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Determinants of the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange

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Abstract: The stock market is one of the essential components of Indonesia's economy. As the market's improvement is quite acceptable nowadays, some macro variables affect stock price volatility. Therefore, research on the determinant of the Indonesian composite index is required. This study aims to determine the effect of world oil prices and macroeconomic variables on the Composite Stock Price Index. The variables used in this study are inflation, exchange rates, interest rates, and world oil prices. This study uses secondary data and time series from January 2015 to December 2019 to obtain 60 monthly data. The method used to examine the data is the Partial Adjustment Model (PAM) method using Eviews 7 and performs assumption tests. Based on the analysis that has been carried out, the study results found that the inflation and exchange rate variables have a negative and significant effect on the Indonesian Composite Stock Price Index. The interest rate and world oil price variables positively and significantly affect the Indonesian Composite Stock Price Index.
Keywords: Composite Stock Price Index; Partial Adjustment Model (PAM)
JEL Classification: G14, G11

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Introduction

The capital market activity aims to earn profits. Investors use various ways to get the expected return well through analysis of stock trading behavior. They will take full advantage of the advice provided by capital market analysis experts such as dealers, brokers, investment managers, underwriters, and others. Shares of going public companies as investment commodities are classified as high risk because it is sensitive to the changes that occur, whether influences from within or outside the country. Changes in economic, monetary, political, and legal or regulatory changes occur in companies and industries that issue shares themselves. Investors in buying stocks need thinking and analysis based on data from the company concerned.

The capital market has become one of the essential components of the Indonesian economy. The development of Indonesia's capital market has led to many companies' emergence, both local and foreign. It indicates excellent potential for the capital market in Indonesia. In line with the development of the capital market that the public increasingly recognizes, information is needed about the capital market. The stock price index is information and a description of the stock price's ups and downs in an issuer.

The stock price index movement in the capital market is an essential factor that must be studied because this movement can be seen how the previous stock market conditions were. The Composite Stock Price Index (IHSG) is used by the Indonesia Stock Exchange (IDX). In activities in the capital market, the IHSG greatly influences investors' behavior in portfolio investments. This composite stock price index is useful for comparing changes to stock prices in real-time so that investors can easily find out if the stock price has increased or decreased.
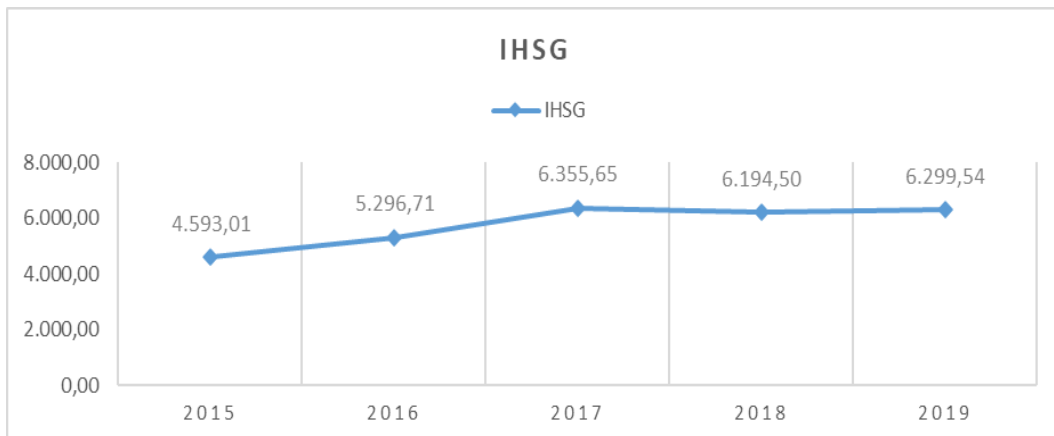

Figure 1 Development of IHSG Value in 2015-2019
Source: Indonesia Stock Exchange (BEI), 2020.

By looking at the Figure 1, we can conclude that there has been a significant increase from 2015 to 2019. In 2015 the IHSG value was in the range of 4593.01 and crept up until 2019 to 6299.54. Even though in 2018 there was a decline compared to 2017, this did not prevent the JCI value from rising again.

