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Article

The Influence of Interest Rate and Changes in The Dollars (Usd) Exchange on Stock Prices (Bank Bca Case Study Period 2020)

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ABSTRACT: This study aims to determine how the effect of interest rates and changes in the dollar exchange rate (USD) on the stock price. The type of research carried out in this research is quantitative research with the object of research, namely Bank Central Asia (BCA). The data used in this study comes from secondary data, namely from books, the internet, documents, and banking sites. This study indicates that the independent variable, namely the interest rate, has a significant negative effect on the joint-stock price index and the other independent variable, namely the dollar exchange rate (USD), has a significant positive effect on the joint-stock price index. The coefficient test results show that interest rates and exchange rates (USD) simultaneously affect stock prices, namely 67.2% while the remaining 32.8% is influenced by other factors.

Keyword : Bank Central Asia (BCA) interest rate; Dollar exchange rate (USD); Stock Price

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Keywords : Bank Central Asia (BCA) Interest Rate; Dollar Exchange Rate (USD), Stock Price

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1. Intoduction

The capital market is a liaison between investors and companies and government agencies that carry out trading transactions in long-term instruments such as bonds, stocks and others (Bruce Lliyd). The capital market has an important role in the economic progress of a country. With the capital market, investors who have excess funds can invest their funds by buying long-term instruments in the hope that one day if there is a crisis or problem in the company, they can resell these long-term instruments and get more benefits from rewards in the form of bank interest rates. With the *capital market*, companies can operate and develop their business and the government can finance various activities or community services that are carried out so that the country's economy increases.

Investment is an activity of placing funds in the form of money or valuable assets, investments are made with the hope that one day the investor will benefit from his

investment within a certain period of time. Investment can also be called investment, generally the funds or assets invested by an investor will be managed by the agency or the funding management party. The profits from the investment management will be distributed to investors as a return in accordance with the applicable agreements and provisions. When investors have excess funds, it is an opportunity that benefits the company to invest in the capital market. Investments can be made by buying shares or bonds at a bank such as Bank Central Asia (BCA).

Bank Central Asia (BCA) is the largest private bank in Indonesia, BCA was founded on February 21, 1957 under the name *Bank Central Asia NV* and was an important part of the Salim Group. BCA's goal is to build an institution that excels in the financial sector for business and individual customers, understands customer needs and provides appropriate financial services to achieve customer satisfaction and increase franchise value and stakeholder value.

The share price is the price determined by the issuer for the share ownership certificate. Stock prices affect the composite stock price index, the JCI is a value used to measure the performance of shares listed on a stock exchange. In the capital market, there are several factors that affect the stock price index, such as interest rates, the exchange rate of the rupiah against the dollar (USD).

The interest rate is one of the factors that affect stock prices. The rapid increase in interest rates can strengthen the rupiah currency, but the Composite Stock Price Index (JCI) will fall because investors choose to save in banks. It can be concluded that, if the interest rate increases, the stock price will decrease. There are other factors that can affect stock prices, namely changes in exchange rates, this happens because changes in exchange rates are followed by changes in the exchange rate of income and company operating costs so that changes in exchange rates directly affect stock prices.

Based on the description described above, researchers are interested in conducting research with the title " **The Effect of Interest Rates and Changes in Dollar Exchange Rates (USD) on Stock Prices**" case study of bank bca for the period 2020.

1.1. Formulation of The Problem

Based on the introduction listed above, it can be concluded that several formulations of the problem in this study are as follows:

1. How does the interest rate affect the stock price index?
2. How does the dollar (USD) exchange rate affect the stock price index?

1.2. Research Purposes

Based on the formulation of the problem above, this research has the following objectives:

1. Knowing the effect of interest rates on the stock price index.
2. Knowing the effect of the dollar exchange rate (USD) on the stock price index.

2. Literature Review

2.1. Stock price

Stock prices that occur in the capital market always fluctuate from time to time. The price fluctuation of a stock will be determined between the forces of supply and demand. If the number of offers is greater than the number of requests, in general the stock price will fall. Conversely, if the number of requests is greater than the number of offers of a security, then the stock price tends to rise. According to Nainggolan (2008), the important things which are macro or market factors that can cause stock price fluctuations are inflation and interest rates, financial and fiscal policies, economic situation and international business situation.

Factors that influence stock price fluctuations can come from internal and external companies. Internal factors are company performance, company cash flow, dividends,

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company profits and sales, while external factors are interest rates, inflation rates, government policies and economic conditions. Stock prices affect the composite stock price index, the JCI is a value used to measure the performance of shares listed on a stock exchange.

