

**The Influence of ROA and CAR on Stovk Price with Interest Rates As Intervening  
Variables (Case Study of Bank Rakyat Indonesia Tbk Company)  
(PERIOD 2010 -2020)**

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**ABSTRACT**

This research was conducted with the aim of empirically examining the effect of Return on Assets (ROA), and Capital Adequacy Ratio (CAR), partially on stock prices with the intervening variable interest rates in the banking company (Bank Rakyat Indonesia Tbk). In addition, this study empirically examines the effect of ROA, CAR, and interest rates simultaneously on the stock price of Bank Rakyat Indonesia Tbk. In this study the authors used quantitative research with an associative approach. Types of secondary data from Quarter I 2010- Quarter IV 2020 data taken from Bank BRI's website on the IDX. Data analysis used classical assumption test, simple linear regression analysis, multiple linear regression analysis, hypothesis testing and path analysis. For the coefficient of determination (R<sup>2</sup>), where it is found that the greatest direct contribution is the interest rate variable to the stock price of 50.1%, while the indirect contribution is ROA and CAR to stock prices through interest rates of 0.513 or 51.3%.

**Keywords:** *ROA, CAR, Interest Rates, Stock Prices*

## **I. INTRODUCTION**

The money market, capital market, foreign exchange market, mortgage market, consumer credit market, and the commodity market in general are all parts of the financial market. Of the several components of the financial market above, one of the things that becomes a benchmark for the economic development of a country is the level of development of the capital market and securities industry in a country (Bintara & Tanjung, 2019).

Based on capital market Law no. 8 of 1995 concerning the capital market defines the capital market as "activities concerned with public offerings and securities trading, public companies related to the securities they issue, as well as institutions and professions related to securities".

The capital market acts as a mean to collect funds from parties who have excess funds to parties who need funds. Financial instruments (products) traded on the Indonesian Capital Market: stocks, bonds, mutual funds, exchange traded funds (ETF), and derivatives. Banking plays a very important role in the development of the Indonesian economy, so that many investors are interested in investing in the banking sector. Investment activity is an activity of placing funds in one or more assets for a certain period in the hope of obtaining income or increasing the value of the initial investment (capital) which aims to maximize the expected return (Jogiyanto, 2015). The amount of stock returns depends on changes in stock prices in stock trading.

Shares are securities that have value. Every investor or potential investor should know the price or value of a share, which varies in size. The nominal price and initial price are the share prices that will relate to investors who buy shares on the primary market, while the opening price, market price and closing price will relate to investors who transact on the secondary market or stock exchange. Stock prices are influenced by many things, such as technical information and fundamental information (Muhamad, 2015).

To obtain fundamental information about a company, investors need the company's financial statements. The information contained in a financial report includes a balance sheet, income statement, statement of changes in capital, and cash flow statement. This information can be used by investors as a basis for making investment decisions, because this information can show the company's achievements in a certain period. This is because financial ratios will show all financial aspects, such as liquidity, solvency, and profitability (Allozi & Obeidatt, 2016)

The author's analysis sees that the domestic banking CAR is still considered safe. When compared to the current economic conditions with the 1998 crisis. Domestic banking is considered much stronger than during the 1998 economic crisis. From April 2020 data, the Capital Adequacy Ratio (CAR) or banking capital adequacy ratio is currently at 22.08% percent and this is considered safe enough by Bank Indonesia. While in 1998 it was below 4%. The current condition is indeed being hit by a corona pandemic, but the maturity of the

domestic banking world can be seen by how this sector has immediately reacted when the first hit of the crisis due to the pandemic occurred around March.