Macroeconomic variables have a significant effect on stock price index movements. However, stock price movements are also influenced by commodity prices, one of which is the world oil price. Crude oil or known as crude oil, is one of the world's needs at this time. Crude oil price fluctuations have become an indication that also affects the capital market of a country. Indirectly, the increase in world crude oil prices will impact the import and export sector. For oil-exporting countries, the increase in world crude oil prices is a distinct advantage for their companies, such as countries that are part of the Organization Petroleum Exporting Countries (OPEC) and non-OPEC countries oil-producing.

Exchange rate movements (*volatility*) reflect economic dynamics in which economic and non-economic factors affect the money market and the capital market. In a floating exchange rate system, the value of the currency can change at any time. Changes that occur can be seen from the demand and supply of foreign currency against the domestic currency. If the demand for a foreign currency decreases, the value of the domestic currency increases. On the other hand, if the demand for foreign currency increases, the domestic currency's value will decrease. Meanwhile, from the supply side, if the foreign

exchange rate increases, the domestic currency exchange rate will increase, and vice versa, if the foreign exchange supply decreases, the value of the domestic currency will also decrease. The next curve illustrates that the determination of the exchange rate is determined by changes in the supply side of foreign exchange and demand for foreign exchange, which is influenced by several factors:
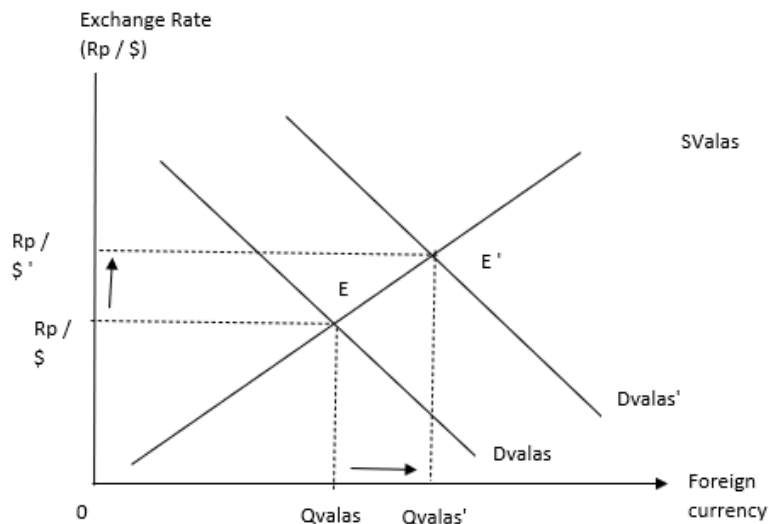

Figure 2 Foreign Exchange (Supply & Demand)
Source: Branson, Macroeconomics Theory and Policy

In the Figure 2, we can see that the foreign exchange demand curve originally at D_{valas} shifts to D_{valas} 'when an increase in demand causes the exchange rate balance point to shift from E to E' so that the currency value decreases (depreciates). Among the factors that influence exchange rate movements are capital movements. If the capital outflow is significant, foreign currency demand will increase and weaken the domestic exchange rate. If the capital inflow into the country is getting bigger, the exchange rate tends to appreciate. The entry of capital flows into the country can be in foreign direct investment, foreign parties placing short-term funds (Portfolio Investment), and foreign debt funds.

From the development of the export and import values of a country with relative prices among its trading partners, other macroeconomic variables will influence the strength/weakness of the domestic currency exchange rate. If a country has a high inflation rate compared to other countries, exported goods will be more expensive and weaken the rupiah exchange rate because the export volume decreases. Capital outflows include the payment of domestic residents' debts to foreign parties (either government or private), transfer of capital placements from within the country to abroad, withdrawal of funds owned by foreign investors. The speculation of actors in the money market and capital market also causes exchange rate movements. Speculators carry out many speculative activities in the foreign exchange market to benefit from a depreciation in the exchange rate, leading to increased demand for foreign currencies and weakening the domestic exchange rate against foreign currencies. Exchange rate volatility is also influenced by international trade through the export and import of

goods and services. If exports decline, the exchange rate tends to depreciate because foreign currency held is decreasing.

Conversely, if exports increase, foreign currency will increase, and a country's exchange rate tends to appreciate. Exchange rate volatility is also influenced by international trade through the export and import of goods and services. If exports decline, the exchange rate tends to depreciate because foreign currency held is decreasing. Conversely, if exports increase, the foreign currency amount will increase, and the country's exchange rate will appreciate it. Exchange rate volatility is also influenced by international trade through the export and import of goods and services. If exports decline, the exchange rate tends to depreciate because foreign currency held is decreasing.

