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Analysis of the Effect of Inflation, Exchange Rates, BI Rate and World Oil Prices on Jakarta Composite Index on the Idx Period January 2018 – December 2021**Ery Lufy Andriyani^{1*}, Eni Setyawati²**¹Universitas Muhammadiyah Surakarta

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***Email:** b300190038@student.ums.ac.id**ABSTRACT**

This study aims to examine the effect of inflation, exchange rates, BI Rate and oil prices on the composite stock price index. The study used a multiple regression analysis method with an Ordinary Least Square (OLS) approach for the period January 2018 - December 2021. The study used Eviews10 by testing classical assumptions, partial tests (T test), simultaneous tests (F test) and R² determination tests. The results showed that the inflation variable did not have a significant effect on the JCI. The exchange rate variable has a significant negative effect on the JCI. On the other hand, the BI Rate and world oil price variables have a significant positive effect on the JCI.

Keywords: Inflation, Composite Index, Exchange Rates

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INTRODUCTION

Investment is a willingness to allocate a number of assets in the present to get benefits or profits in the future Bodie et al., (2014). The capital market is one of the alternatives for long-term investment such as mutual funds, stocks, bonds and other instruments, to invest in the capital market, it is necessary to index the stock price to see the movement of indicators for each security Hartono, (2015). In addition to obtaining results, investing in the capital market also contains risks, the magnitude of the risk is influenced by the condition of a country, usually influenced by political, economic and social conditions. Economic conditions that affect the price of a stock index are macroeconomic conditions reflected in monetary economics, namely inflation, exchange rates, and interest rates. JCI provides historical information about stock price movements up to a certain time, usually the stock price is presented within the closing time of the day Annuridya et al., (2017). Inflation is one of the factors to find out the indicators of the rise and fall of a stock price index. According to Mankiw, inflation is the tendency of prices and services to increase continuously. When inflation occurs, investors tend to hold back their investments and switch to non-risk investments such as savings and deposits Febrina et al., (2018).

One of the indicators in the stock price index is the rate or value. The relative worth of one currency to another is determined by the exchange rate. The stock price and the exchange rate are directly related. The economic state of a nation can be determined by looking at overseas stock prices Febrina et al., (2018).

The price of crude oil is the same as currency so it is one of the economic indicators. The rise and fall of the price of raw noodles can affect a country's capital market, because its volatility always follows the country's economic and political events Basit, (2019). The increase in stock prices can also be influenced by the increase in oil prices, because rising oil prices can trigger stock price indices on the Indonesian stock exchange Sartika, (2017). Research Hidayah et al., (2022) show that fluctuating oil prices will affect the economy and capital markets so that they will have an impact on the company's profitability. This provides stimulation to be able to attract investors to invest in stocks.

According to the rationale given above, researchers are curious to learn whether macro variables are still important for understanding the current movement of the composite stock price index. The study was studied with the title "Analysis of The Effect of Inflation, Exchange Rates, Birate and World Crude Oil Prices on The Composite Stock Price Index on The Indonesia Stock Exchange For The Period January 2018 – December 2021".

Definition of the Jakarta Composite Index

One of the stock market indexes utilized by the Indonesian stock exchange is the Jakarta Composite Index (JCI). JCI is a combination of the value of the company's shares listed on the Indonesian stock exchange whose movements indicate capital market conditions. On April 1, 1983 JCI was first introduced as an indicator of stock movement in the IDX Prasetyanto, (2017). According to Samsul, the composite stock price index is calculated the same as the composite stock index only the number of issuers differs. The calculation of the composite stock index is carried out daily or every second according to the trading time (Basit, 2019).

Definition of Inflation for the Composite Stock Price Index

Sukirno claims that inflation is characterized by an increase in the cost of basic products that permeates the economy Astuti et al., (2016). Price rises that affect or widen the price growth of other goods are referred to as inflation. Istingnah and Hartiyah (2021). A higher inflation rate may result in a further decline in the value level of the composite stock

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price index, which will lower the company's profitability. as well as Asandimitra (2018). The Consumer Price Index (CPI) is a gauge used to assess inflation levels.

Definition of the Exchange Rate on the Composite Stock Price Index

Exchange rate can be interpreted as a means of payment between domestic economic transactions and the international economy. The increase in foreign exchange prices is referred to as the depreciation of the domestic currency. The relative value of domestic currencies may decline if foreign exchange becomes more expensive. The falling value of foreign currencies is called appreciation, this happens because the value of domestic currencies is relatively low due to the low value of domestic currencies (Dewi, 2020).