The government has been quick in taking a stand. By explaining, the steps taken by the government, in this case the Ministry of Finance, the Financial Services Authority (OJK) and other sectors are already on the right path. OJK already knows everything and knows the main problem. Now it remains only to ensure that people's purchasing power can return to normal, so that the economy can run normally again. The government has taken good steps by releasing Government Regulation in Lieu of Law Number 1 of 2020 concerning state financial policies and financial system stability for handling the Corona virus disease 2019 (COVID-19) pandemic and/or in the context of facing threats that endanger the national economy and/ or financial system stability. The Perppu was issued by the government with the consideration that the implications of the Covid-19 pandemic have had an impact, among others, on slowing down national economic growth, decreasing state revenues, and increasing state spending and financing, so that various Government efforts are needed to save health and national economy, with a focus on spending on health, social safety nets, and economic recovery, including for the business world and affected communities.

The Government's step in issuing this Perpu to help MSMEs as the sector most affected by the pandemic is very appropriate. Our economy moves starting from small things, therefore, now what really needs to be done is how to communicate what has been done to the community. So, it can be concluded that the CAR problem for each bank as a guarantee at Bank Indonesia is very stable in the current conditions, where all banking activities during a pandemic are running well and successfully.

Based on this background description, the authors are interested in conducting further research on the banking sector, to test whether the ratio of return on assets (ROA), capital adequacy ratio (CAR), has a significant effect on stock prices.

## **METHOD**

Data analysis techniques in this quantitative research use statistics. The statistics used to analyze data in research are divided into two, namely descriptive statistics and inferential

statistics. Descriptive statistics are statistics used to analyze data by describing the data that has been collected as it is without intending to make general conclusions or generalizations. Meanwhile, inferential statistics are statistical techniques used to analyze sample data and the results are applied to the population.

The analysis technique used is multiple linear regression test. Linear regression analysis is used to study the dependents in a phenomenon. In this study, the authors used the multiple linear regression method because there is more than one independent variable and to use this test, the authors used the IBM SPSS Statistics 21 software. In addition to these tests, this study also used the classical assumption test, hypothesis testing and path analysis.

The method used in this research is path analysis. The author uses path analysis (path analysis) because to determine causal relationships, with the aim of explaining the direct or indirect influence between exogenous variables and endogenous variables. In this study, the authors wanted to analyze and ascertain whether there is an effect of ROA and CAR on stock prices with interest rates as a mediating variable.

The data used as samples in this study are financial statements, namely data, Return on Assets, and Capital Adequacy Ratio of Bank BRI's stock prices and interest rates. This data is in the form of quarterly data for each variable starting from the period Jan 2010 to December 2020.

In this study, the sample selection used a purposive sampling method, which is a sampling technique with certain considerations. Purposive Sampling is a sampling technique with special considerations so that it is feasible to be used as a sample.

## **II. DISCUSSION**

### **1. The first partial model hypothesis test**

#### **Effect of ROA through interest rates on stock prices (X1, to Y To X3)**

To determine the effect of ROA through interest rates on stock prices, using Path analysis obtained results of partial model testing (t test) between ROA variables on stock prices through interest rates showing a t-count value of 4.178 and a t-table value of 2.015, the regression coefficient of 3.819, and a probability value (significant) of 0.002 which is smaller

than 0.05 . t-table can be seen in the table of the percentage points of the t distribution at an alpha of 0.05 with a denominator degree of 100, a t-table of 2.015 is obtained.

Thus, the hypothesis of testing the ROA variable on stock prices through interest rates (X3) in this study can be proven or accepted with a 95% confidence level, at Bank BRI which is listed on the Indonesia Stock Exchange.

To determine the effect of ROA through interest rates on stock prices, Path analysis was used and it was obtained results of partial model testing (t test) between ROA variables on stock prices through interest rates showing a t-count value of 4.178 and a t-table value of 2.015, the regression coefficient of 3.819, and a probability value (significant) of 0.002 which is smaller than 0.05. t-table can be seen in the table of the percentage points of the t distribution at an alpha of 0.05 with a denominator degree of 100, a t-table of 2.015 is obtained.