2.2. Interest rate

The interest rate is the interest rate expressed in percent for a certain period of time (monthly or annually). The price of resources used by debtors that must be paid to creditors is called interest. The interest rate is one of the financial indicators that has an influence on several economic activities, including decisions in investing, the value of money in circulation and the interest rate will affect the business continuity of banks and other financial institutions.

According to Keynes' theory, the interest rate is a monetary phenomenon which means that the interest rate is determined by the supply and demand for money. Post Keynesian theory states that the equilibrium *interest rate* for an economy if the interest rate meets the balance in the investment fund market and at the same time balances in the money market (as a liquid asset).

The interest rate can be defined as the rate of return on assets that have near-zero risk. Investors can use the interest rate as a benchmark for comparison if they want to invest. According to Tandelilin (2010) that the rate of interest inversely affects stock prices (Cateris Paribus). If the government announces a higher interest rate, investors will sell their shares and switch to investing in the banking sector such as deposits and savings.

2.3. Exchange rate

Exchange rate is the value or price of a country's currency measured in foreign currency. exchange rate is also a comparison of value, when the exchange between two currencies that are different from each other, it will produce a comparison of the value and price of these currencies. In addition, the exchange rate has an important role in the foreign exchange market or can be called forex. In the foreign exchange market, there will be an exchange of foreign currency at an exchange rate that has been agreed upon by the various parties concerned.

The rise and fall of currency exchange rates or foreign exchange rates can occur in various ways, which can be officially carried out by the government of a country that adheres to a *managed floating exchange rate system* , or it can also be due to the attraction of the forces of supply and demand in the market. *(market mechanism)* and usually changes in currency exchange rates can occur due to four things, namely: inflation rate, interest rates, money supply, national income and BOP.

3. Research Hypothesis

H_1 = Interest rates have a significant negative effect on stock prices.
H_2 = Dollar Exchange Rate (USD) has a significant positive effect on stock prices.

4. Research Methods

4.1. Types of research

The type of research carried out in this research is quantitative research, which is a study that explains the relationship between several existing variables, namely the independent variable of the BCA interest rate and changes in the dollar exchange rate (USD), as well as the dependent variable of stock prices through several kinds of tests with the SPSS program.

4.2. Research Data Source

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The research was conducted with secondary data sources, namely data obtained indirectly or through information obtained from books, internet, documents and banking sites.

4.3. Data Analysis Techniques

A. Descriptive Statistical Analysis

Is a statistical analysis that provides a general description of the characteristics of each research variable seen from the average (mean), maximum, minimum and standard deviation values.

B. Classic assumption test

This is a prerequisite test that is carried out before carrying out further analysis of the data that has been collected. The classical assumption test is intended to produce a regression model that meets the BLUE (Best Linear Unbiased Estimator) criteria. Some of the classical assumption tests are as follows:

Data Normality Test

The normality test was carried out to see whether there was a normal residual value or not. A good regression model is a model that has residuals and is normally distributed. In the normality test of the data, it is not necessary to do it on every existing variable, but only for the residual values.

Multicollinearity Test

The multicollinearity test is used to determine whether there is a high correlation between the independent variables and the multiple linear regression model. If there is a high correlation, the independent variable and the dependent variable are disturbed. A good regression model should be free of multicollineatity or there should be no correlation between the independent variables.

Heteroscedasticity Test

Heteroscedasticity test is used to check whether there are unequal differences between one residue and another observation. One of the regression models is a modal that fulfills the condition that there is a similarity in the variance between one residue and the other is called homoscedasticity.

Autocorrelation Test

Autocorrelation test is used to see whether there is a correlation between a period and previous periods. Autocorrelation test is a test of the influence of the independent variable on the dependent variable, so there should be no correlation between observations and previous observation data.

C. Multiple Linear Regression Analysis

According to Imam Ghozali (2018), multiple linear regression is a regression model that involves more than one independent variable. Multiple linear regression analysis was conducted to determine the direction and how much influence the independent variable has on the dependent variable.

In this research, it is carried out with the following example:

Y = BCA Bank Share Price
X1 = Interest Rate
X2 = Dollar Exchange Rate (USD)

D. Hypothesis testing

Hypothesis testing is a process for evaluating the strength of evidence from a sample, and providing a basis for making decisions regarding the population. Hypothesis Testing aims to decide whether the hypothesis being tested is rejected or accepted. The several hypothesis tests are as follows:

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t test (Partial)

Partial t test is used to test how the influence of each independent variable individually on the dependent variable.

f test (simultaneous)

The f (simultaneous) test or known as the simultaneous test or the ANOVA test, is a test used to see how the influence of all the independent variables together on the dependent variable.