Definition of the BI rate against the Composite Stock Price Index

The BI rate is an interest rate that is determined by Bank Indonesia and is used as a benchmark for monetary policy, according to Bank Indonesia. While investing in deposits has less risk than investing in stocks, rising interest rates might affect how investors allocate their cash for investment. So that investors will withdraw their stock investment funds and have them allocated to stock investments Astuti et al., (2016). The BI rate can be influenced by the preferences of economic actors and changes in the purchasing power of money. Because interest rates may change from time to time Soebagiyo & Prasetyowati,(2017).

Definition of World Oil Price to Composite Stock Price Index

One of the commodities traded in international trade is Oil. Crude oil is needed in all countries as an energy source to meet daily needs. Fluctuations in oil prices can be used as a reference to see a country's economic growth (Miyanti & Wiagustini, 2018). The oil price that is used as a reference as a global oil price is West Texas Intermediate (WTI) or Light Sweet.

METHOD

This study looked at how many factors, including the world oil price, inflation, exchange rate, and BI rate, affected the composite stock price index on the Indonesia Stock Exchange. This study employed secondary data in the form of a time series that covered the months of January 2018 through December 2021. with independent variables like inflation, the exchange rate, the business interest rate, and the price of oil in the world and dependent variables like the Composite Stock Price Index. The Indonesia Stock Exchange, Bank Indonesia, BPS, and www.investing.com were used to compile statistics on global oil prices. The Ordinary Least Square (OLS) method was employed in this study's multiple regression analysis. The stages of estimation consist of conventional assumption testing, partial testing (T-tests), and simultaneous tests (F-tests).

The equation form of the multiple linear regression model is as follows:

$$IHSG_t = \beta_0 + \beta_1 INF_t + \beta_2 Kurs_t + \beta_3 BIRATE_t + \beta_4 HMD_t + \varepsilon_t$$

Information:

IHSG	: Composite Stock Price Index
INF	: Inflation
BIRATE	: BI rate
HMD	: World Oil Prices
β_0	: Constant
$\beta_1 \dots \beta_4$: Independent variable regression coefficient
ε	: Error term
t	: T-th year

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RESULT AND DISCUSSION

Table 1. Econometric Model Estimation Results

$IHSG_t = 12,018 - 0,040INF_t - 0,000Kurs_t + 0,157BIrate_t + 0,000HDM_t$
$(0,000)^* \quad (0,050)^{***} \quad (0,000)^*$
$R^2 = 0,705; DW-Stat. = 0,864; F-Stat. = 25,784; Prob.F-Stat. = 0,000$

Diagnostic Test

1. Multicollinearity (VIF)
INF = 2,627; KURS = 1,188; BIrate = 2.566; HDM = 1,134
2. Residual Normality (*Jarque-Bera*)
JB (2) = 15,259; Prob.JB (2) = 0,000
3. Autocorrelation (*Breush-Godfrey*)
 χ^2 (3) = 16,064; Prob. χ^2 (2) = 0,000
4. Heteroscedasticity
 χ^2 (14) = 13,090; Prob. χ^2 (14) = 0,519
5. Linearity (Ramsey Reset)
F(2,14) = 7,099; Prob.F(2,14) = 0,002

Source: processed eviews data.

Description: *Significant at $\alpha = 0.01$; **Significant at $\alpha = 0.05$; Significant at $\alpha = 0.10$. The number in parentheses is a t-statistical empirical probability.

Diagnostic tests show that the estimated model has problems with residual normality tests, autocorrelation tests and linearity tests. All VIF values < 1 , so the estimated model is free of multicollinearity problems. The statistical empirical probability values of the residual normality test, autocorrelation and linearity test, which are 0.000 (< 0.01), 0.000 (< 0.01), 0.002 (< 0.01) indicate that the residual estimated model is abnormal, there is an autocorrelation problem in the model, there is a linearity problem. The empirical probability value of the heteroskedasity test is 0.519 (> 0.10), so it can It is concluded that there is no heterochedasity.

R2 determination test is measured by the value of R2, the value in this study is 0.7057 which means that variations in changes in the ups and downs of the composite stock price index variable can be influenced by inflation, exchange rates, BI rates, and world oil prices by 70.57 percent, while the remaining 29.43 percent is influenced by other variables outside this study.

