



## Determinant Return on Assets on Rural Banks in Indonesia

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### Abstract

*The problem in this study is that the Trend of Return on Assets (ROA) in Rural Banks tends to decrease. The author uses a quantitative descriptive analysis method and the analytical tool used is the ECM (Error Correction Model), the aim of which is to determine what factors influence the Return on Assets (ROA) of Rural Banks in Indonesia. The findings empirically show that the Amount of Money Supply in the long term had a significant effect on the Return on Assets (ROA) of Rural Banks. Whereas in the short term, no significant effect on ROA, General Capital Reserves in the long term have a significant effect on Return on Assets (ROA), while in the short term have no significant effect on ROA, Non Performing Loan (NPL) in the long term and short term effect significant to Return on Assets (ROA), Consumptive Interest Rates in the long term and short term have no significant effect on Return on Assets (ROA), and Working Capital Interest Rates in the long term and short run have no significant effect on Return on Assets (ROA) Rural Banks in Indonesia*

**Key words :** Determinant, Error Correction Model, Return on Assets, Rural Bank

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## INTRODUCTION

Economic development is a process towards an advanced and prosperous economy, the process of which is continuous over a long period of time. In this regard, the state needs a microfinance institution or better known as banking that can regulate the welfare of the community. (Alinda, 2018).

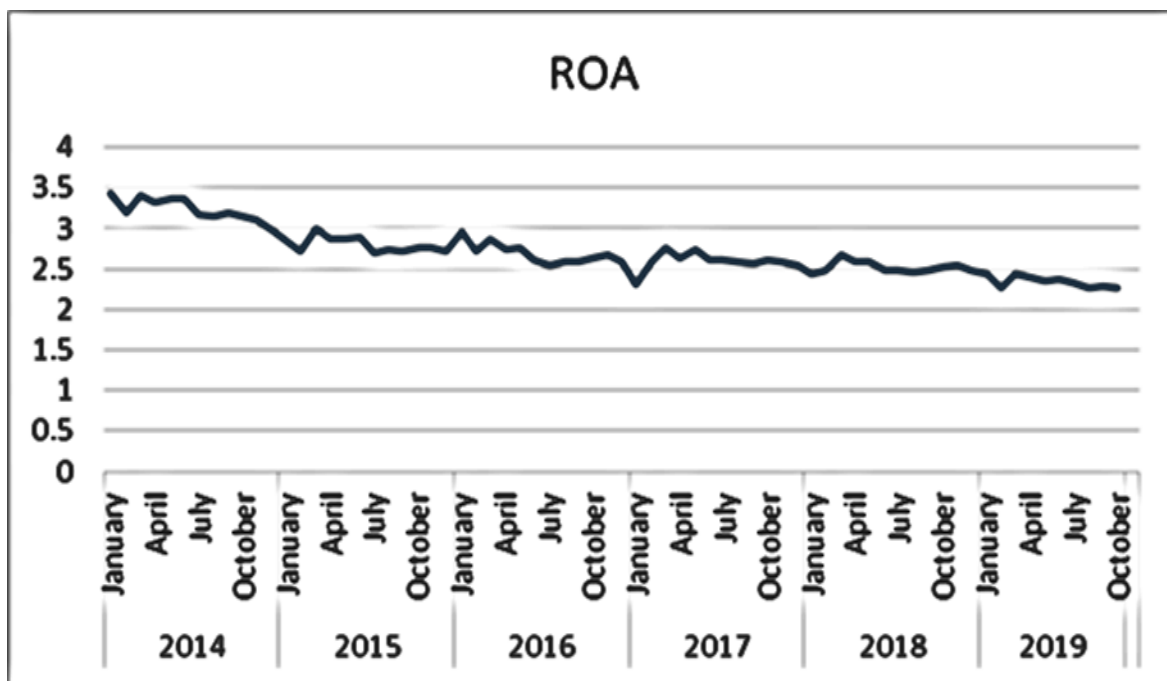
Banking is a business of risk taking. Banks generally perform the intermediation role by accepting deposits from the savers and lending the money to borrowers (Sufian & Chong, 2008; Olweny & Shiphoo, 2011). Banking according to the Republic of Indonesia Law Number 10 of 1998 can be explained that banking or bank is a business entity engaged in finance, so that banking activities are always related to money. According to Law no. 10 of 1998, banking is divided into two, namely Commercial Banks and Rural Banks.

