity Statistics	
	B	Std. Error				Tolerance	VIF
1 (Constant)	-3,454	1,944		-1,776	,085		
DPK	1,900E-6	,000	,915	5,154	,000	,536	1,866
LDR	.031	.014	,372	2,240	,032	,615	1,627
CAR	,087	.041	,330	2,136	.041	,707	1,413

Based on the results of the multicollinearity test above, the VIF value of variable X1 or *Third Party Funds* (TPF) is 1.866. At X2 or *Loan to Deposit Ratio* (LDR) it is 1,627. And at X3 or *Capital Adequacy Ratio* (CAR) it is 1,413. Based on these data, it can be concluded that there are no symptoms of multicollinearity because these results show that the VIF value is <10.

Autocorrelation Test

Model Summary ^b					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,722 ^a	,522	,456	.60925	1,686

From the results above, it shows that the Durbin-Watson (dW) value is 1.936 and it can be concluded that there are no symptoms of autocorrelation with the explanation as below:

N = 35
 dW = 1.686
 dL = 1.283
 dU = 1.653
 4 - dL = 2.717
 4 - dU = 2.347

To see that there are no symptoms of autocorrelation, use the condition $dU < dW < 4 - dU$. The data produced in this autocorrelation test is $1,653 < 1,686 < 2,347$, which means that there are no symptoms of autocorrelation.

Multiple Linear Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients
	B	Std. Error	Beta
1 (Constant)	-3,454	1,944	
DPK	1,900E-6	,000	,915
LDR	.031	.014	,372
CAR	,087	.041	,330

In the table above it can be seen that the constant value or α is -3.454 and *Third Party Funds* or X1 (β value) is 1,900, then the *Loan to Deposit Ratio* or So the multiple linear regression equation is obtained as follows:

$$Y = -3.454 + 1.900 X1 + 0.031 X2 + 0.087 X3 + e$$

From the equation above it can be concluded that:

1. The constant value, namely -3.454, shows the constant of the dependent variable, namely *Return On Assets* (Y), with the assumption that the dependent variables, namely *Third Party Funds* (X1), *Loan to Deposit Ratio* (X2), and *Capital Adequacy Ratio* (X3) are equal to zero or constant then *the Return On Asset* (Y) value experiences a decreasing trend of -3,454.
2. The X1 value is 1,900 with a positive relationship direction, indicating that every increase in *Third Party Funds* will be followed by an increase in *Return On Assets* of 1,900. It can be concluded that *Third Party Funds* have a positive effect on *Return On Assets*.
3. The X2 value is 0.031 with a positive relationship direction, indicating that every increase in *the Loan to Deposit Ratio* will be followed by an increase in *Return On Assets* of 0.031. It can be concluded that *the Loan to Deposit Ratio* has a positive effect on *Return On Assets*.
4. The X3 value is 0.087 with a positive relationship direction, indicating that every increase in *the Capital Adequacy Ratio* will be followed by an increase in *Return On Assets* of 0.087. It can be concluded that *the Capital Adequacy Ratio* has a positive effect on *Return On Assets*.

T Test (Partial)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-3,454	1,944		-1,776	,085
DPK	1,900E-6	,000	,915	5,154	,000
LDR	.031	.014	,372	2,240	,032
CAR	,087	.041	,330	2,136	,041

Based on the results of the T test, it shows that each independent variable has an effect on ROA because the t value > t table with the t table value being 2.040. And each variable gets a significant value below 0.05. So, it can be concluded that each independent variable partially has a significant effect on ROA.

F Test (Simultaneous)

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11,648	3	3,883	9,390	,000 ^b
	Residual	12,818	31	,413		
	Total	24,465	34			

The F table value was obtained at 2.91 in the f table distribution. Thus, it can be concluded that simultaneously the independent variables, namely TPF, LDR and CAR, have a significant effect on the dependent variable, namely ROA, because they get a calculated f value of 9.390 > 2.91 and a significant value of 0.00 < 0.05.

Coefficient of Determination Test (R ²)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,722 ^a	,522	,456	.60925

Based on the table above, the R Square value is 0.522 or 52.2%. These results show that the value of the dependent variable explained by the independent variables in this research is 52.2%, while the remaining 47.8% is explained by other variables outside this research.

DISCUSSION

The Influence of *Third Party Funds* on *Return on Assets*. Based on the tests that have been carried out, it shows that the significant value for the *Third Party Funds* variable is 0.000 < 0.05 and the calculated t value is greater than the t table (5.154 > 2.040). This indicates that partially *Third Party Funds* have an effect on the dependent variable, namely *Return On Assets*. With these results, **H1 is accepted**. In the existing data, *Third Party Funds* (TPF) experienced a consistent increase, but *Return on Assets* (ROA) experienced fluctuations, with a decrease occurring in 2020. In the BRI Annual Report (2020), it was explained that the decrease in ROA in 2020 was caused by external factors such as the *COVID-19 pandemic* that affect the financial performance of companies or financial institutions. Even though TPF increases, fluctuations in ROA indicate that the financial performance of the company or financial institution is unstable during that period. Operational adjustments necessary to adapt to the pandemic situation, such as investments in technology to support remote working or increased cleaning and safety costs, which could increase operational costs and suppress ROA. To contain the impact of *Covid-19* which caused an economic slowdown, the government issued *countercyclical policies*, one of which was through the National Economic Recovery (PEN) program. In this recovery program the government issued various stimuli including through POJK 11 which provides credit relaxation to debtors affected by *Covid-19*, PMK 70 and 104 regarding the placement of government funds, PMK 71 which contains credit guarantees borne by the government, and PMK 138 which provides subsidies. credit interest. Meanwhile, Bank Indonesia carried out monetary easing by reducing the reference interest rate (BI7DRR) from 5% at the beginning of the year to 3.75% at the end of 2020 (BRI, 2020).