Conversely, if exports increase, foreign currency will increase, and a country's exchange rate will appreciate it. A country determines its domestic currency with certain foreign currencies, such as the rupiah currency, fixed in the United States dollar (USD) in a fixed exchange rate system. Exchange rates can be too low or too high of their valid values when using the fixed exchange rate system designation. This system becomes the nominal anchor as a means of controlling inflation. When the exchange rate has a fixed value, the price of imported goods is relatively fixed, and inflation can be controlled. In ensuring this system policy's success, the central bank is generally balanced with control of the foreign exchange system to control market players who attack the exchange rate can be limited. In this system, the market mechanism determines the value of the domestic currency against foreign currencies. The central bank does not determine the exchange rate but plays a role in monitoring market activity and can intervene in the foreign exchange market if the rupiah exchange rate is in an insecure zone directly.

Research conducted by Ignatius Christian Pradhypta, Iskandar, and Tarumingkeng (2018), with the theme of their research, namely "Analysis of Factors Affecting the Composite Stock Price Index on the Indonesia Stock Exchange 2010-2015". The dependent variable used in this study is the Composite Stock Price Index, then the independent variables are the Rupiah Exchange Rate, In action, and BI Rate. The analytical tool used in this research is Multiple Linear Regression Analysis. This study indicates that the rupiah exchange rate against the US dollar and the inflation rate significantly affect the IHSG. Meanwhile, the BI rate does not affect the IHSG. Besides, it was found that the R-square value was 59.3%. It means that the IHSG movement of 59.3% can be predicted through four independent variables.

Research conducted by Badriah, Suharsono, and Suwena (2015), with the research theme "Analysis of Economic Factors Affecting the Composite Stock Price Index in the Indonesia Stock Exchange 2012-2014". The dependent variable used in this study is the Composite Stock Price Index. The independent variables are Gross Domestic Product (GDP), industrial products, inflation, interest rates, exchange rates, and unemployment. The analytical tools used in this research are factor analysis and documentation methods. The study results found that the factors affecting the JCI were the growth factor of Gross Domestic Product (GDP), which had a variance value of 65.01%. The growth factor for industrial products had a variance value of 17.14%. While the inflation

factor had a variance value of 9.19%, the interest rate factor has a variance value of 6.74%, the rupiah exchange rate factor has a variance value of 1.030%, the unemployment factor has a variance value of 0.62%, and the budget deficit factor has a variance value of 0.27%. The most dominant factor is Gross Domestic Product (GDP), with a clearance rotation of 65.01%.

Research conducted by Kewal in 2012, with the research theme of "The Effect of Inflation, Interest Rates, Exchange Rates and PDB Growth on the Composite Stock Price Index." The dependent variable used in this study is the Composite Stock Price Index, then the independent variables are inflation, interest rates, exchange rates, and PDB growth. The analytical tool used in this study is multiple regression analysis with 120 research data. Research results from 2000-2009 found that only the exchange rate significantly affected the IHSG, while the inflation rate, SBI interest rates, and PDB growth did not affect the IHSG. This study only uses four macroeconomic variables, so that further research needs to find other macroeconomic variables that are thought to affect the IHSG.

Research conducted by Subing, Kusumah, and Gusni (2017) with the theme of their research, namely "Internal and External Empirical Analysis of Stock Price Factors: Evidence From Indonesia." This study's dependent variable is the stock price, and the independent variable is the price income ratio, asset return, systematic risk, inflation, interest rates, and oil prices. The analytical tool used in this research is panel data regression analysis. This study indicates that the ratio of price income, asset return, and the oil price positively impact company stock prices, while inflation hurts company stock prices. Besides, systematic risk and interest rates have no impact on the company's stock price.

Research conducted by Jareño and Negrut (2018), with their research's theme, is "US Stock Market and Macroeconomic Factors." The dependent variable used in this study is the US Stock Market, then the independent variable is the US Economy and Macroeconomic Factors. The analytical tool used in this study is the Pearson correlation analysis. The study results found that gross domestic product, consumer price index, industrial production index, unemployment rate, and long-term interest rates. All relevant factors show a statistically significant relationship with the stock market except for the consumer price index, and the signs are consistent with previous literature findings.

