

# The Analysis of Exchange Rate Factors and Interest Rate on Stock Price of Pharmaceutical Companies in Indonesia

## (Cases During Covid-19 Pandemic)

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### ABSTRACT

This study aims to determine the effect of Indonesia's exchange rate and the interest rate on the stock prices of pharmaceutical companies in Indonesia. This research used secondary data from pharmaceutical companies listed on the Stock Exchange in the period July 2019 to May 2020. The population and samples of this study were state-owned pharmaceutical companies listed on the Indonesia Stock Exchange. The research period was 12 months, from July 1<sup>st</sup>, 2019, until May 31<sup>st</sup>, 2020. Data collection of this study considered the world economic conditions and Indonesia, which was weakening because of the Covid-19 disaster, and based on the phenomenon, the pharmaceutical business would reap profits amid the Covid-19 pandemic disaster. This research used a multiple linear regression analysis methods assisted by Eviews 9. The results showed that interest rates and exchange rates affected the stock prices of pharmaceutical companies in Indonesia. This study's recommendations can assist investors in investing during the Covid-19 pandemic and for next research can prolong the period of data collection and add other pharmaceutical companies outside State-owned companies and other macroeconomic factors such as inflation rates and gross domestic product.

**Keywords:** Exchange Rate, Interest Rate, Stock Price.

## 1. INTRODUCTION

The Covid-19 pandemic disaster has engulfed the countries of the world. Nearly 6.2 million positive people are infected, which spread in 213 countries globally, including Indonesia. The President of Indonesia announced the first patients in Indonesia on March 2<sup>nd</sup>, 2020. Until July 1<sup>st</sup>, 2020, there were 26,940 positive people, 7,637 people recovered, and 1,641 people died. This pandemic affects not only the health of the world's population but also all fields, including the economy. The world economy has declined and is expected to plummet compared to previous years. In 2020, people estimated that the world economy would experience minus growth because of the Covid-19 pandemic. The outbreak of this pandemic affects stock market trading in Indonesia.

Changes in macroeconomic variables affect the capital market both directly and indirectly. A country's macro economy affects the day-to-day operations of companies. Investors must have the ability to understand and predict future macroeconomic conditions as a basis for making investment decisions that benefit the company. In achieving this goal, investors must pay attention to information on the fundamentals of the company's financial performance, macroeconomics, and information on other events that directly and indirectly affect share prices, such as political events in the presidential election of a country, the economic crisis in a country, and disease outbreaks. The stock market price that occurs reflects all available information [1].

Stocks are an attractive capital market instrument for investors because they can profit from investing shares. Reference [2] defined stock prices to determine

shareholder wealth. Stock prices are prices that occur in the stock market at certain times, determined by market participants and by the demand and supply of the relevant shares in the capital market [3].

The stock price is one success indicator of a company's performance. The company's goal is to provide prosperity for its shareholders. With a high stock price, investors will benefit in the form of capital gains, and the company will provide benefits, the company's positive image for the investors. With a positive value and image, the company can quickly get funds from investors to develop the business and increase its value. There was a mutual relationship between interest rates, exchange rates, and stock prices in this study.

Effective on August 19th, 2016, Bank Indonesia has adopted a new policy, BI 7 Day (Reverse) Repo Rate, a policy of strengthening the monetary framework that can quickly affect the money market, banking, and the real sector. States that the fundamental factors that affect stock prices in developed countries are interest rates and investors [4].

The exchange rate is the price of a currency in another country's currency, for example, the rupiah after being converted in US dollars [5]. The exchange rate also has broad implications, both in the domestic and international economies, given that almost all countries in the world carry out international transactions. One of the most dominant and well-known foreign currencies in the international world is the dollar. The exchange rate movement becomes a serious concern by the Government and Bank Indonesia as the monetary authority to monitor and control it regarding factors affecting the rupiah's exchange rate. This control aims at the stability of the exchange rate. The exchange rate has a positive relationship with interest rates because if the exchange rate appreciates the dollar, interest rates rise and encourage people to save.

The exchange rate is the rupiah's price against foreign currencies and one of the economy's most actual prices. The action taken by investors and market participants in the sale of assets, stocks, bonds, and gold has weakened the exchange rate. Indonesia government attempted to save the Indonesian economy, including reducing Bank Indonesia's interest rates. The weakened exchange rate and the government's efforts to reduce interest rates are expected to affect the stock prices of companies listed on the Indonesia Stock Exchange. Pharmaceutical companies listed on the Indonesia Stock Exchange are industrial companies that use intellectual capital and always innovate by conducting research, product development through technology and human resources. Pharmaceutical companies in the third quarter of 2019 grew 9.47% and played a significant role in economic growth in Indonesia because of the enormous population and low health levels. On a note informed by the Ministry of Industry in the fourth quarter of 2019, the

chemical, pharmaceutical, and traditional medicine industries grew to 18.57% and contributed to the Gross Domestic Product of 22.26 trillion rupiahs and increased in export value which reached up to US \$597.7. So, the pharmaceutical industry is one sector that has performed well and significant contribution to the Indonesian economy. This is one consideration for investors to make investments to get profits by buying shares in pharmaceutical companies in the capital market.