Rural Banks has an important role in the economy, one of which is to provide financial services for savings and loans, which are primarily aimed at serving small businesses and rural communities with simple systems and procedures. Seeing the importance of Rural Banks in supporting the people's economy, the existence of Rural Banks needs better attention. Rural Banks aims to optimize its operational activities to gain profitability. Maintaining stable profitability and even increasing is very important for banks to do. The objective is to properly comply with prudential banking regulations and increase public confidence in saving their excess funds. (Purboastuti et al., 2015). Rural banks, in Indonesia commonly referred to as bank perkreditan rakyat (BPRs), are categorized as small banks that operate in only one province and primarily

finance small and medium enterprises (SMEs). BPRs are one of the main financial intermediary entity for the SMEs (Chou & Buchdad, 2016)

Profitability is a measure to determine the level of profit that the company receives in a certain period of time and the productivity of the use of company funds used both for loan capital, as well as their own capital that can be used by investors and potential investors, as a basis for making decisions in investing (Pertiwi, 2019). The profitability of banks is usually expressed as a function of internal and external determinants (Williams, 2003). The internal determinants, also called bank specific determinants of profitability, are related to bank management (Kosmidou, 2008). There are some variables used for measuring bank performance. Olson and Zoubi (2011) stated that accounting-based research on bank performance often uses either return on asset (ROA) or return on equity (ROE) for performance measurement and uses bank specific, industry specific and macroeconomic factors as determinant variables.

The ratio used to measure profitability is Return on Assets (ROA), so in this study, Return on Assets (ROA) is used as a measure of the effectiveness of banking performance. Based on data from the 2013-2019 Financial Services Authority Report, the Return on Assets (ROA) of Rural Banks in Indonesia has a downward trend, this indicates that the profitability obtained by Rural Banks has also decreased. This indicates that the effectiveness of BPR performance has decreased. According to the Financial Services Authority (2019), the decline in the value of Return on Assets (ROA) at BPR was influenced by slowing operating profit in the third quarter of 2019 which grew 1.05% (yoy), lower than the third quarter of the previous year, which amounted to 5.16% (yoy).

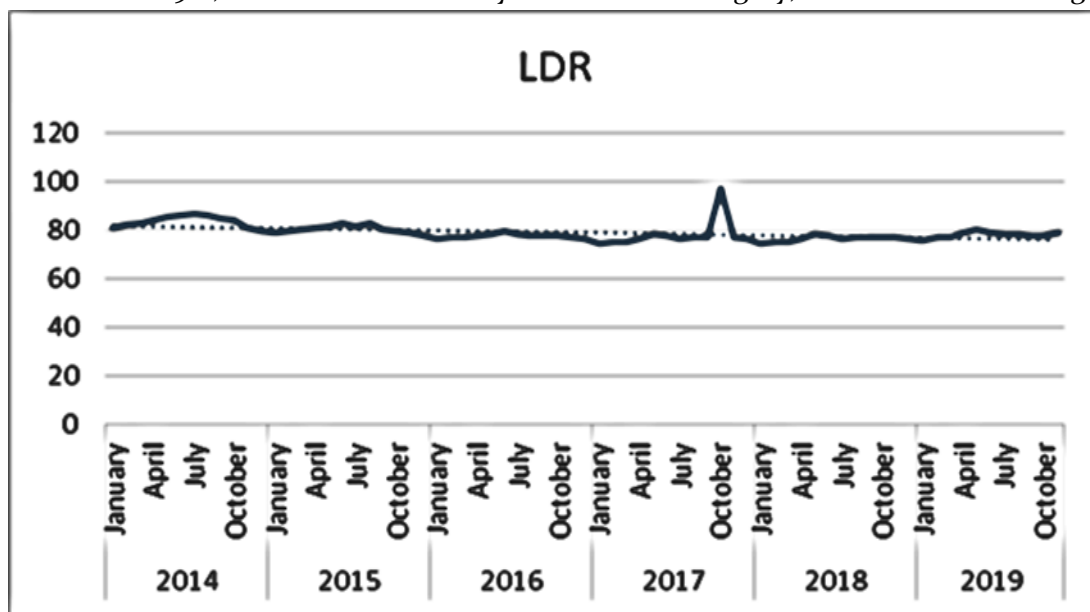


Source: The Financial Services Authority, 2019

Figure 1. ROA Chart of Rural Banks

Based on Figure 1, it can be seen that from 2013 to 2019, the trend of ROA at Rural Banks tends to decline. As for the period of October 2019, the Return on Assets (ROA) of Rural Banks was at 2.29%, which decreased by

