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Macroeconomic Factors on Stock Return at IDX Value 30

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ABSTRACT

Keywords: Oil Price; Foreign Exchange Rate; Consumer Price Index; Gross Domestic Product; Foreign Direct Investment.

This study examined factors including oil prices, foreign exchange rates, consumer price index, gross domestic product, and foreign direct investment on stock return. This study used secondary data as a basis for research by obtaining information for 30 companies registered at IDX Value 30. This research uses panel regression to show the effect of each independent variable on stock return. According to the result, IDX Value 30 stock return is significantly positively impacted by gross domestic product, consumer price index, and foreign direct investment. Meanwhile, foreign exchange rates and oil prices negatively affect the stock return.

Introduction

Global economic development has experienced nominal growth in recent years due to the Covid-19 pandemic. It is a challenge for the world, especially in Indonesia, to find solutions to increase economic growth in the future. Additional capital for a company can play an important role in increasing economic value. It can be done by investing in available products such as stocks, mutual funds, deposits, property, peer-to-peer lending, etc. Investment is investing capital or money in a company, hoping to get profits for investors. Investors must analyse the company's financial statements to make the right investment. The aim is to discover company performance developments and financial information over a certain period. According to (Ngure, Kariuki, & Mburugu, 2022), one way of offering a form of company ownership and providing a rate of return for investors is the notion of stock return.

(Alexander et al., 2019) explained that stock returns tend to have a higher risk than other types of investment, such as mutual funds, deposits, or bonds because they apply the principle of "high risk, high return." The understanding of this principle is that when investors choose stocks with high-risk potential, the income generated will also be higher. The risk in question is that the return received by investors is still being determined. The form of dividends from investment returns on stock returns is through a reduction between the sale of share value and the purchase of share value, or what is known as a capital gain.

According to (Yunita & Rahyuda, 2019), there are two types of returns: realised and expected. Realised return is a type of return that can be predicted from previous

historical data. At the same time, the expected return is the type of return investors expect. Research (Yunita & Rahyuda, 2019) explained that the rate of return for large companies tends to be higher than that of small companies due to their ability to carry out their company's operating performance. The value of this stock return can be seen through the total sales and assets. Data from IDX Value 30 fluctuated from 2019 to 2021. The stock return rate at IDX Value 30 can be observed in Figure 1 below:

At the stock return level, it was explained that in 2019, it was at 143.33; until 2020, it experienced a decline to a price of 138.75. Due to the COVID-19 pandemic, many investors reduced their interest in IDX Value 30. In 2021, the value of stock returns started to increase constantly due to the stable movement of the economy after the pandemic lasted one year. IDX Value 30, or Indonesia Stock Exchange Value 30, records 30 companies in Indonesia with good company performance and low price valuation values. According to Siswanto et al. (2022), the notion of price valuation is a calculation of the stock price offered by a company with an appropriate price range.

The amount of demand to the available supply influences oil prices. One of them is the COVID-19 pandemic, which caused the value of oil prices to decrease by 20% in Indonesia in 2020. This factor certainly will impact the stock return of companies engaged in the oil sector. The form of the foreign exchange rate is one of the significant forms in the economic sector because if a company transaction uses the foreign exchange rate as income, then there is a price difference that can be the result of the company's income (Asiamah, Ofori, & Afful, 2019).

If the value of the foreign exchange rate increases, it will cause the form of trading on the stock exchange to decrease, which can affect the form of stock returns from a company. The result shows that in 2020, there was a decrease in the foreign exchange rate of 2.66% in the IDR exchange rate against the USD. Foreign direct investment is a form of new development or shaping knowledge through cooperation between local companies. These would increase the value of revenues between the two companies due to innovations aimed at the community in the form of services, goods, and so on. The entry of FDI can increase a person's income, which is also one of the target consumers, so it can then affect the results of the CPI value due to the ability of consumers to consume and competitive prices. GDP price competition can determine the welfare's country by

comparing the prices of services and goods offered. The assessment of GDP is usually described through consumption, exports, government purchases, and investment. Some of these components can measure a country's economic development so that these developments will then affect stock returns.