In the test of the existence of the model (test F) the null hypothesis (H0) says that together all independent variables have no effect on the JCI while the alternative hypothesis (Ha) says that together all independent variables affect the JCI. Based on the test of the existence of the model, it can be seen that the results of the F test show a statistical F-value of $0.0000 < \alpha$ (0.10) so that H0 is rejected. So it can be concluded that together all independent variables affect the JCI with a confidence level of 0.705755 or 70.57 percent. For the determination test R measured by Adjusted R-Square, the value of Adjusted R-Square in this study is 0.678384 which means that variations in changes in the rise and fall of the composite stock price index can be influenced by inflation, exchange rates, BI rates and world oil prices by 67.83 percent, while the remaining 32.62 percent is influenced by other variables outside this study.

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DISCUSSION**The Effect of Inflation on the Composite Stock Price Index**

The Ordinary Least Square (OLS) estimation method shows that the inflation variable is -0.040649 with a t-statistical probability of $0.6693 > 0.05$, meaning that the inflation variable has no effect on the JCI. This research is in line with (Anggriana & Paramita, 2020) and (Nurhasanah et al., 2021) which states that inflation has no significant effect on IHGS. Research by Zabidi & Asandimitra, (2018) states that partial inflation has no effect on the JCI. This is due to the low inflation rate and small presentation so that producers do not increase the selling price of goods. The existence of fixed production costs causes profits to fall and affects the dividends paid. Milton emphasized that inflation reflects monetary growth that tends to be excessive and unstable.

The Effect of Exchange Rate on Composite Stock Price Index

Exchange rate variable with a probability value of $0.0000 < \alpha (0.10)$. So it can be concluded that the exchange rate variable has a significant negative effect on the JCI. The exchange rate variable with a coefficient value of -0.000553 can be interpreted as every strengthening of the 1Rp/USD exchange rate, it will increase the JCI by -0.000553 percent. This research is supported by (Octavia, 2022) and Artha, (2021). The strengthening of the rupiah exchange rate against the US dollar affected JCI and had a positive impact on the company's profit due to the lower production costs and raw material costs of Larasati, (2017). The exchange rate decreased due to the new normal after the pandemic so foreign capital began to enter Indonesia and affect the movement of the composite stock price index.

The Effect of Birate on The Composite Stock Price Index

The variable probability of BI rate is $0.0503 < \alpha (0.10)$. So it can be concluded that the BI rate variable has a significant positive effect on the composite stock price index. Variable BI rate with a coefficient value of 0.157277 which means that every 1% increase in the BI rate will increase the JCI by 0.157277 percent. This research is in line with Wismantara & Darmayanti, (2017) which state that interest rates have a positive effect on JCI. Moorcy et al., (2021) stated that interest rates have a positive effect on the composite stock price index, which means that the composite stock price index also rises when the interest rate value is high and vice versa the composite stock price index will fall when the interest rate value falls.

The Effect of World Oil Prices on the Composite Stock Price Index

The variable probability of world oil prices is $0.0000 < \alpha (0.10)$. So it can be concluded that the variable world oil price has a significant positive effect on the JCI. The world oil price variable has a coefficient value of 0.0000151 which means that every 1Rp/barrel increase in oil prices will increase the JCI by 0.000151 percent. This research is in line with Handiani, (2014) and Beureukat & Andriani, (2021) who stated that world oil prices have a positive effect on JCI. Research by Nurhasanah et al., (2021) said that oil has a small but positive impact on the composite stock price index so that the negative impact of oil prices is ignored. The positive and significant influence of oil prices is influenced by an increase in oil prices which will trigger an increase in mining prices in general.

IMPLICATIONS

The implications of this study are that the composite stock price index is influenced by the exchange rate, the BI rate and the world oil price. Investors who want to invest always pay attention to the world oil price, exchange rate and BI rate as a reference in making investment decisions in companies listed on the IDX or other types of investments to be

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chosen. With inflation conditions that do not affect the stock price index, it is hoped that investors will not be in a hurry in making decisions, so that the risks experienced are not too great. For companies, it is expected to always pay attention to the company's performance in order to increase the stock market ratio, so that investors have the confidence to trade stocks and increase the composite stock price index.

CONCLUSION

The composite stock price index does not respond to the inflation variable, according to the findings of this study utilizing Ordinary Least Square (OLS). The variable affecting exchange rates has a very negative impact on the composite stock price index. The composite stock price index is strongly and favorably impacted by the BI rate. The composite stock price index is significantly and positively impacted by global oil prices. The next research is anticipated to employ additional analytical approaches by adding components of other variables or using other variables and lengthening the research time sequence, in accordance with the findings of the research that has already been conducted.

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