The weakening of the rupiah exchange rate of state-owned pharmaceutical company stock prices in PT Kimia Farma and PT Indofarma, added by the fluctuations in interest rates and driven by the phenomenon that pharmaceutical companies are one industry that will benefit during the Covid-19 pandemic, the researchers encouraged to conduct a study entitled analysis of factors of interest rates and exchange rates on the stock prices of state-owned pharmaceutical companies listed on the Indonesia Stock Exchange. In addition, in some previous studies, there were inconsistent results of the effect of exchange rates, interest rates on stock prices, as in reference [6] research found that exchange rates affected stock prices. Meanwhile, as in reference [7] found that interest rates and exchange rates affected stock prices. However, reference [8] argues that the exchange rate did not influence stock prices, and research as in reference [9] stated that interest rates and exchange rates did not affect stock prices. The purpose of this study was to determine the effect of interest rates and exchange rates partially on the stock prices of state-owned pharmaceutical companies on the Indonesia Stock Exchange from July 2019 to May 2020 and to determine the effect of interest rates and exchange rates simultaneously on the company's stock prices.

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**2. METHODS**

This research used a descriptive study or better known as plan explanatory research, with a quantitative approach. The study's location was conducted at the Indonesia Stock Exchange pharmaceutical sub-sector, with the background that the Indonesia Stock Exchange is an information center that provides complete company data to go public. The population of this research used all pharmaceutical companies that have gone public and published financial re-ports, considering that the pharmaceutical industry is an industry that has survived until now. There were eight (8) companies that met the criteria of the purposive sampling technique. The sample in this study is a state-owned pharmaceutical companies are PT Kimia Farma Tbk and PT Indofarma Tbk

This study used two variables, the independent variable, and the dependent variable.

1. The independent variable (variable x)

The variable x of this study was Bank Indonesia's interest rates (X1) and the rupiah's exchange rate against the Dollar (X2).

2. The dependent variable (Y)

In this study, variable Y was the share price of a pharmaceutical SOE company listed on the Indonesia Stock Exchange.

The data was secondary data sourced from Bank Indonesia and the Indonesia Stock Exchange from July 2019 to May 2020 with a multiple regression model with a significance level of  $\alpha = 5\%$ , processed using the Eviews 9.

**3. RESULTS AND DISCUSSION**

The results variable x1 results significance value of 0.0000, which means the interest rate of Bank Indonesia has a significant and positive effect on the stock prices, and x2 variable results in a significance value of 0.9274, which mean the exchange rate of the rupiah against the dollar has no significant effect on stock prices. Table 1 shown the regression results.

**Table 1.** Regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
<i>Interest BI Rate</i>	4.597861	0.651597	7.056298	0.0000
<i>Exchange Rate</i>	0.063558	0.693181	0.091690	0.9274
<i>C</i>	20.35936	6.285901	3.238893	0.0023
<i>R-squared</i>	0.556540	Mean dependent var		7.239036
<i>Adjusted R-squared</i>	0.536382	SD dependent var		0.477770
<i>SE of regression</i>	0.325311	Akaike info criterion		0.653631
<i>Sum squared resid</i>	4.656398	Schwarz criterion		0.771726
<i>Log-likelihood</i>	-12.36034	Hannan-Quinn criter.		0.698071
<i>F-statistic</i>	27.60986	Durbin-Watson stat		0.519657
<i>Prob(F-statistic)</i>	0.000000			

The regression equation is as follows

$$Y = 20,35936 + 4,597861X1 + 0,063558X2 \quad (1)$$

The regression coefficient X1 is 4.597861, which means each increase of Bank Indonesia's interest rate by 1% will raise the share price by 4.597861%, assuming other variables are constant. The regression coefficient X2 is 0.063558, which means every 1% increase of Bank Indonesia interest rates will raise share prices by 0.063558%, assuming other variables are constant.

Based on the results of the F test, the significance level of F is 27.60986 with a significance level smaller (0.00000) than 0.05. The results are Bank Indonesia interest rate variables and the exchange rate of the rupiah against the dollar affect the stock prices of state-owned pharmaceutical companies on the Indonesia Stock Exchange.

The results of the research show R-Squared worth 0.556540, which means the influence of Bank Indonesia interest rate variables and the exchange rate of the rupiah against the dollar on the stock prices of state-owned pharmaceutical companies on the Indonesia Stock Exchange is 55.65%, and the rest is influenced by other factors which were not examined in this study.

The study results showed conformity with previous studies that the exchange rate did not affect stock prices differed from the results of previous studies, which stated that the exchange rate influenced stock prices [9]. The exchange rate is significant in an economy where all international trade transactions used the exchange rate, which is the dollar. However, state-owned pharmaceutical companies, in this case, PT Kimia Farma, Tbk, and PT Indofarma, Tbk used trading rates because they imported raw materials, but the result was value exchange did not affect stock prices.

The value of the Bank Indonesia interest rate controlled by the Indonesian government influenced state-owned pharmaceutical companies' stock prices in the Indonesia Stock Exchange. The stability of the

specified interest rate influenced stock prices. This is convenient with the research conducted by previous researchers.

The multiple regression equation results do not guarantee to predict stock prices in the next period because not all variables influence state-owned pharmaceutical companies' stock prices in the Indonesia Stock Exchange.

#### **4. CONCLUSIONS**

Based on the multiple regression test analysis results with Eview 9, partially the Bank Indonesia interest rate has a significant and positive effect. In contrast, the rupiah's exchange rate against the dollar has an insignificant influence on the stock prices of state-owned pharmaceutical companies in the Indonesia Stock Exchange. In contrast, simultaneously, Bank Indonesia's interest rates and the rupiah's exchange rate against the dollar have a significant and positive effect on stock prices. There are differences and similarities between the results of the analysis and previous studies. For further research, it can use an annual period, and there is an increase in the number of research samples, non-state pharmaceutical companies, and adding other research variables such as inflation and gross domestic product.

#### **ACKNOWLEDGMENTS**

Researchers would like to thank Bank Indonesia and the Indonesia Stock Exchange for providing data for research and the LABOR School of Management for providing financial assistance for this research.

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