Research conducted by Christie, Khairunnisa, and Dillak (2017), with the research theme of "The Effect of Macroeconomic Variables on the Stock Market: Evidence from the Indonesia Stock Exchange (BEI) 2006-2015 Period". The dependent variable used in this study is the Composite Stock Price Index, then the independent variables are inflation, SBI interest rates, and PDB. The analytical tool used in this research is the Granger Causality Test. The results of the study found that there was a two-way causality relationship between the SBI Interest Rate variable and the IHSG. In contrast, the inflation and PDB variables did not have a causal relationship with each other. Inflation

variables, SBI interest rates, and GDP have a simultaneous effect on the Composite Stock Price Index on the Indonesia Stock Exchange in the 2006-2015 period.

Research conducted by Novitasari in 2013, with the research theme, namely "The Effect of Inflation, Indonesian Crude Oil Prices and Interest Rates (BI Rate) on the Composite Stock Price Index (Monthly Data for the period 2006-2012". The dependent variable used in this study is the Composite Stock Price Index then the independent variables are Inflation, Indonesian Crude Oil Price, and Interest Rate (BI Rate). The analysis tool used in this study uses multiple regression analysis. The study results found a negative influence between the inflation rate and the IHSG, and the price of Indonesian crude oil positively influenced the IHSG. It means that an increase will follow an increase in Indonesian crude oil price in the IHSG. The results of this study do not succeed in proving the effect of interest rates on the IHSG.

Research conducted by Paranita, Suhaji, and Setyawan (2017) with the theme of his research is "Movement of the Composite Stock Price Index and the factors that influence it." The dependent variable used in this study is the Composite Stock Price Index, then the independent variables are inflation, exchange rates, and the Dow Jones Index. The analytical tool used in this study is multiple regression analysis. Inflation does not affect the IHSG, while the Exchange Rate (IDR/USD) and the Dow Jones Index positively affect the IHSG. Inflation did not affect the IHSG because inflation was in the range below 10 percent during the research period, so it did not significantly affect the IHSG. The most dominant variable affecting the IHSG is the exchange rate (IDR/USD).

Research conducted by Raraga, Chabachib, and Muharam in 2013 with the theme of his research, namely "Analysis of the Effect of Oil Prices and Gold Prices on Exchange Rate Interrelationships and Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange (BEI) 2000-2013 ". The dependent variable used in this study is the Composite Stock Price Index and Exchange Rate. Then the independent variables are Exchange Rate, World Oil Price, World Gold Price, and IHSG. This study's analytical tool is the VAR/VECM model using the cointegration test to see the long-term relationship with *impulse response* analysis and *variance decomposition*. The cointegration analysis results show that all variables, namely world oil prices, world gold prices, exchange rates, and IHSG, in the long run, have cointegration. The results of the analysis show that the world oil price has no significant effect on the IHSG. World oil prices have a significant effect on exchange rates, while world gold price has no significant effect on IHSG, the world gold price has no significant effect on exchange rates, and the exchange rate has a significant effect on the IHSG. At the same time, IHSG has a significant effect on the exchange rate. The results of the causality analysis show that the exchange rate and the IHSG have a causal relationship. The Impulse Response analysis results show that world oil price shocks are responded negatively by the exchange rate. In contrast, IHSG and exchange rates responded negatively to world gold price shocks, and changes in the exchange rate have been responded positively by the IHSG. Changes in the IHSG were responded to by the exchange rate positively.

Research conducted by Yulianti and Yusra in 2019 with the theme of their research, namely "Movement of the Composite Stock Price Index as an Impact of Macro Variables." This study's dependent variable is the Composite Stock Price Index, and the independent variables are the SBI Interest Rate, Exchange Rate, World Gold Price, and World Oil Price. The analytical tool used in this research is multiple regression analysis. This study indicates that world gold prices, rupiah exchange rates, world oil prices, and SBI interest rates are limited to each month's closing date during the observation period. For seven years, observations were made between 2011-2017 that gold prices, oil prices, and SBI did not significantly influence the IHSG. However, the rupiah exchange rate had a positive and significant effect on the IHSG.