E. Coefficient of Determination (R^2)

According to Widarjono, the Coefficient of Determination (R-Squared) is a test used to explain the proportion of variation of the dependent variable described by the independent variable. The coefficient of determination is also used to measure how good the regression line is.

4. Results and Discussion

4.1 Research Result

4.1.1. Descriptive Statistics of Research Variables

Table 1

Descriptive Statistics

	N	Minimum	Maximum	mean	Std. Deviation
Interest rate (%)	8	2.35	8.25	5.0213	1.77085
Purchase rate (USD)	8	12125	14244	13616.63	732,078
Share Price (Rp)	8	2685	7300	4858,75	1899,400
Valid N (listwise)	8				

Source: Data processed

In table 1 above, it can be concluded that the minimum interest rate is 2.35 and the maximum value is 8.25. These values indicate that the response to interest rates is between 2.35 and 8.25. Meanwhile, the standard deviation of 1.770 is smaller than the average, namely 5.023, indicating that the interest rate distribution value is getting closer to the average value, which identifies that the interest rate data does not vary.

The exchange rate data has a minimum value of 12,125 and a maximum value of 14,244. These values indicate that the response to the Rupiah exchange rate against the Dollar (USD) is 12,125 to 14,244. While the standard deviation of 732,078 is smaller than the average value of 13,616.63, which indicates that the Rupiah exchange rate against the Dollar (USD) is getting closer to the average value, which identifies the data on the Rupiah exchange rate against the Dollar (USD). does not vary.

The share price has a minimum value of 2,685 and a maximum value of 7,200. These values indicate that the response to stock prices is between 2,685 to 7,200. Meanwhile, the standard deviation of 1,899,400 is smaller than the average value of 4,858.75 which indicates that the stock price distribution is closer than the average value, which indicates that the stock price does not vary.

4.2. Classic assumption test

4.2.1. Probability Plot Normality Test

Table 2

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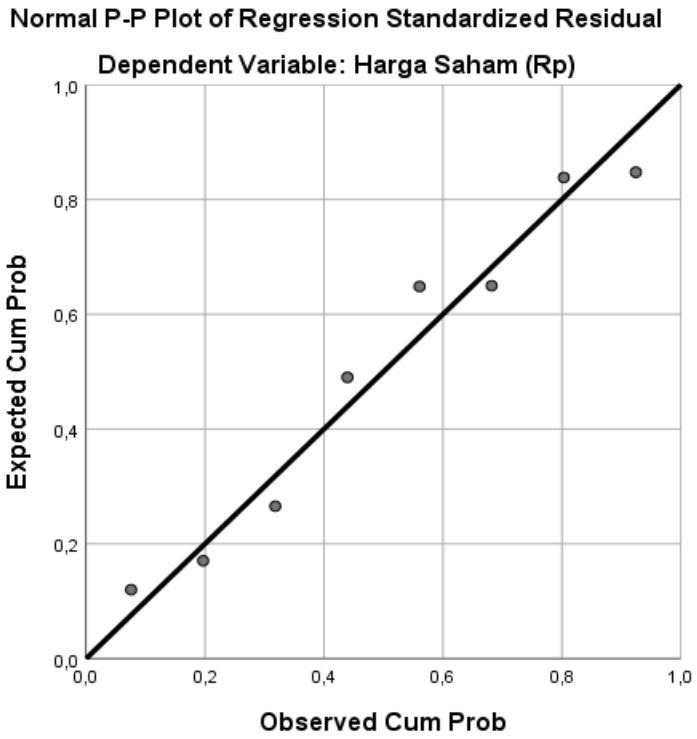

Source: Data processed

In table 2 above , it can be seen that the points follow a diagonal line, so as the basis for decision making according to Imam Ghozali (2011:161), it can be concluded that the normality test of the regression model is normally distributed.

