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Analysis of the Effect of the BI Rate, Inflation and Exchange Rates on the Composite Stock Price Index (Study on the Indonesia Stock Exchange (IDX) for the 2014-2018 period)

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ABSTRACT

The influence of capital market trading is important for the life of the capital market itself. The effect of capital market trading is an important point of consideration by investors. Some of them such as interest rates, inflation and exchange rates are included in the consideration indicators when investing in capital markets. hence the purpose of research to see how much impact of BI Rate (Interest Rate), Inflation and Exchange Rate on CPI in IDX 2014-2018. Where the research uses secondary data, using monthly data listed inMonthly Statistic in all bi rate, inflation, exchange rate and monthly JCI data from 2014-2018 with a sample number of 60. Based on the results of bi rate F (Simultaneous) test, inflation and exchange rate simultaneously have a significant influence on the frequency of JCI. from the test result t (Partial) with a partial Variable Only BI Rate that negatively and significantly affects JCI in IDX. This is the case if there is an increase in the variable BI Rate, so that it can make the frequency of the Combined Share Price Index increase. The amount of variation in BI Rate, inflation and exchange rate is only able to explain JCI by 19% , the remaining 81% is explained outside of the research variables.

1. Introduction

The effect of capital market trading is something important for the life of the capital market itself. The effect of capital market trading is an important point of consideration by investors. Some things that investors consider, among others, are whether the profit earned above the interest rate is payable. Capital markets are also usually an alternative option for investors who want to invest excess funds where transactions are brokered by the exchange. In addition to paying attention to interest rates, the development of CPI is also a benchmark in investing some are also associated with how high the inflation rate affects JCI annually, then also the influence of exchange rates that can also affect people's desire to invest stocks.

Table 1.
The phenomenon of the BI Rate, Inflation, Exchange Rate and IHSG data for the 2014-2018 period

Date	BI Rate (%)	Inflation (%)	Selling Rates (Rp)	Buying Rates (Rp)	JCI Growth (%)
2014	7.75 %	8.36%	12.502,00	12.378,00	22,30%
2015	7.50 %	3.35%	13.864,00	13.726,00	-12,10%
2016	4.75 %	3.02%	13.503,00	13.369,00	15,30%
2017	4.25 %	3.61%	13.616,00	13.480,00	20,00%
2018	6.00 %	3.13%	14.553,00	14.409,00	-2,50%

Source : Bank Indonesia Statistics Center (www.bi.go.id)

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2. Theory

A. Composite Stock Price Index (IHSG)

According to Jogiyanto (2013:147) JCI is the number of stock value parameters that have been stacked and calculated that process the trend, where the index value is a number calculated in such a way that can then be used in the comparison of events that can be intangible change of value all the time.

B. BI Rate

Slamat (2010: 139) The BI Rate is an interest rate with a maturity of one month which is published regularly in a special period of time which is useful as a sign of monetary policy.

C. Inflation

Inflation is the stage of increasing the general value of goods over and over again over time. (Nopirin,1987:25). Overall, various expert opinions can be concluded that inflation is a stage of repeated rate rises that make currency prices weaken as well as public demand. The cause of inflation is caused by several factors such as increased public consumption, the amount of liquidity in the market causing consumption even suspected to the impact of choking goods in addition to the result of the total money spread very much than necessary.

D. Exchange Rate

Nopirin (2000:163) Exchange rate is the price comparison between two currencies that are not the same. The establishment of aga exchange rate mechanism facilitates the transaction of goods and services in the international market. The exchange rate is the level of value of money approved by the peoples of both nations in order to equally trade (Mankiw,2006:128)