Research Method

This study uses data in the form of time series, where the data are taken in the form of observations simultaneously. Data is referred to as time-series data because the data obtained is from January 2015 to December 2019. This study uses an analytical method using econometric approaches, namely the Partial Adjustment Model (PAM). In conducting this PAM test, the stage was carried out through several stages using the software, namely "EVIEWS 7.0" in analyzing the data in this study. The method used by the author himself to explain the basic framework in calculating the relationship between the dependent variable in the form of the Composite Stock Price Index (Y) and the independent variables including inflation (X1), the exchange rate (X2), Interest Rate (X3) and Oil Price (X4). In this study, it will adjust to the Estimation Model Formula, which is as follows:

The first step that must be taken is to form a functional relationship between the dependent variable and the independent variable, as follows:

$$IHSGt = \alpha_0 + \alpha_1 INF_t + Kurs_t + t + SB_t + HMI_t \ldots \ldots \alpha_t > 0 \text{ and } \alpha_4 < 0$$

From the above equation, the next step is to follow the approach developed by Feige (1966), written as follows:

$$IHSG_t = b\ IHSG_t + (1-b)\ IHSG_{t^-1}$$

Furthermore, if the above equation is substituted, the PAM model is:

$$IHSG_t = b\alpha_0 + INF_t + b\alpha_1 Kurs_t + b\alpha_2 SB_t + b\alpha_3 HMI_t + (1-b) IHSG_{t^-}$$

Then the above equation can be estimated into an empirical study because all the variables can be observed. In operation, the equation can be written as follows:

$$IHSG_t = \beta_0 + \beta_1 INF_t - \beta_2 Kurs_t - \beta_3 SB - \beta_4 HMI + \beta_5 IHSG_{t^-1}$$

Based on the above equation, it can be further stated in the characteristics of the PAM model, in which the lag coefficient of the dependent variable (IHSGt-1) is:

1. Located at $0 < \beta_2 < 1$.
2. B3 must be statistically significant, provided that the t coefficient is positive.

Then to obtain the magnitude and standard deviation of long-run regression coefficients in the PAM model, the equation can be written as follows:

$$IHSG_t = \beta_o + \beta_1 \, INF_t + \beta_2 \, Kurs_t + \beta_3 \, SB_t + \beta_4 \, HMI_t + IHSG_{t-1}$$

The long-run regression coefficients for the intercept (constant) IHSgt, INFt, Kurst, SBt, and HMIt calculated from the regression results of the equation are as follows:

$C_0 = \beta_0 / (1-\beta_5)$ - long-term intercept coefficient (Constant).
$C_0 = \beta_1 / (1-\beta_5)$ - long run coefficient of inflation
$C_0 = \beta_2 / (1-\beta_5)$ - long run coefficient of exchange rate
$C_0 = \beta_3 / (1-\beta_5)$ - Long-run Interest Rate coefficient
$C_0 = \beta_4 / (1-\beta_5)$ - long run coefficient of World Oil Price
t = year

The Partial Adjustment Model (PAM) is a dynamic model, which assumes the existence of an equilibrium relationship in the long run between two or more economic variables. In contrast, in the short run, there will be a disequilibrium. The PAM model itself can include many variables in analyzing economic phenomena both in the short and long term and can examine whether the empirical model is consistent with economic theory. In testing the PAM regression (*partial adjustment model*), several tests can be seen. Namely, F-Test (Simultaneous Test), which is a test conducted to determine the effect of the independent variables used in research, including inflation, exchange rates, interest rates, and world oil prices together (simultaneously) on the composite stock price index (IHSG) in Indonesia. It can be seen from the F statistic results and the probability value (F-statistic) to know the effect together.

If the probability value is smaller than $\alpha = 0.05$, it means that the independent variable has a simultaneous effect on the dependent variable (Basuki, 2017). The next test is the t-statistic. This test is done to determine the effect partially (individually) on the independent variable. To determine the significance of independent variables, we must look at the t-statistical value generated in the PAM model regression.

The coefficient of determination used in this study is the value of R^2 when evaluating the best regression model. Because this study using more than one independent variable, The value used in this coefficient of determination is the value (*Adjusted* R^2) is to measure how much variation the dependent variable (Y) can explain by the independent variable (X). If the coefficient of determination = 0 / or *adjusted* $R^2 = 0$, meaning that variable Y variation cannot be explained by variable X, but if $R^2 = 1$, then the variation of variable Y as a whole can be explained by variable X. In other words, if the Adjusted value R^2 approaches 1, then the independent variable can explain changes in the

dependent variable. However, if R^2 approaches 0, the independent variable cannot explain the dependent variable. Furthermore, if the value Adjusted R^2 = 1, all observation points are right on the regression line. Therefore, the merits of the regression equation will be determined by the Adjusted R^2 value.