4.2.2. Multicollinearity Test

Table 3

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	-8649,371	18702.828		-,462	,663		
	Interest rate (%)	-481,316	499,338	-,449	-,964	,379	,220	4,551
	Purchase rate (USD)	1,170	1,208	,451	,968	,377	,220	4,551

a. Dependent Variable: Share Price (Rp)

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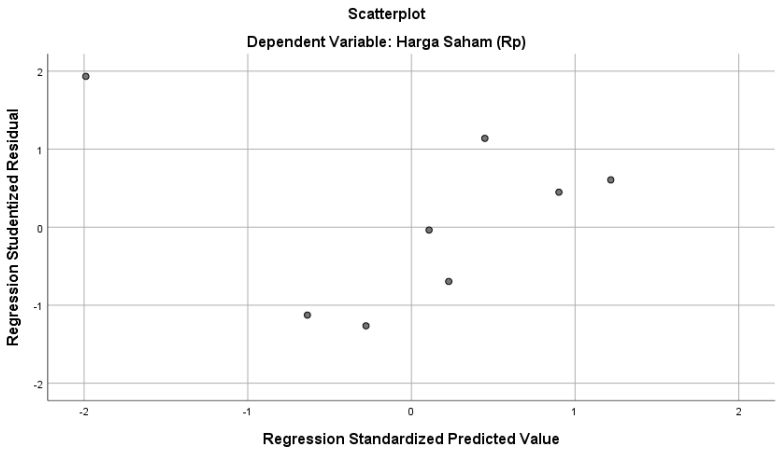
Source: Data processed

In table 3 above, it can be seen that the tolerance value is 0.220 and the VIF value is 4.551, so it can be concluded that the independent variable has no relationship with multicollinearity because the tolerance value is 0.220 > 0.100 and the VIF value is 4.551 < 10.00 (Imam Ghozali 2011: 107).

4.2.3. Scatterplots . Heteroscedasticity Test

Table 4



In table 4 above, it can be seen that the dots form an unclear or shapeless pattern (wavy, widen and then narrow) in the scatterplots table, and the points spread above and below the number 0 on the Y axis, so it can be concluded that there is no heteroscedasticity occurs as the basis for decision making according to Imam Ghozali (2011: 139).

4.2.4. Autocorrelation Test

Table 5

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,873 [a]	,762	,667	1096.601	1,204

a. Predictors: (Constant), Buying rate (USD), Interest rate (%)

b. Dependent Variable: Share Price (Rp)

Source: Data processed

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In table 5 above, it can be seen that the Durbin Watson value is 1.204 while the du value sought in the Dulbin Watson table value distribution is based on K(2), N(8) with a significance of 5%, the du value is 1.908 and 4-du is 2.092 . So it can be concluded that there is no autocorrelation because Dulbin Waston's value lies between du of 1.908 to 4-du of 2.092. (Imam Ghozali 2011:111)

4.3. Multiple Linear Regression Analysis

4.3.1. Partial t test

Tabel 6

Coefficients [a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-8649,371	18702.828		-,462	,663		
	Interest rate (%)	-481,316	499,338	-,449	-,964	,379	,220	4,551
	Purchase rate (USD)	1,170	1,208	,451	,968	,377	,220	4,551

b. Dependent Variable: Share Price (Rp)

Source: Data processed

According to Imam Ghozali (2011:101) if the value of Sig <0.05 then the independent variable (x) partially affects the dependent variable (Y).

So it is not seen from table 6 above that it can be concluded that:

a. The interest rate has no effect on stock prices (Y) because the value of sig 0.05 > 0.399

b. Exchange rate (USD) has no effect on stock prices (Y) because the value of sig 0.05 > 0.377

4.3.2. Simultaneous F Test

Table 7

ANOVA [a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19241370.034	2	9620685,017	8,000	,028 [b]
	Residual	6012667,466	5	1202533,493		
	Total	25254037,500	7			

Source: Data processed

According to I Imam Ghozali (2011: 101) if the value of sig <0.05 then the independent variable (X) simultaneously has no effect on the dependent (Y). So from table 8 above, it

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can be concluded that interest rates and exchange rates (USD) have a simultaneous effect on stock prices because the value of sig 0.05 > 0.028.

4.3.3. Hypothesis testing

Hypothesis testing H 1 and H 2 with t test

T tabel = t(α/2:n-k-1)

= t(0,025:5)

First Hypothesis Testing (H 1)

It is known in table 6 above, the sig value on independent X1 to dependent Y is 0.379 which means 0.379 > 0.05 and the t value is -0.964 < 2.571 so it can be concluded that H1 is rejected, which means the interest rate is not affected by stock prices.

Second Hypothesis Testing (H_2)

It is known in table 6 above, the sig value on independent X2 to dependent Y is 0.377 which means 0.377 > 0.05 and the t value is 0.968 < 2.571 so it can be concluded that H2 is rejected , which means the interest rate (USD) is not affected by stock price.