3. Research Methods

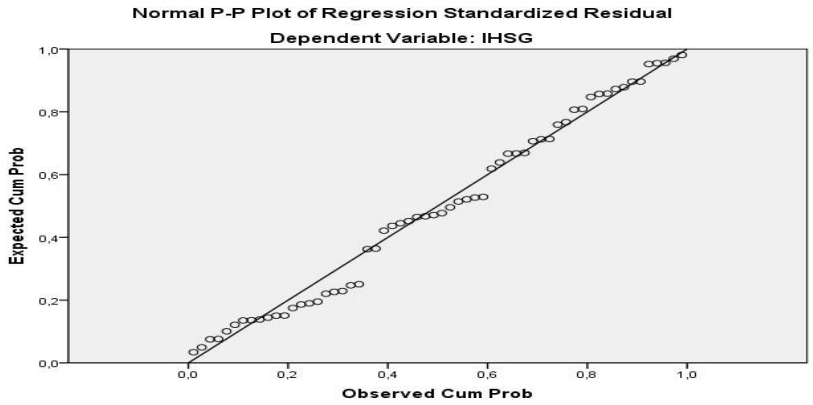
The sample used is a saturated sample where the entire population is used as a research sample. Using a secondary data source consists of monthly data from each variable (12 months x 5 years) then (n)= 60 samples. The research site was conducted in IDX. In analyzing the data using prerequisite test techniques, Multiple Linear Regression, and Hypothesis Test using Software Statistical Productand Service Solution (SPSS) program version 16.

4. Result and Discussion

4.1. Result

a. Classic Assumption Test

1) Normality Test



Source : Research Results,2020 (processed)

Fig.1. Normality Test

The result of the image above is Normality because it has qualified that the diagram leads to plots following a straight line.

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Table 2
One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N	Mean Std. Deviation	60
Normal Parameters[a,b]	Absolute	0
	Positive	358,431292
Most Extreme Differences	Negative	0,105
	Z	0,105
Kolmogorov-Smirnov		-0,054 0,813
Asymp. Sig. (2-tailed)		0,523

Test distribution is Normal.
Calculated from data.
Source : Research Results,2020 (processed)

Referring to the table above kolmogrov-smirnov results show the number 0.523 where the condition of normality significance should be "0.05", so that the conclusion of the variable has been distributed normally or according to the conditions of the normality test.

2) Multicolineity Test Results

Tabel 3.
Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	7345,756	512,113		14,344	,000		
	BI RATE	-318,041	51,264	-,761	-6,204	,000	,450	2,224
	INFLASI	-11,677	44,306	-,034	-,264	,793	,409	2,447
	KURS	,002	,030	,006	,066	,948	,804	1,244

a. Dependent Variable: IHSG
Source : Research Results,2020 (processed)

By looking at the table above, vif can be known in all free variables below 10,. As well as the tolerance figure of all variables above 0.10 then in conclusion all varibael consisting of BI Rate, Inflation, and Exchange Rate there are no symptoms of multicolinearity.

3) Auto correlation Test

Table 4
Auto correlation Test Results
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,265[a]	,070	,019	166,44942	1,796

Predictors: (Constant), lag_X3, lag_X2, lag_X1
Dependent Variable: lag_Y
Source : Research Results,2020 (processed)

The spss output is known if the DW results are between du and (4-du) namely 1.6889 and 2.520 (du< dw < 4-du) / (1.6889 < 1.796 < 2,311) so that the conclusion does not occur auto correlation for the regression model used for the study.

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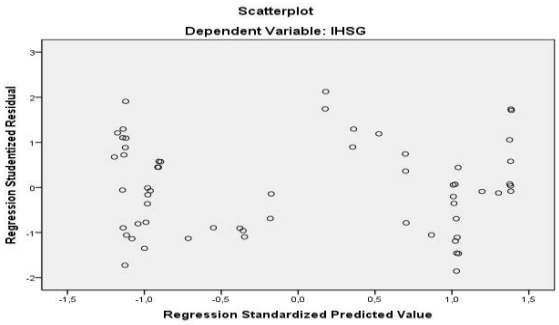
4) Heteroskedasity Test



Source : Research Results,2020 (processed)

Fig 2. Test

Figure 2 shows when the point in the Scatterplot does not create a special scheme, and is spread below and above the value of 0 y-axis, so the conclusion is not to experience heteroskedasity in the regression model.