In theory, *Third Party Funds* have a relationship with *Return On Assets* because they are the most important source of funding for a bank's operations and are a benchmark for a bank's success in its ability to finance its operations (Kasmir, 2015). By increasing the TPF, the bank has a greater opportunity to gain profits. This research is in line with research conducted by Parenrengi & Hendratni (2018) which states that Third Party Funds have a positive and significant effect. There is other research that is in line with this research, namely research conducted by Anggraeni and Suardhika (2014) which states that DPK has a positive effect on ROA.

The Effect of *Loan to Deposit Ratio* on *Return on Assets*. Based on the tests that have been carried out, it shows that the significant value of the *Loan to Deposit Ratio variable* is $0.032 < 0.05$ and the calculated t value is greater than the t table ($2.240 > 2.040$), which means that *the Loan to Deposit Ratio partially influences Return on Assets*. With these results, **H2 is accepted**. *The Loan to Deposit Ratio* (LDR) has fluctuated, with a decline occurring in 2020-2021. Apart from that, *Return on Assets* (ROA) also experienced fluctuations with a decrease in 2020. A decrease in LDR can indicate various things, for example a decrease in loan requests from customers or internal policies of companies or financial institutions regarding credit risk management. This decline could be triggered by external factors such as an economic slowdown or uncertainty caused by the *COVID-19 pandemic* (BRI, 2020). The decline in ROA in 2020 could also be caused by the same factors, such as the global economic impact of the pandemic which affected the investment and operational performance of companies or financial institutions. In theory, a high LDR ratio can cause banks to earn greater profits as loans increase and banks face large liquidity risks because they have less capital to meet short-term needs. When the LDR is high, the bank's profits (interest) increase so that ROA also increases. This research is in line with research conducted by Dewi, AS (2017) which states that the LDR variable has a significant positive effect on ROA. Other research that is in line with this research is Warsa and Mustanda (2016) which states that *the Loan to Deposit Ratio* has a positive effect on ROA.

The Influence of *Capital Adequacy Ratio* on *Return on Assets*. Based on the tests that have been carried out, it shows that the significant value for the *Capital Adequacy Ratio variable* is $0.041 < 0.05$ and the calculated t value is greater than the t table ($2.139 > 2.040$), which means that *the Capital Adequacy Ratio partially influences Return on Assets*. With these results, **H3 is accepted**. An increase in CAR usually indicates that a financial institution has more capital available to cover risks that may arise from its operational activities, such as credit risk, market risk and operational risk. This increase can occur through an increase in own capital or a decrease in risk *-weighted assets* (RWA). So, even though CAR is increasing, fluctuations in ROA show that the financial institution is still facing challenges in generating optimal profits from the assets it owns, especially in the context of 2020 which is full of uncertainty.

In theory, a low CAR ratio reflects the bank's low level of capital. Low capital levels can prevent banks from experiencing inevitable losses. These conditions can affect the bank's ability to maintain operational efficiency. The decline in bank performance causes a reduction in public trust, resulting in low profits (Pinasti & Mustikawati, 2018). This research is in line with research conducted by Bernardin, DE (2016) which states that CAR has a significant influence on ROA. Other research that is in line is research conducted by Anggraeni and Suardhika (2014) which states that CAR has a positive effect on ROA.

The Influence of *Third Party Funds, Loan to Deposit Ratio, and Capital Adequacy Ratio* on *Return on Assets*. Simultaneously, TPF, LDR and CAR influence ROA because they obtain a significant value in the F test, namely 0.000. This value is < 0.05 and the calculated f value is $> f$ table ($9.390 > 2.91$), which means that the independent variable has a simultaneous effect on the dependent variable. With these results, **H4 is accepted**. A high TPF can increase ROA because it gives the bank more funds to use in providing loans or making investments that generate interest income. The higher the TPF, the more sources of funds available for the bank to generate income. A balanced LDR can support bank growth and profitability. With a reasonable LDR, banks can utilize funds obtained through deposits to provide loans to customers in a sustainable manner. This can increase net interest income and ultimately, ROA. A high CAR indicates that the bank has sufficient capital to cover risks that may arise from its operational activities. By having strong capital, banks can gain the trust of customers and investors, and reduce the risk of bankruptcy. This can create a stable environment for sustainable growth and profitability, which contributes positively to ROA. The results of testing the coefficient of

determination reached a value of 52.2% of the influence between the TPF, LDR and CAR variables. Meanwhile, 47.8% is explained by other factors.

CONCLUSION

Based on research that has been completed and passed several research stages, it can be concluded that: 1) *Third Party Funds* partially have a significant effect on *Return on Assets*. If *Third Party Funds* experience an increase, this will be followed by an increase in *Return On Assets*. 2) *Loan to Deposit Ratio* partially has a significant effect on *Return on Assets*. A high LDR ratio can cause banks to earn greater profits as loans increase. 3) *Capital Adequacy Ratio* partially has a significant effect on *Return on Assets*. A high CAR indicates that the bank has sufficient capital to cover risks that may arise from its operational activities. 4) *Third Party Funds*, *Loan to Deposit Ratio* and *Capital Adequacy Ratio* simultaneously have a significant effect on *Return On Assets* with a coefficient of determination of 52.2%.

This research only used 35 sample data from 7 companies with a 5 year period, namely 2018 - 2022. It is hoped that future researchers can use more samples to get more accurate data results. In this study, the coefficient of determination of the dependent variable influenced by the independent variable was only 52.2%, so it is hoped that future researchers can use or add other variables for further research.

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