0.02% from September 2019, and decreased by 0.22% compared to October in the previous year. However, when viewed from the Loan to Deposit Ratio (LDR) data, the trend is still in the ideal category, this can be seen in Figure 2.



Source: The Financial Services Authority, 2019

Figure 2. LDR Chart of Rural Banks

Based on Figure 2, it can be seen that the Loan to Deposit Ratio (LDR) value of Rural Banks from 2013-2019 is in the ideal category. However, the rate of return on assets (ROA) shows a downward trend, which means that the level of bank profitability is decreasing, which should have a negative effect on the bank's liquidity level (LDR) on profitability (ROA), this is strengthened by the income anticipation theory. proposed by HV Prochanow, who states that maintaining liquidity is necessary to produce efficient company performance, and one way to see the efficiency of the company is by looking at the level of Return on Assets (ROA), which means that there is a negative influence between the Loan to Deposit Ratio (LDR). with Return on Asset (ROA). Apart from being seen from the level of the Loan to Deposit Ratio (LDR), to see whether the use of assets is effective or not, is to look at the amount of distribution made by Rural Banks.

The effect of amount distribution the Return on Assets (ROA) of Rural Banks is also involved with Stewardship Theory, a theory coined by Donaldson and Davis. Stewardship Theory can be implemented in banking institution fund distribution products. According to Stewardship Theory, a bank will act in principle to achieve its organizational goals, namely by entrusting customers to participate in company funds in the form of fund distribution products, which aim to achieve organizational goals, namely achieving high levels of profitability. This means that according to the Stewardship Theory, there is a positive influence between the level of distribution of funds and the level of profitability (ROA) of the company. However, what happened to Rural Banks in Indonesia, the upward trend in the level of distribution of funds by Rural Banks, was not offset by an increase in the profitability ratio (ROA).

Another problem in this study is the existence of a research gap, namely differences in the results of previous studies. Because based on research conducted by Fiifi, et al (2013), states that there is a significant negative effect between the Money Supply on Return on Assets (ROA), whereas based on research conducted by Indahsari (2015), it shows that the money supply variable has an effect on significant positive on profitability. Another research gap exists on the influence of Capital Adequacy or General Capital Reserves (GCR) on ROA, which is based on research conducted by Mauliza & Daud (2016), it shows that there is a negative and significant effect between Capital Adequacy on ROA, while based Agustini, et al (2017), there is a positive and significant effect between Capital Adequacy on ROA. Another research gap exists on the influence of NPL on ROA, which is based on research conducted by Mendoza & Rivera (2017), it shows that there is a negative and significant effect between NPL on ROA, while based on research conducted by Muhammad Sofyan (2019), it shows that there is no significant effect between NPL on ROA.

Based on the above background, the problem in this study is the existence of theory gap and research gap, namely the unsynchronized phenomena that occur with the theory that should be at Rural Banks in Indonesia. Therefore, it is necessary to conduct research to see other factors that can affect the rate of Return on Assets (ROA) at Rural Banks in Indonesia. In this study, a number of variables that are thought to affect the level of Return on Assets (ROA) at Rural Banks will be examined, including: Money Supply, General Capital Reserves (GCR), Non Performing Loan (NPL), Consumptive Loan Interest Rate and Working Capital Loan Interest Rate.

The Money Supply variable was selected on the basis of the theory of liquidity preference, which reveals that there is a negative influence between the money supply and the Return on Assets (ROA) of Rural Banks,

because if the money supply increases, interest rates will increase, and an increase in interest rates will reduce Loan, in which Loan is the main source of profit income at Rural Banks.