Meanwhile, price valuations are carried out to reduce the occurrence of risks that arise and provide direction to investors to make investment decisions in the form of shares. Research (Koijen, Koulischer, Nguyen, & Yogo, 2021) explain price valuation as an important factor in determining overvalued, undervalued, or fairly valued stocks. Several factors can affect the value of stock returns, including oil prices, foreign direct investment (FDI), foreign exchange rates (FER), customer price index (CPI), and gross domestic product (GDP).

Oil is a natural resource that is very important for everyday life, from the transportation of two-wheeled vehicles to four-wheeled vehicles (Çamoğlu, 2021). Apart from that, oil is one of the important objects that aims to be a heater for a country with four seasons. Two factors affect oil prices. The factors are fundamental factors and non-fundamental factors. Fundamental factors that influence this factor are the availability of stock, supplier policies, the form availability of oil refineries, and demand requirements (Ashoka & Keihani, 2021). In comparison, non-fundamental factors are influenced by political influence and value on the international oil price market. Several countries might give higher oil prices because of the limitation of remaining oil while affecting the future stock return. Nyangarika et al. (2019) state that oil prices are one of the important forms of influencing economics and politics, which can influence oil company share prices, inflation rates, and economic development. The effect of oil prices provides a significant influence because it is an important resource in accommodating economic value, which can influence company profitability and ultimately impact stock return performance. Similar to Sohag et al. (2022) explain that if oil prices increase, a product's production price will increase and negatively impact stock returns. Research by (Caporale, Çatık, Kısla, Helmi, & Akdeniz, 2022) shows that oil prices have a greater influence on developed countries than developing countries and changes in oil prices provide fluctuations in stock returns. The effect of oil prices will differ for oil-importing and oil-exporting countries with different values (Farhan, Atiq, & Zaidi, 2021).

H1: Oil prices have a significant positive effect on stock returns at the IDX value of 30.

Research Methods

This study data used a stock return company registered on IDX Value 30 as the research object. This type of data uses secondary data collected to analyse this research. Secondary data was collected from January 2019 to December 2021. The form data analysis method uses panel regression analysis, accepted with a cross-section and time series system in the form of dependent and independent variables using the Stata-MP program version 17.0. This type of research to support this data uses the hypothesis test, Hausman Test, Chow Test, t-test, F-test, and Goodness of Fit Model Test as the support for hypothesis testing.

Results and Discussion

This study used secondary data or descriptive research, which obtained information from 30 companies listed on the IDX Value 30 from January 2019 to December 2021. The following is the amount of data examined on the IDX Value 30 stock index:

Table 1
Sample Selection Results

Data	Total
Companies Listed on IDX Value 30 from Jan 2019 - Des 2021	30 companies
Total Sample from Jan 2019 - Des 2021	1080 Data
Total Outlier Data	30 companies

Table 2
Statistics Descriptive

Data	N	Min	Max	Mean	Std. Dev.
Stock Return	1080	-0.565	0.75	0.0155231	0.1410185
Oil Price	1080	2801	8202	5899.556	1339.954
Foreign Direct Investment	1080	45600	116400	95908.33	19351.55
Foreign Exchange Rate	1080	14.061	16011	13940.42	2395.164
Gross Domestic Product	1080	2589	2845	2732	74.05456
Consumer Price Index	1080	104330	139070	116352.5	15067.69

Table 2 above explains that the highest value of stock return is 0.75, and the lowest value is -0.565. As for the average value of 0.0155231, it explains that the stock return value for the company is still low. It explains that the value of the company's shares did not experience a significant increase in a certain period. The results of the analysis on the oil price showed that the highest value was 8202 and the lowest value was 2801. The average value for the oil price was 5899.556. It illustrates that the increased value of oil prices can be caused by various factors such as consumer needs, politics, delays in oil supplies, and others. The form of foreign direct investment has the highest value of 116400 and 45600, the lowest value in the FDI variable. Based on the average generated from FDI of 95908.33. Explains that the development of foreign direct investment growth in Indonesia provides many benefits, such as implementing new technological fields and increasing the productivity of human resources.