b. Multiple Linear Analysis

Table 5
Regression Coefficient Analysis

Model		Unstandardized Coefficients	
		B	Std. Error
1	(Constant)	7345,756	512,113
	BI RATE	-318,041	51,264
	INFLASI	-11,677	44,306
	KURS	0,002	0,03

a. Dependent Variable: IHSG
Source : Research Results,2020 (processed)

By looking at the table 5 the regression coefficient can be described into the following JCI = 7345,756 – 318,041 – 11,677 + 0.002

- Constants 7345,756 means that if BI Rate (X1), Inflation(X2) and Exchange Rate(X3) result in 0.y) the result is Rp 7345,756.
- BI Rate variable regression coefficient (X1) is -318,041. This is the case if other free variables are stable and the BI Rate increases by 1% meaning that the value of JCI will weaken by -318,041. The negative coefficient value means that there is a negative relationship between BI Rate and JCI, the lower the BI Rate means the lower the value of JCI.
- The variable regression coefficient of Inflation (X2) is -11,677. This indicates that if other free variables are stable and inflation increases by 1% it means that the value of JCI will weaken by -11,677. The negative coefficient value means that there is a negative relationship between inflation and JCI, the lower the inflation means the lower the value of JCI.
- The variable regression coefficient of Exchange Rate (X3) is 0.002 . This is the case if other free variables are stable and the Exchange Rate increases by 1% meaning the value of JCI increases by 0.002. The negative coefficient value means that there is a positive relationship between the Exchange Rate and JCI, the higher the exchange rate increases the value of JCI.

c. Test Hypothesis

Table 6
Test Coefficient Determination
Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,265[a]	0,07	0,019	166,4494	1,796

Predictors: (Constant), lag_X3, lag_X2, lag_X1
Dependent Variable: lag_Y
Source : Research Results,2020 (processed)

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Based on the SPSS output acquisition above, the coefficient of determination can be found with the Adjusted R Square, which is 0.019. This shows that only 19% of the overall dependent variable of the JCI can be described by the independent variables of the BI Rate, Inflation and the exchange rate. The remaining 81% is described from other variables other than variables used for research.

1) Test F (Simultaneously)

Tabel 7
Uji F
ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12442004,525	3	4147334,842	30,640	,000[a]
	Residual	7579906,475	56	135355,473		
	Total	20021911,000	59			

Predictors: (Constant), KURS, BI RATE, INFLASI
Dependent Variable: IHSG
Source : Research Results,2020 (processed)

The spss output above proves that the sig number is 0.000 < 0.05. it indicates when bi rate, inflation, and exchange rate simultaneously or simultaneously have an influence on JCI variables.

2) Test T (Partially).

Table 8
Test T
Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	7345,756	512,113		14,344	,000		
	BI RATE	-318,041	51,264	-,761	-6,204	,000	,450	2,224
	INFLASI	-11,677	44,306	-,034	-,264	,793	,409	2,447
	KURS	,002	,030	,006	,066	,948	,804	1,244

a. Dependent Variable: IHSG
Source : Research Results,2020 (processed)
Based on the calculation spss headed if:

- The BI Rate variable has sig 0.000 <0.05. This shows that the BI Rate independently affects the JCI.
- The inflation variable has sig 0.793> 0.05. This proves that independently inflation has no effect on the JCI.
- The exchange rate variable has sig 0.948> 0.05. This proves that independently the exchange rate has no influence on the JCI.

5. Conclusion

The results of the study prove that bi rate variables have a negative and significant effect on JCI. It analyzes if there is a noticeable shift from interest rates will be accompanied by an increase or weakening of JCI. other variables from this study such as Inflation and Exchange Rate results showed no and less significant influence on JCI. That identifies the ups and downs of inflation and changes in the rupiah exchange rate not fully followed by changes by JCI. But overall from the F (Simultaneous) Test in this study together all variables had an influence on JCI.

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