The reason for choosing the General Capital Reserve (GCR) variable is because it is based on Entity Theory, according to this theory, the company is assumed to be trying to maximize short-term profit. According to this theory, to maximize this profit, it is necessary to increase the wealth of the company. As for wealth in banking, it can be seen in the total assets and from the reserves held by the bank. From the above explanation, it can be concluded that the level of general capital reserves owned by banks will have a positive effect on bank profitability.

One of the variables in the he independent in this study is the Non Performing Loan (NPL). Because based on the income anticipation theory, stating that the increase in Non Performing loans will affect the possibility of problems in cash flow and liquidity risk, maintaining company liquidity is the goal of maximizing company profits. This situation indicates that maintaining a balance between liquidity and profitability is necessary to produce efficient company performance. Therefore, there is a negative influence between Non Performing Loans (NPL). on the profitability (ROA) of Rural Banks.

The choice of the variable Consumptive Loan Interest Rate and Working Capital Loan Interest Rate is based on the asymmetric information approach agency theory proposed by Jensen and Meckling, which states that an increase in interest rates will worsen bank balance sheets due to large Loan risks. Based on this statement, it can be concluded that interest rates have a negative effect on profitability.

## METHOD

It describes the research design used comprises of methods, technique in collecting data, technique of data analysis, and variables measurement which are written in paragraphs, not numbering. The technical information of the study presented clearly. Therefore, readers can conduct research based on the techniques presented. Materials and equipment specifications are necessary. Approaches or procedures of study together with data analysis methods must be presented.

This type of research is quantitative research, which is research based on assumptions, then determining variables, and then analyzed using valid research methods. The aim is to determine the factors that affect the Return on Assets (ROA) of Rural Banks in Indonesia for the 2014-2019 period.

The data used in this study is secondary data, and uses time series data, namely time series data compiled monthly from January 2014 to October 2019. Data is obtained from the Financial Services Authority Report on Indonesian Banking Statistics, which contains bank health reports, collection and distribution of Loan for Conventional Commercial Banks and Rural Banks, from 2014-2019. The author uses a quantitative descriptive analysis method and the analytical tool used is the ECM (Error Correction Model), the aim of which is to determine what factors influence the Return on Assets (ROA) of Rural Banks in Indonesia.

Error Correction Model is a regression analysis which is basically an analysis to see the dependence between the independent variable and the dependent variable to estimate and predict the population value based on certain values of known variables (Damodar, 2006). Regression Model Error Correction Error Correction Model (ECM), Error Correction Model is a regression analysis which is basically an analysis to see the dependence between

independent variables and dependent variables to estimate and predict population values based on certain values of known variables (Damodar, 2006).

The Error Correction Model is used to measure the short-term and long-term relationship between the dependent variable and the independent variable. If the dependent and independent variables co-integrate with each other, the relationship between the two can be expressed in the ECM. According to Siburian (2012) before the ECM analysis is carried out, it must be tested for stationarity first by using the Augmented Dicky Fuller (ADF) test where if the ADF value is less than the critical value, the data is not stationary and vice versa. Then after that, it is continued with the cointegration test which is carried out to find out whether there is a long-term balance in the model that has been selected and formed. Furthermore, the classical assumption test is carried out to ensure whether the regression model is used there are no problems of normality, multicollinearity, heteroscedasticity, and autocorrelation. If met, the analysis model is feasible to use. Before it is said that a model is valid, we must first change all variables in the form  $\Delta$  (delta), so that we get an equation like the following:

$$\Delta ROA = \beta_0 + \beta_1 \Delta MS + \beta_2 \Delta GCR + \beta_3 \Delta NPL + \beta_4 \Delta IR\_CONSUMPTIVE + \beta_5 \Delta IR\_WORKING CAPITAL + \mu \quad (1)$$

The final step to declare the ECM model is to look at the ECT value, that is, if the ECT value is (-1) or negative, and is significant, then the ECM model requirements are valid.

The variables in this study were classified into 2, namely the dependent variable and the independent variable. Dependent variables are variables that are influenced by other variables, while

independent variables are variables that affect other variables. The dependent variable in this study is Return on Assets (ROA), and there are 5 independent variables in this study, namely : Money Supply (MS), General Capital Reserves (GCR), Non Performing Loan (NPL), Consumptive Loan Interest Rate (IR Consumptive), Working Capital Loan Interest Rates (IR Working Capital).