Result and Discussion

PAM model regression analysis (Partial Adjustment Model), several things need to be done, including looking at several test results such as model fit test (F simultaneous test), coefficient of determination, and t-test results. In this study, hypothesis testing was carried out based on the partial adjustment model (PAM) regression model's estimation results. The following are the partial adjustment model (PAM) regression results that have been obtained and are presented in table 1.

Table 1 PAM Model Regression Test Results (Partial Adjustment Model)

Variable	Coefficient	t-Statistic	Prob.
C	3,568	2,845	0.0063
Inflation	-0.016	-3,518	0.0009
Exchange Log	-0.299	-2,204	0.031
Interest rate	0.004	0.748	0.457
Oil Price Log	0.019	0.575	0.567
JCI Log (-1)	0.913	15,876	0.0000
R-squared			0.945
Adjusted R-squared			0.940
SE of regression			0.029
Sum squared resid			0.0446
Log-likelihood			128,278
F-statistic			182,922
Prob (F-statistic)			0.000

Based on the PAM results (partial adjustment model) regression test in table 1, some of the test results can be explained. This F-test is a test conducted to determine the effect of the independent variable in inflation, exchange rates, interest rates, and world oil prices simultaneously to the dependent variable Composite Stock Price Index (IHSG) Indonesia. The F-test test criteria can be done by comparing the probability of the calculation results with a significance of α = 5% or 0.05. If the probability value obtained from F-count is more significant than 0.05, then Ho is accepted. It can be concluded that the variable inflation, exchange rates, interest rates, and world oil prices simultaneously do not affect Composite Stock Price Index (IHSG) Indonesia. If the probability value obtained from the F count is smaller than 0.05, then Ho is rejected. So, it can be concluded that the variable inflation, exchange rates, interest rates, and world oil prices simultaneously affect Composite Stock Price Index (IHSG) Indonesia.

Based on the PAM model's regression calculation presented in the Table 1, the probability value (F-statistic) is obtained 0.000 < 0.05. Ho is rejected. It can be concluded that the variable inflation, exchange rates, interest rates, and world oil prices simultaneously have a significant effect on Composite Stock Price Index (IHSG)

Indonesia. So it is suitable to be used to predict variablesComposite Stock Price Index (IHSG) in Indonesia.

Based on the results obtained from the PAM model regression test presented in the Table 1, the R-squared value is obtained at 0.945. It shows that changes in the Composite Stock Price Index (IHSG) variable in Indonesia can be explained or influenced by variables inflation, exchange rates, interest rates, and world oil prices94.5%. In contrast, the remaining 5.5% IHSG in Indonesia is influenced by other factors outside of variables such as PDB growth, foreign stock price index, money supply.

The T-test is used to test the significance of independent variables' effect on the dependent variable individually or partially. The criteria used in the partial test or t-test is by comparing the probability value of the calculation results with a significance of α = 0.05. If the calculated probability value is more significant than 0.05, Ho is rejected. It can be concluded that the independent variable is inflation, exchange rates, interest rates, and world oil prices partially do not affect the IHSG in Indonesia. Conversely, if the calculated probability value is less than 0.05, Ho is rejected. It can be concluded that the independent variable inflation, exchange rates, interest rates, and world oil prices partially affect the IHSG in Indonesia. The nature or direction of influence can be seen based on the sign on the t-value. Suppose the t-value is positive (+). In that case, the influence of the independent variable on the dependent variable is unidirectional. In contrast, if the t-value is negative (-), then the independent variable's effect on the dependent variable is the opposite.

Based on the results of the t-test in Table 1, it can be explained that the influence of the t-statistic variable on inflation on the JCI in Indonesia for the period January 2015-December 2019. Based on the analysis results, the t-count value is obtained-3,518 with a significance level of 0.000. Because the significance level obtained is less than 0.05 and the t-statistic is negative, it can be concluded that partially it has a significant and negative effect on the IHSG in Indonesia for the period January 2015-December 2019. The effect of the exchange rate variable t-statistic on the JCI in Indonesia for the January period 2015-December 2019. Based on the analysis results obtained, the t-count value is-2.204206 with a significance level of 0.0319. Because the significance level obtained is less than 0.05 and the t-statistic is negative, it can be concluded that partially it has a significant and negative effect on the JCI in Indonesia for the period January 2015-December 2019. The effect of the t-statistic on interest rate variables on the JCI in Indonesia for the January period 2015-December 2019. Based on the analysis results obtained, the t-count value is0.748 with a significance level of 0.457. So, it can be concluded that the interest rate partially has no effect on the IHSG in Indonesia for the period January 2015-December 2019. The t-statistic variable interest rates on the JCI in Indonesia for the period January 2015-December 2019. Based on the analysis results obtained at-value of0.575 with a significance level of 0.567. Because the significance level obtained is more significant than 0.05 and the t-statistic is positive, it can be concluded that partially it has no significant effect on the JCI in Indonesia for January 2015-December 2019.