The side effect of high FDI is a concern because it can hurt the country, such as losing control over economic growth. The test results on the foreign exchange rate form the highest value of 16011 and the lowest value of 14.061. The average yield of FER is 1390.42. It explains that the value of the foreign exchange rate can be influenced by factors such as good economic growth, adequate natural resources, and increasing domestic consumer demand. The gross domestic product in the test results has the highest value of 2845 in 2021. In contrast, the lowest value was 2589 in 2020. The intermediate

GDP value in this study is 2732. A low GDP value indicates low production and consumer purchasing power or can indicate a high unemployment rate in the country. The result of the consumer price index has the highest value of 139070 in 2019. At the same time, the lowest value was the CPI of 104330 in 2020. The result of the average CPI is 116352.5. The form of consumer price index research explains that the CPI value is used to measure a country's inflation value. When inflation results in a country are high, the prices of services and goods increase.

The fixed effect model (FEM), common effect model (CEM), and random effect model (REM) were the three-panel regression analysis research model used in this study. To test the results of the basic assumptions of research carried out with the shows below:

Chow Test

This Chow test is used in this study to choose the most appropriate panel regression model from CEM and FEM using Cross-section Fixed. The results explain that the model used is CEM if the probability value is more than 0.05. Conversely, the FEM model is employed if the probability value is less than 0.05. The Chow test results from the research are as follows:

Table 3
Chow Test Result

Effect Test	Prob > F
Cross-section Fixed	0.7440

Hausman Test

The research model used by the Hausman test is REM and FEM with a random cross-section test. If the probability value is more than 0.05, then the model used is REM. If the value of probability is less than 0.05, then use the FEM research model. The outcomes of the Hausman test are as follows:

Table 4
Hausman Test Result

Effect Test	Prob > Chi2
Cross-section Random	0.5192

The Hausman test results in the table above show a probability above 0.05. This means that the model used is REM. Then, proceed with LM (Lagrangian Multiplier) research.

Lagrangian Multipler Test

Research on the Lagrangian Multiplier test explains the use of the model between REM and CEM. It is explained that the probability results are more than 0.05, so the

model test used is the CEM. Furthermore, the probability results are less than 0.05, so REM's research model is used. The results of the LM test are as follows:

Table 5
Lagrangian Multiplier Test Result

Effect Test	Prob > Chi2
Breusch-Pagan	1.000

The results from above show that the test table 4.5 shows that the test model used in this study uses CEM.

Hypothesis Testing

F-Test Result

This test was conducted to determine the dependent variable's effect on the independent variable. The following are the results of the F test:

Table 6
F Test Result

Dependent Variable	Sig.	Result
Stock Return	0.0000	Significance

According to the test results, table 4.6 shows the value of the probability of the dependent variable stock return is 0.000. The value obtained is <0.05. It explains that stock returns affect the independent variables oil price, foreign direct investment, consumer price index, gross domestic product, and foreign exchange rate have a significant influence.

T-test Result

A T-test was conducted to ascertain the impact of each independent variable. The results are attached in the following table:

Table 7
T-Test Result

Variable	Coefficient	t-Statistic	Prob.	Result	Hypothesis
C	-0.3211189	-1.53	0.127		
OP	-0.0000291	-6.02	0.000	Negative	Rejected
FDI	3.97e-07	2.03	0.043	Positive	Accepted
FER	-0.0000104	-5.88	0.000	Negative	Rejected
GDP	0.0001998	2.58	0.010	Positive	Accepted
CPI	8.53e-07	2.67	0.008	Positive	Accepted

According to the t-test results in the table above, it can be concluded that the independent variable significantly affects the dependent variable if the probability value is less than 0.05.

Goodness of Fit Model Result

A goodness of fit model test was used to ascertain abilities examined from independent to dependent variables. The table below shows the results of the Goodness of Fit Model Test.