## RESULTS AND DISCUSSION

The purpose of the Stationary Test is to find out whether the data is stationary or not. And this study, the data stationarity test used the Augmented Dickey-Fuller (ADF) Test. The ADF test results at the level level are as follows:

**Table 1.** Unit Root Test Result with the ADF Method at the Level

Variable	Prob.	Decision
ROA	0.5805	No Sig
MONEY SUPLAY	0.8829	No Sig
GCR	0.9025	No Sig
NPL	0.3968	No Sig
IR_CONSUMPTIVE	0.4648	No Sig
IRWORKING CAPITAL	0.4267	No Sig

Source: Data Processed, 2020

**Table 2.** The results of the Root Test with the ADF Method get the 1st Difference

Variable	Prob.	Decision
ROA	0.0001	Sig
MONEY SUPLAY	0.0048	Sig
GCR	0.0000	Sig
NPL	0.0000	Sig
IR_CONSUMPTIVE	0.0001	Sig
IR_WORKING CAPITAL	0.0000	Sig

Source: Data Processed, 2020

Based on table 1, it can be seen that the probability value on the variable ROA, Total Money Supply, General Capital Reserves (GCR), Non Performing Loans (NPL), Working Capital Loan Interest Rate and Consumptive Loan Interest Rate > critical value (0.05), then all

variables were not significant in the root test at the level, therefore, it was followed by the root test at the 1st difference level

Based on table 2 it can be seen that the probability value for the variable ROA, Total Money Supply, General Capital Reserves

(GCR), Non Performing Loans (NPL), Working Capital Credit Interest Rate and Consumptive Credit Interest Rate <critical value (0.05), then all the variables are significant at 1st difference, and the ECM model can be continued.

**Table 3.** OLS Regression Results

Variable	Coefficien	t-statistic	Prob.	Adjusted R <sup>2</sup>
ROA	51.78335	6.163145	0.0000	0.877985
MONEY SUPLAY	-4.109656	-4.880071	0.0000	
GCR	2.190027	2.907180	0.0050	
NPL	-0.167184	-2.353861	0.0217	
IR_CONSUMPTIVE	-0.012137	-0.772643	0.4426	
IR_WORKING CAPITAL	0.001524	0.052431	0.9583	

Source: Data Processed, 2020

Based on the results of the OLS regression test above, the residual value can be seen, which then the residual value is tested with the ADF statistical test, which aims to determine the stationary residual value or not, and the results of the Cointegration Test with ADF can be seen in table 4.

According to Siburian (2012), Error Correction Model is an econometric model used to find short-term and long-term regression equations. To state the ECM is appropriate or not, the Error Correction Term (ECT) coefficient must be negative and significant, so the results are as follows:

**Table 4.** Long term Regression Estimation Results

Variable	Coefficient	t-statistic	Prob.	Adjusted R <sup>2</sup>
ROA	51.78335	6.163145	0.0000	0.877985
L_MONEY SUPLAY	-4.109656	-4.880071	0.0000	
L_GCR	2.190027	2.907180	0.0050	
NPL	-0.167184	-2.353861	0.0217	
IR_CONSUMPTIVE	-0.012137	-0.772643	0.4426	
IR_WORKING CAPITAL	0.001524	0.052431	0.9583	

Source: Data Processed, 2020

Based on table 4, the regression results of the long-term ECM equation can be written as follows:

$$(ROA) = 51.78355 -4.109656 (MS) +2.190027 (LGCR) -0.167184 (LNPL) -0.012137 (IR_CONS) + 0.001524 (IR_WORKCAP) \quad (2)$$

**Table 5.** The Influence of Independent Variables in the Long term

Variable	t-statistic	t Table	Decision
L_MONEY SUPLAY	-4.880071	1.99773	Significant
L_GCR	2.907180	1.99773	Significant
NPL	-2.353861	1.99773	Significant
IR_CONSUMPTIVE	-0.772643	1.99773	No Significant
IR_WORKING CAPITAL	0.052431	1.99773	No Significant

Source: Data Processed, 2020

Money Supply, based on the results of data processing in table 5, the t-statistic value for the Exchange Rate variable is  $-4.880071 > t\text{-table}$  (1.99773). It can be concluded that individually, in the long term, the variable of Money Supply has a significant effect on the Return on Assets (ROA) of Rural Banks. When linked with the theory of liquidity preference, which was put forward by Keynes, the results of the analysis in this study are appropriate.