4.3.4. H3 Hypothesis Testing with f Test

f tabel = f(k:n-k)

= f(2:6)

It is known in table 7 above, that the significance value on the effect of X1 and X2 simultaneously on Y is 0.028, which means that the value of sig is 0.028 <0.05 and the value of f count is 8,000 > f table 5.14, so it can be concluded that H3 is accepted which is means that interest rates and exchange rates (USD) simultaneously affect stock prices.

Coefficient of Determination (R^2)

Table 11

Model Summary [b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,873 [a]	,762	,667	1096.601	1,204

a. Predictors: (Constant), Buying rate (USD), Interest rate (%)
b. Dependent Variable: Share Price (Rp)
Source: Data processed

Based on the output above, it is known that the R Square value is 0.762, so it can be interpreted that the interest rate and the exchange rate (USD) simultaneously affect the stock price of 67.2% while the remaining 32.8% is influenced by other factors.

5. Research Discussion

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5.1. The Effect of Interest Rates on Stock Prices

From table 6 above, it can be seen that the result of the t value in the multiple linear regression test is .-964, which is negative with a sig value of 0.379 > 0.05, which means that interest rates have a significant negative effect on stock prices, thus it can be concluded that the first hypothesis is accepted. The negative sign at t indicates the opposite effect. If the interest rate rises, the stock price will decrease and vice versa if the interest rate falls, the stock price will rise. The negative influence given to the independent interest rate on stock prices is in accordance with the opinion of Tandelin (2010) that interest rates affect stock prices in reverse (*cateris paribus).*

5.2. The Effect of Dollar Exchange Rate (US D) on Stock Prices

From table 6 above, it can be seen that the result of the t value in the multiple linear regression test is 0.968, which is positive with a sig value of 0.377 <0.05, which means that the dollar exchange rate has a positive and significant effect on stock prices. Thus, it can be concluded that the second hypothesis accepted. The positive effect given to the independent dollar exchange rate on the dependent stock price shows that the strengthening of the dollar exchange rate (the rupiah depreciates) will actually increase the stock price. This happened because the decline in the rupiah exchange rate resulted in cheaper export products from Indonesia in the markets of various countries which led to an increase in demand for Indonesian export products. In this case, it can make aggregate expenditure on output increase, supply decreases, and GDP can encourage an increase in investment in the country so that it can encourage price increases.

6. Conclusion and Suggestion

6.1. Conclusion

Based on the results of the research and discussion described above, the following conclusions can be drawn:

1. The result of the t-value on the multiple linear regression test is .-964, which is negative with a sig value of 0.379 > 0.05, which means that interest rates have a significant negative effect on stock prices, thus it can be concluded that the first hypothesis is accepted. The negative sign at t indicates the opposite effect. If the interest rate rises, the stock price will decrease and vice versa if the interest rate falls, the stock price will rise.
2. The result of the t-value on the multiple linear regression test is 0.968, which is positive with a sig value of 0.377 <0.05, which means that the dollar exchange rate has a positive and significant effect on stock prices. Thus, it can be concluded that the second hypothesis is accepted. The positive effect given to the independent dollar exchange rate on the dependent stock price shows that the strengthening of the dollar exchange rate (the rupiah depreciates) will actually increase the stock price.
3. Based on hypothesis testing H1 and H2 with t-test (partial) shows that interest rates and dollar exchange rates (USD) have no effect on stock prices, while hypothesis testing H3 with f-test (simultaneous) shows that interest rates and value the dollar exchange rate (USD) has an effect on stock prices.
4. Based on the coefficient of determination test (R2), it is known that the R Square value is 0.762, so it can be interpreted that the interest rate and exchange rate (USD) simultaneously affect stock prices, namely 67.2% while the remaining 32.8% is influenced by other factors. other factors.

6.2. Suggestion

Based on the conclusions described above, the researchers can provide the following suggestions:

1. For Investors**:** Based on the results of research showing that there is an influence between interest rates and the dollar exchange rate (USD) on stock prices, so it is important for investors before investing to pay attention and analyze macroeconomic developments as an effort to predict the JCI that affects stock prices on the capital market.

2. For Readers**:** For readers, it is hoped that this research can increase knowledge, be useful for readers and help provide insight into macroeconomic factors that affect stock prices.

3. For Further Researchers**:** For further researchers, who take this topic, it is hoped that they can add samples to be studied, for example a longer research year and a sample of what factors affect stock prices.

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