Table 8
Goodness of Fit Model Result

Dependent Variable	R Square	Adjusted R Square
Stock Return	0.0876	0.0833

The table above explains the value of capability, which is influenced by independent variables, namely oil prices, foreign direct investment, consumer price index, gross domestic product, and foreign exchange rates. It showed the adjusted R square of 0.0833 or 8.33% of the independent and dependent variables. In comparison, the remaining 91.67% comes from other variables not included in this study. The outcomes of the regression model equation are as follows:

Y = -0,3211189C + -0,0000291X1 + 3,97e-07X2 + -0,0000104X3 + 0,0001998X4 + 8,53e-07X5 + e

Explanations:
C = Constanta
Y = Stock Return
X1 = Oil Price
X2= Foreign Direct Investment
X3= Foreign Exchange Rate
X4= Gross Domestic Product
X5= Consumer Price Index
E = Standard Error

The hypothesis test shows a significant effect on stock returns based on the result of oil prices. According to and Koçoğlu, 2022), the lack of oil supply and investment value can affect oil prices. The research results are supported by research (Çamoğlu, 2021). However, contrary to the research by (Kaur & SINGLA, 2021), (Caporale et al., 2022), and Alavi et al. (2021).
H1: Oil prices have a positive significant effect on stock returns at the IDX value of 30.

In this study, the impact of foreign direct investment is positively significant for stock returns. FDI companies in Indonesia positively influence the company's economic income and the country (Kalam, 2020) with the increasing value of FDI creating jobs, investing in new technology, developing the country's infrastructure, and so on (Contractor, Dangol, Nuruzzaman, & Raghunath, 2020). The existence of foreign direct investment brings opportunities to provide new market forms that have a positive impact on local companies (Usman & Siddiqui, 2019). The are some contrasts between Kaur and Singla (2021) and (Asiamah et al., 2019) studies.
H2: Foreign direct investment positively affects stock returns at the IDX value of 30.

The results of the foreign exchange rate get a significant correlation between stock returns. Singhal et al. (2019) concluded that a weakened FER value could be caused by

the instability of a country's economic and political factors, thus making investors avoid investing. This research is in contrast to (Farhan et al., 2021) (Natarajan, ABRAR UL HAQ, AKRAM, & SANKAR, 2021) and Camoglu (2021).

H3: Foreign exchange rates positively affect stock returns at the IDX value of 30.

In this study, the GDP significantly affects stock returns (Aryawan, 2022). It explains how GDP can increase economic welfare by reducing unemployment, increasing standard living costs, and increasing production output from companies (Aryawan, 2022). However, this research must be more consistent with (Ashraf, 2020).

H4: Gross domestic product positively affects stock returns at the IDX value of 30.

The results of the CPI data show a positive significance for stock returns. A country's economic growth can be measured through CPI, which is also influenced by inflation (Hendayana & Riyanti, 2019). This explains the increase in the CPI value because it can describe the purchasing power of people's abilities, especially when influenced by inflation, where the prices of services and goods increase. This study shows that the higher the CPI value, the probability value for companies that run production has a positive impact (Bolhuis, Cramer, & Summers, 2022). These results are followed by the research of (Athari, Kirikkaleli, and Adebayo, 2023) (Othman & Al-Kassab, 2022). However, contrary to the research (Hadi & Ahmad, 2021).

H5: The consumer price index positively affects stock returns at the IDX value of 30.

Conclusion

This research seeks to ascertain the effect of stock returns on oil prices, gross domestic product, foreign direct investment, consumer price index, and foreign exchange rates through companies listed on IDX Value 30 from 2019 to 2021. The results explain that the influence of foreign direct investment has a positive effect on stock returns by adding capital, thereby increasing the company's financial performance, which is a factor in increasing stock value.

Gross domestic product also has a positive impact on stock return. Thus, the increase in the value of gross domestic product shows the company's ability to produce a large amount of goods. This means the company can also sell to the consumer at a certain time and gain the company's revenue. It means the company has also increased its income by then affecting its own company's stock. It also relates to government spending, exporting, and importing. CPI also has a significant positive effect on stock returns, showing the economy's growth and consumers' ability to purchase a product from the company. In this study, other variables, such as oil prices and foreign exchange rates, showed the opposite effect on the stock return. When the oil price increases, it will add to the company's income so that many investors will invest in companies expecting capital gains. This study shows that oil price increases will increase the company's revenue. Still, it does not make a big impact on the stock return as well as the foreign exchange rate for those companies that received income through foreign currency will be affected by the currency exchange rate but did not give any big impact.

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