General Capital Reserves (GCR), based on the results of data processing in table 5, the t-statistic value for the General Capital Reserves (GCR) variable is  $2.907180 > t\text{-table}$  (1.99773). It can be concluded that individually, in the long term, the GCR variable has a significant effect on the ROA of Rural Banks. The results of the analysis in the long run are in accordance with Entity Theory, which assumes that the company tries to maximize profits.

Non Performing Loan (NPL), based on the results of data processing in table 5, the t-statistic value for the Core Capital variable is  $-2.353861 > t\text{-table}$  (1.99773). It can be concluded that individually in the long term the variable a.

NPL have a significant effect on the ROA of Rural Banks. When linked to the Anticipated Income theory, which states that an increase in NPL will affect the possibility of problems in cash flow and liquidity risk, while maintaining company liquidity is the goal of maximizing company profits. Hence,

the long-term results of research are appropriate.

Consumptive Loan Interest Rates, based on the results of data processing in table 5, the t-statistic value for the Core Capital variable is  $-0.772643 < t\text{-table}$  (1.99773). It can be concluded that individually, in the long term, the Working Capital Loan Interest Rate variable does not have a significant effect on the Return on Assets (ROA) of Rural Banks. These results are not in accordance with the Agency Theory The asymmetric information approach, which states that an increase in interest rates will worsen bank balance sheets due to large credit risks.

Working Capital Loan Interest Rates, based on the results of data processing in table 5, the t-statistic value for the Core Capital variable is  $0.052431 < t\text{-table}$  (1.99773). It can be concluded that in the long term, the Working Capital Loan Interest Rate variable does not have a significant effect on the Return on Asset of Rural Banks. The results of the analysis are not in accordance with the Agency Theory The asymmetric information approach, which states that an increase in interest rates will worsen bank balance sheets due to large credit risks.

Based on table 6, the long-term regression results of the ECM equation can be written as follows:

$$(ROA) = -0.025491 + 0.306532 (DMS) + 0.306532 (DGCR) - 0.115477 (DNPL) - 0.003008 (DIR_COMSUMTIVE) + 0.037254 (DIR_WORKINGCAPITAL) - 0.647719 (ECT (-1)) \quad (3)$$



**Table 6.** Short Term Regression Estimation Results

Variabel	Coefficient	t-statistic	Prob.	Adjusted R <sup>2</sup>
C	-0.025491	-1.546975	0.1270	0.408528
DL_MONEY SUPLAY	-0.306532	-0.261420	0.7946	
DL_GCR	1.589059	1.776064	0.0806	
DNPL	-0.115477	-2.013125	0.0484	
DIR_CONSUMPTIVE	-0.003008	-0.207426	0.8364	
DIR_WORKINGCAPITAL	-0.037254	-1.349836	0.1820	
ECT(-1)	-0.647719	-5.840009	0.0000	

Source: Data Processed, 2020

In this study, the ECT (Error Correction Term) value in the short-term regression results is negative. So that the ECT value used in this study is valid and in accordance with the provisions that in the EG-ECM model the value of ECT is negative. The ECT

coefficient value of -0.561524 means that the difference between the actual ROA value of Rural Banks is 0.561524. While the probability value is 0.0000 < standard error 0.05 (5%) so it can be said to be significant.

**Table 7.** The Influence of Independent Variables in the Short Run

Variable	t-statistic	t Table	Decision
L_MONEY SUPLAY	-0.261420	1.99773	No Significant
L_GCR	1.776064	1.99773	No Significant
NPL	-2.013125	1.99773	Significant
IR_CONSUMPTIVE	-0.207426	1.99773	No Significant
SBK_KONSUMTIF	-1.349836	1.99773	No Significant

Source: Data Processed, 2020

Money Supply, Based on the results of data processing in table 7, the t-statistic value for the Total Money Supply variable is -0.261420 < t-table (1.99773). It can be concluded that individually, in the short term, the Money Supply variable has no significant effect on the Return on Assets (ROA) of Rural Banks. The results of the analysis are not appropriate if they are linked with the theory of liquidity preference, which was coined by Keynes.