Thus, the hypothesis of testing the ROA variable on stock prices through interest rates (X3) in this study can be proven or accepted with a 95% confidence level, at Bank BRI which is listed on the Indonesia Stock Exchange.

## **2. Second partial model hypothesis test**

### **The Effect of CAR Through Interest Rates on Stock Prices (X2, To Y To X3)**

It can be obtained from partial test results (t test) between CAR variables on stock prices through interest rates (X3) which show a t-count value of -4.528 and a t-table value of 2.015, a regression coefficient of -1.190, and a probability value (significant) of 0.004 which is smaller than 0.05. t-table can be seen in the table of the percentage points of the t distribution at an alpha of 0.05 with a denominator degree of 100, a t table of 2.021 is obtained.

From the results of the regression analysis, it can also be seen that the results of the partial test (t test) between the CAR variable on stock prices have a significant negative effect. This can be proven from the t-count value which is greater than the t-table value ( $-4.528 > 2.021$ ) and the probability value of 0.004 which is smaller than the significance level used is  $\alpha = 0.05$ , ( $0.004 < 0.05$ ).

It can be concluded that  $H_a$  is accepted and  $H_0$  is rejected, which means that the regression model can be used to predict stock prices or it can be concluded that the Capital Adequacy Ratio has a negative and significant effect on stock prices. Thus, the hypothesis of

testing the CAR variable on stock prices through interest rates (X3) in this study can be proven or accepted, based on;

### **3. Test the third partial model hypothesis**

#### **The Effect of Interest Rates on Stock Prices (X3 to Y)**

The results of the partial model test (t test) between the Interest Rate and Stock Price variables show a t-count value of 3.993 and a t-table value of 2.015, a regression coefficient of 3.993, and a probability value (significant) of 0.007 which is smaller than 0.05. t-table can be seen in the table of the percentage points of the t distribution at an alpha of 0.05 with a denominator degree of 100, a t-table of 2.015 is obtained.

Thus, the hypothesis of testing the interest rate variable (X3) on stock prices in this study can be proven or accepted with a 95% confidence level at Bank BRI which is listed on the Indonesia Stock Exchange.

### **4. Model Hypothesis Four**

#### **Effect of ROA and CAR on Stock Prices (X1, X2 Y: $\rho Y$ )**

The results of the Simultaneous model test (F test) between the ROA and CAR variables on stock prices (appendix Table 4.7) show that there is an effect of ROA and CAR jointly on stock prices from the Residual Sum of Squares (RSS) of 12.122 with a significance value  $(0.003) < (0.05)$  with an SSReg value of 33.590;  $df = 2$  and the SSRes value is 113.634;  $dff = 41$ .

The results of the test statistics and the significance value of the data above show that the significance value (probability) is less than the significant level used in the study of 0.05, then  $H_a$  is accepted and  $H_0$  is rejected, meaning that the ROA and CAR models have a significant positive effect on prices together. Bank BRI's shares on the IDX at the Jakarta Head Office. Thus, the  $H_4$  hypothesis is proven or can be accepted

### **5. Model Hypothesis Five**

#### **Effect of ROA and CAR on Stock Prices (X1, X2 Y: $\rho X_3$ )**

The results of the Simultaneous model test (F test) between the ROA and CAR variables on stock prices (attachment Table 4.9) show that there is an effect of ROA and CAR jointly on the Interest Rate of the Residual Sum of Squares (RSS) of 14.465 with a significance value

(0.002) < (0.05) with an SSR<sub>reg</sub> value of 80.342; df = 2 and the SSR<sub>res</sub> value is 113.897; dff = 41.

The results of the test statistics and the significance value of the data above show that the significance value (probability) is smaller than the significant level used in the study of 0.05, then H<sub>a</sub> is accepted and H<sub>0</sub> is rejected, meaning that the ROA and CAR models have a significant positive effect together on ethnicity. Interest on Bank BRI listed on the IDX at the Jakarta Head Office. Thus, the H<sub>5</sub> hypothesis is proven or acceptable.