Based on the results of the t-test in table 1 described in the discussion, it can be concluded that inflation and exchange rates partially have a significant and negative effect on the IHSG in Indonesia for January 2015-December 2019. Meanwhile, interest rates and world oil prices partially do not affect Indonesia's JCI for January 2015-December 2019.

Table 2 Results of Short Run and Long Run Coefficients

Variable	Coefficient		
	Short-term	Long-term	Adjustments
INFLATION	-0.016	-0.184	1-0,913 = 0.087
LOG (EXCHANGE)	-0.299	-3,441	
INTEREST RATE	0.004	0.049	
LOG (OIL PRICE)	0.019	0.222	

The estimation results of the long-term and short-term PAM models in the Table 2 can be interpreted as follows the long-run coefficient of inflation is-0.184, which means a change in inflation. In the long term, a change in inflation of 1% will result in a decrease in the IHSG in Indonesia by 0.184. Whereas in the short term, the coefficient obtained is -0.016, which means that if there is a change in inflation of 1% in the short term, it will cause a decrease in the IHSG in Indonesia by 0.016.

The results are inline with the theory of Keynes (2018) suggest that an increase in inflation will reduce the volume of company profits as a result of an increase in production costs and an increase in the level of wages, which in turn will affect the number of dividends to be distributed. It hurts the valuation of stock prices so that it can state that there is a negative correlation between inflation and stock prices.

An increase in inflation will reduce people's real income with fixed income, thereby reducing purchasing power. Thus, low public purchasing power will reduce demand for company products, resulting in lower net earnings. It will lead to a decline in the company's performance, which is reflected in low profits. The decline in earnings by each company will cause the demand for various types of shares to decrease. This condition will trigger a decrease in the IHSG value as a representation of the decline in share prices in the capital market. These results are in line with previous researchers Badriah et al. (2015), who stated that the inflation rate harms the IHSG.

The long-run coefficient of exchange rates is -3,441. It means that in the long run, a 1% change in the exchange rate can result in a decrease in Indonesia of 3,441. Whereas in the short term, the coefficient obtained is -0.299, which means that in the short term, if there is a change in the exchange rate of 1%, it will cause a decrease in Indonesia of 0.299. So it can be concluded that an increase in the exchange rate will affect the decline in the IHSG in Indonesia in the long or short term.

According to research Tandelilin (2010), one source of investment risk is currency exchange rate risk. A stable currency exchange rate will affect foreign investors entering a country. The connection with the financing of business activities, especially for export and import-oriented companies in Indonesia, will be significantly affected by changes in

the rupiah exchange rate. Besides, domestic companies' international business activities will be directly affected by changes in the exchange rate. It is because changes in exchange rates, through changes in costs and revenues, will have a direct impact on company profits. Finally, it has an impact on the company's stock price.

Similar results were suggested by Kewal (2012). He reported that the rupiah exchange rate harmed stock prices. The relationship between the rupiah exchange rate and the stock price was the opposite, meaning that the stronger the rupiah exchange rate against US $ (the Rupiah appreciated) would increase the stock price and vice versa.

The long-run interest rate coefficient is 0.049 > 0.05. Meanwhile, in the short term, the coefficient obtained is 0.004 > 0.05. So it can be concluded that interest rates do not affect the IHSG in Indonesia, either long or short.

Keynesian views a negative relationship between the interest rate and investment. If the interest rate is high, the investment amount will decrease, and vice versa. If the interest rate is low, the investment will increase. It means that companies will use lower interest rates than banks to expand a business, and become positive information for investors to trade stocks in the capital market. In theory, by increasing the interest rate, it is expected that the differential interest rate will increase so that assets in Rupiah become more attractive to investors.