General Capital Reserves (GCR), Based on the results of data processing in table 8, the t-statistic value for the Core Capital variable is 1.776064 < t-table (1.99773). It can be concluded that individually, in the short term, the General Capital Reserves variable does not have a significant effect on the

Return on Asset (ROA) of Rural Banks. When connected with Entity Theory, which assumes that the company tries to maximize profits. According to this theory, to maximize profits, it is necessary to increase wealth in the company. As for the wealth in banking, it can be seen from the total assets and from the reserves held by the bank, the results of this study are not accurate.

Non Performing Loan (NPL), Based on the results of data processing in table 8, the t-statistic value for the Non Performing Loan variable is -2.013125 > t-table (1.99773). It can be concluded that individually in the short term the Non Performing Loan (NPL) variable has a significant effect on the Return on Assets (ROA) of Rural Banks. When linked to the Anticipated Income theory, which states that an increase in

Non Performing loans (NPL), will affect the possibility of problems in cash flow and liquidity risk, while maintaining company liquidity is the goal of maximizing company profits. Hence, the results of the study in the short term are appropriate.

Consumptive Loan Interest Rates, Based on the results of data processing in table 8, the t-statistic value for the working capital loan interest rate variable is  $-0.207426 < t\text{-table}$  (1.99773). It can be concluded that individually, in the short term, the Working Capital Loan Interest Rate variable does not have a significant effect on the Return on Assets (ROA) of Rural Banks. These results are not in accordance with the Agency Theory The asymmetric information

approach, which states that an increase in interest rates will worsen bank balance sheets due to a large credit risk, so the results of this study are not suitable.

Working Capital Loan Interest Rates, Based on the results of data processing in table 8, the t-statistic value for the working capital loan interest rate variable is  $-1.349836 < t\text{-table}$  (1.99773). It can be concluded that individually, in the short term, the Working Capital Loan Interest Rate variable does not have a significant effect on the Return on Assets (ROA) of Rural Banks. The results of this analysis are not in accordance with the Agency Theory The asymmetric information approach, which states that an increase in interest rates will worsen bank balance sheets due to a large credit risk.

**Table 8.** F-Test Statistics

Model	F Count	Prob	F Table	Decision
Long Term	92.10474	0.000000	2.36	Sig
Short Term	7.13720	0.000096	2.36	Sig

Source: Data Processed, 2020

Based on the results of data processing with a long-term model, the calculated F value is 92.10474 with a probability of 0.000000. Then in the short-term model, the calculated F value is 7.13720 with a probability of 0.000096. So that there is a significant influence jointly between the independent variables on the dependent variable both in the long and short term, because it is greater than the F table value of 2.36.

Based on the results of long-term model data processing, an Adjusted R of 0.877985 is obtained, which means that the effect of the Money Supply, General Capital Reserves (GCR), Non Performing Loans (NPL), Consumptive Loan Interest Rate and Working Capital Loan Interest Rate is 87.79% in influencing ROA of Rural Banks and the rest is influenced by variables outside the model. While for the short-term model, an Adjusted R of 0.408528 is

obtained, which means that the effect of the Money Supply, General Capital Reserves, Non Performing Loans (NPL), Consumptive Loan Interest Rate and Working Capital Loan Interest Rate is 40.85% in influencing ROA and the rest is influenced by variables outside the model.

The Effect of the Money Supply on ROA of Rural Banks Based on the regression results, it is found that the effect of the Money Supply to the ROA of Rural Banks in the long term is negative and insignificant. This is because the economic liquidity or food allowance in the third quarter of 2019 grew by 6.88% (yoy), higher than the growth in the third quarter of 2018 of 4.90% (yoy), in line with the decline in growth total credit to Rural Banks in several sectors, namely in the agricultural, labor and forestry sec. Meanwhile, in the short term, the effect of the Money Supply on the ROA of Rural Banks is negative and insignificant. This is because in the short term, an increase in the amount of money in circulation cannot be

directly responded to by changes in investment reflected in bank lending, so that in the short term, the amount of money in circulation has no effect on ROA of Rural Bank. The results of this study, in the long term, are also in accordance with previous research conducted by Mills (2013), which stated that there was a significant negative effect between the Money Supply.