## **6. Path Analysis**

### **The Effect of ROA on Stock Prices through Interest Rates by Comparing the Regression Coefficient Values. (X1 Against Y to Z)**

Based on the results of table 4.6, the value of the regression coefficient is to determine whether the interest rate variable is able to mediate ROA on stock prices by multiplying the coefficient value between ROA and interest rates with the coefficient value of interest rates on stock prices. The results of the multiplication of these coefficients are compared with the value of the ROA coefficient on stock prices.

- a) The regression coefficient of ROA on stock prices is 0.520.
- b) The regression coefficient of stock prices on interest rates is -0.604.
- c) The result of the indirect multiplication of the ROA variable (X1) to the stock price (Y) through interest rates (X3)  $(0.520 \times 0.604) = 0.314$

Based on the calculation of the direct and indirect effects of ROA and interest rates as intermediary variables on stock prices, it shows that calculations lead to a higher indirect effect between X1 and Y. Where ROA is better to use an indirect effect of 0.314 on stock prices while a direct effect of 0.520 through Intermediary Interest Rate

## **7. Path Analysis**

### **The effect of CAR on stock prices through interest rates by comparing the value of the regression coefficient. (X2 Against Y To Z )**

The value of the regression coefficient is to determine whether the CAR variable is able to mediate ROA on stock prices by multiplying the coefficient value between ROA and stock prices. The results of the multiplication of these coefficients are compared with the value of the CAR coefficient on stock prices.

- a) The regression coefficient of CAR on stock prices is -0.371.
- b) The regression coefficient of stock prices on interest rates is -0.604.
- c) The result of multiplying the indirect variable CAR (X2) to stock price (Y) through interest rates (X3)  $(-0.371 \times -0.604) = 0.224$ .

Based on the calculation of the direct and indirect effects of CAR and interest rates as intermediary variables on stock prices, it shows that calculations lead to a higher direct effect between X2 and Y. Where CAR is better to use a direct effect of 0.224 on stock prices while an indirect effect of -0.371.

### **Conclusion**

Based on the results of hypothesis testing, it can be concluded that Return On Assets does not affect the Profit Sharing Rate of Muḍhārabah Deposits and shows that the magnitude of the regression coefficient of the Return On Assets variable is negative. This means that Return On Assets does not have a significant negative effect on the Profit Sharing Rate of Muḍhārabah Deposits. Return On Assets is an indicator for measuring banking financial performance because Return On Assets is used to measure a company's effectiveness in generating profits by utilizing its assets.

Based on the results of hypothesis testing, it can be concluded that the Capital Adequacy Ratio has an effect on the Profit Sharing Rate of Muḍhārabah Deposits and shows that the magnitude of the regression coefficient of the Capital Adequacy Ratio variable is negative. This means that the Capital Adequacy Ratio has a significant negative effect on the profit sharing rate for muḍhārabah deposits.

Suggestions for banks are increasing bank capital as a driving force for bank business activities so that the size of bank capital greatly influences the ability of banks to carry out very varied operational activities (Infobank, 2011).

Based on the results of the Simultaneous test (F test), the results of the linear regression



analysis are presented in the Fcount value of the exchange rate variable which is equal to 12.122 while the Ftable at a probability of 5% (0.05) is 2.83. Because of the calculation of  $F_{count} > F_{table}$  ( $12.122 > 2.83$ ) and a significance value of  $0.003 < 0.05$ , it can be stated that the Model Return On Assets (ROA) and Capital Adequacy Ratio (CAR) have a positive and significant effect on the interest rate flower. So the hypothesis in this study is accepted ( $H_a$ ). That is, simultaneously the variable has a positive impact with the result that there is a significant positive influence on Interest Rates at Bank Rakyat Indonesia Tbk.

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