In turn, it will lead to a change in the composition of assets from dollars to rupiah assets, which in turn causes the rupiah price to increase or appreciate. The conventional analysis says that a relatively high-interest rate will make speculation more expensive in the short term because it will increase the opportunity cost of investors, which will affect their investment decisions. Meanwhile, in the long term, high-interest rates will reduce the absorption rate and increase the position of the balance of transactions to strengthen the exchange rate. Therefore, the use of an interest rate increase instrument is the best solution to stabilize the exchange rate. This result is in line with previous research (Novitasari, 2013), shows that interest rates do not affect stock prices. World Oil Prices have a positive and insignificant effect on the IHSG in Indonesia.

The long-run coefficient of world oil price is 0.221 and the short term 0.019. Both of them have a significance level of > 0.05, so it can be said that world oil prices do not influence the IHSG in Indonesia. The unaffected world oil price in the composite stock price index is because not all sectors use oil as the main ingredient in their operations. For mining sector companies on the IDX, the increase in world oil prices can benefit because the company's net profit will increase. It will attract investors to buy shares in mining companies so that the IHSG will increase. This result is in line with previous research (Yulianti & Yusra, 2019), which indicates that world oil prices do not affect stock prices.

The adjustment coefficient of 1-0.913 = 0.087 means that the difference in Indonesian IHSG is expected to adjust by 8.7 percent with the reality in 1 month. The inflation variable has a regression coefficient of -0.16 <0.05. So it can be said that inflation has a

negative and significant effect on the IHSG in Indonesia. Furthermore, the exchange rate has a regression coefficient of -0.299 <0.05. So it can be said that the exchange rate has a negative and significant effect on the IHSG in Indonesia. It is not in line with the second hypothesis in the study. The interest rate variable has a regression coefficient of 0.004> 0.05. In other words, interest rates do not affect the IHSG in Indonesia. These results are under the research hypothesis.

Conclusion

Inflation in this study has a negative and significant effect on the Composite Stock Price Index in Indonesia for the period January 2015-December 2019, meaning that if there is an increase in inflation, it will cause a decrease in JCI in Indonesia both in the long and short term. The impact of inflation on the IHSG was negative because the increase in inflation was a negative signal for investors to invest in the capital market and tended to release stocks to switch to other forms of investment such as savings or deposits due to the perceived higher risk. Thus, a shift in investment to another form will cause investors to sell shares, thereby lowering the share price and the IHSG.

The exchange rate in this study has a negative and significant effect on the Composite Stock Price Index in Indonesia for the period January 2015-December 2019, meaning that if there is an increase in the exchange rate, it will cause a decrease in the IHSG in Indonesia both in the long and short term. When the exchange rate is stable, it will affect foreign investors to enter a country. The connection with the financing of business activities, especially for export and import-oriented companies in Indonesia, will be significantly affected by changes in the rupiah exchange rate. Besides, domestic companies' international business activities will be directly affected by changes in the exchange rate. It is because changes in exchange rates, through changes in costs and revenues, will have a direct impact on company profits. Finally, impact on the company's stock price.

In this study, interest rates have a positive and insignificant effect on the Composite Stock Price Index in Indonesia for January 2015-December 2019. So if there are an increase and decrease in interest rates, it will not cause a decrease the IHSG in Indonesia either in the long or short term. Interest rates do not affect the IHSG because investors are only motivated to buy shares of companies that have good performance to provide benefits for investors and have good business prospects. As long as there is no macroeconomic condition that causes a spike in interest rates, investors will remain more motivated to invest in stocks.

In this study, world oil prices have a positive and insignificant effect on the Composite Stock Price Index in Indonesia for January 2015-December 2019. So if there are an increase and decrease in world oil prices, it will not cause a decrease in the IHSG in Indonesia either in the long term or short-term. It happened because world oil prices and the IHSG are directly proportional. If world oil prices rise, the IHSG will increase. Likewise, if the world oil price falls, the IHSG will decline. The unaffected world oil price

in the composite stock price index is because not all sectors use oil as the main ingredient in their operations.

Policy Suggestions and Recommendations

The author's suggestion for investors is that overall macroeconomic variables such as interest rates, inflation, and exchange rates can be used as indicators in conducting fundamental analysis to predict stock price index movements. As an alternative financing institution, the government must encourage the capital market by incentivizing businesses to become issuers in the capital market. Furthermore, it is necessary to conduct monthly monitoring of the existing inflation developments briefly and sharply and to provide recommendations on the necessary policies. In the business world, government behavior is fundamental in investment decisions. As the state authority body, the researcher suggests that the government simplify the bureaucracy to increase investment and economic growth in Indonesia.

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