The Effect of General Capital Reserves on the ROA of Rural Banks Based on the long-term analysis, the effect of general capital reserves on the ROA of Rural Banks is positive and significant. Growth in general capital reserves decreased in the third quarter of 2019, which grew by 466 billion, smaller than the growth in general capital reserves in the third quarter of 2018, which grew by 830 billion. The decline in growth in general capital reserves, followed by a decrease in the Capital Adequacy Ratio (CAR), means that banks will be disrupted in developing their operational activities and reduce the ability of banks to meet potential risks. Based on the regression results with the ECM approach, it is found that the effect of general capital reserves on the ROA of Rural Banks in the short term is negative and insignificant. This is because general capital reserves are a solvency ratio, which is a ratio that shows a company's ability to meet its financial obligations using long-term measures (Munawir, 2010: 13). If associated with previous research, the results of long-term research are in accordance with previous research conducted by Agustini, et al (2017), which states that there is a positive and significant influence between the Capital Reserve variable on ROA. Meanwhile, in the short term, the results of these studies are not in accordance with previous studies.

The Effect of Non Performing Loans (NPL) on the ROA of Rural Banks The results of long-term analysis show that the effect of

NPL on the ROA of Rural Banks is negative and significant. Based on the regression results with the ECM approach, it is found that the effect of bad Loan on the ROA of rural banks in the short term is negative and insignificant. This is because the assessment of asset quality is an assessment of the condition of bank assets and the adequacy of credit risk management. Based on Bank Indonesia Circular Letter No.6/ 23/ DPNP, if a bank has a Non Performing Loan (NPL) of more than 5%, the bank is declared unhealthy. The results of this study are inconsistent with previous research conducted by Asep Budiman and Adil Ridlo Fadholah in 2017, which stated that Non Performing Loans (NPL) did not have a significant effect on the Return on Assets (ROA) of Rural Banks in Indonesia. However, this study is in accordance with the research conducted by Ni Kadek Alit Pradina Putri, et al (2018), which stated that Non Performing Loans (NPL) have a significant negative effect on the Return on Assets (ROA) of Rural Banks in Indonesia.

The Effect of Consumptive Loan Interest Rates on ROA of Rural Banks Based on the results of long-term analysis, the effect of working capital loan rates on Rural Banks Return on Assets (ROA) is negative and insignificant. Meanwhile, with the Error Correction Model (ECM) approach, the effect of working capital loan rates on Rural Banks Return on Assets (ROA) in the short term is negative and insignificant. This is because when viewed from the working capital loan interest rate, the trend is decreasing, namely in the October 2019 period the working capital loan interest rate was 25.21%, down by 0.86 basis points from the same month in the previous year.

The Effect of Working Capital Loan Interest Rates on ROA of Rural Banks Based on the long-term regression results, the influence of the consumer loan interest rate variable on the ROA of Rural Banks is positive and

insignificant. Meanwhile, with the ECM approach, the effect of the Consumptive Loan Interest Rate on Rural Bank ROA in the short term is negative and insignificant. This is because when viewed from the consumptive loan interest rate, the trend is decreasing, namely in the October 2019 period the consumptive interest rate was 23.05%, down by 43 basis points from the same month in the previous year. This decline in interest rates was not offset by an increase in the volume of growth in consumer credit.

## CONCLUSION

Based on research with the Error Correction Model (ECM) approach, regarding the analysis that affects the Return on Assets (ROA) at Rural Banks, with time series data every month, the following conclusions can be drawn: Empirical findings show that the Money Supply in the long term has a significant effect on the Return on Assets (ROA) of Rural Banks. Whereas in the short term, the Money Supply does not have a significant effect on ROA of Rural Banks, the findings empirically show that General Capital Reserves (GCR) in the long term have a significant effect on the Return on Assets (ROA) of Rural Banks. Whereas in the short term it does not have a significant effect on ROA of Rural Banks, the findings empirically show that Non Performing loans (NPL) in the long term and short term have a significant effect on the Return on Assets (ROA) of Rural Banks, the findings empirically show that Consumptive Loan Interest Rates in the long term and short term do not have a significant effect on the Return on Assets (ROA) of Rural Banks, the findings empirically show that the long-term and short-term Working Capital Loan

Interest Rates have no significant effect on Return on Assets (ROA).

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