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THE IMPACT OF MACRO ECONOMIC VARIABLE TOWARD INDONESIA COMPOSITE STOCK PRICE INDEX

¹Stefven Putra Suhendra, ²Helma Malini

Universitas Tanjungpura

stefvenputra@gmail.com

Abstract

The Composite Stock Price Index is a reflection of the performance of the Indonesia Stock Exchange, when the composite stock price index showing an increase means that the Indonesian economy is in a conducive condition and otherwise. To be able to find out what factors can affect the composite stock price index movement, it is necessary to pay attention to several factors such as interest rates, inflation, exchange rates and global exchanges such as the Dow Jones Index. This study aims to determine the effect of Inflation, Interest Rates, Exchange Rates, and the Dow Jones Index on The Composite Stock Price Index (CSPI) listed on the Indonesia Stock Exchange. The population of this study is all monthly data on the Composite Stock Price Index, Inflation, Interest Rates, Exchange Rates, and the Dow Jones Index for the period January 2016 – December 2020 with the number of observations being 60 months using the saturated sample technique. The analytical method used in this research is multiple linear regression analysis method. The results of this study indicate that Inflation, Interest Rates, Exchange Rates, and the Dow Jones Index simultaneously have a significant effect on the CSPI on the Indonesia Stock Exchange. The results of the partial test show that Inflation, Interest Rates, and the Dow Jones Index each have a positive and significant effect on the CSPI. While the Exchange Rate has a negative and significant effect on the CSPI. The results of this study can be used as implications for investors and potential investors. Investors can consider the current

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conditions by considering macroeconomic variables that can affect the CSPI in making investment decisions.

Keywords: Inflation, Interest Rates, Exchange Rates, Dow Jones Index, Composite Stock Price Index

INTRODUCTION

Economic factor analysis is one of the factors that cannot be separated and is an important part of the overall fundamental factor itself. Economic analysis has a very strong integration of the state of the capital market (Kudal: 2010). Based on the economic analysis, it is said that there is a tendency of a strong relationship between the macroeconomic environment and the performance of a capital market. Some of the national economic variables that are usually used are the rate of economic growth which is usually seen from the inflation rate, interest rate and rupiah exchange rate. Tandelilin (2010) states that empirically macroeconomic factors have been shown to have an influence on capital market conditions in several countries.

The existing capital market in Indonesia is a developing market which in its development is very vulnerable to macroeconomic conditions in general as well as global economic conditions and world capital markets. Changes in macroeconomic factors do not affect company performance immediately but slowly and in the long term. On the other hand, stock prices will be immediately affected by changes in macroeconomic factors because investors react more quickly. When these macroeconomic changes occur, investors will calculate their impact, both positive and negative, on the company's performance in the next few years, then make a decision to buy or sell the shares in question (Samsul, 2006: 200). Therefore, stock prices adjust more quickly to changes in macroeconomic variables than the company's performance.

Talking about the capital market, it can't be separated from what is known as the stock price index. Every day, both in the electronic media and in the mass media, it always reports about the last number of the Indonesia Composite Stock Price Index (CSPI) that occurred. The Indonesia Composite Stock Price Index (CSPI) is a value used to measure the combined performance of all shares listed on the Indonesia Stock Exchange. The movement of the Indonesia Composite Stock Price Index (CSPI) is a concern for investors, because the movement of the Indonesia Composite Stock Price Index (CSPI) will affect the attitude of investors to buy, sell or hold several stocks (Martalena and Maya, 2011: 99).

This study uses data from the Indonesia Composite Stock Price Index because the CSPI is one of the stock price indexes on the IDX which is also used as an indicator of the Indonesian

economy in the capital market. In contrast to other indexes that provide an overview of the state of stock prices specifically for certain groups of companies, the CSPI is a reflection of the performance of the shares of all companies listed on the IDX. The research period was carried out for 5 years, from 2016 to 2020 which was the period when the global crisis hit the whole world including Indonesia and with the assumption that the larger the number of objects observed and the longer the research period, the research results obtained could be more accurate. Seeing the references, phenomena and theories expressed above, the author is interested in re-testing the variables with another method. So that this research is entitled "The Impact of Macro Economic Variable toward Indonesia Composite Stock Price Index".

LITERATURE REVIEW AND HYPOTHESIS

Efficient Market Hypothesis (EMH)

Efficient Market Hypothesis (EMH) is an efficient market where the prices of all traded securities reflect all available information (Tandelilin, 2010:221). This information includes what is known and relevant for considering stock prices. Capital market efficiency is a condition in which a stock price adjusts quickly with additional information, and therefore the stock price includes all available information.

Fama (1970) in Tandelilin (2010: 223) presents 3 main forms of market efficiency, namely:

1. Efficient in the weak form (weak form) Efficient market in weak form means all past information (historically) will be reflected in the price that is in its current form. Information such as prices and trading volumes in the past cannot be used to predict future price changes, because they are already reflected in current prices (Tandelilin, 2010:223).
2. Efficient in the semi-strong form. The Semistrong market has a higher level of market efficiency than the weak market. In the form of a semi-strong market, historical data in the form of information about shares (price, volume, etc.) in the capital market is known and used as a reference for investors to make further investment decisions, apart from that information or public news is also obtained and used as a reference for investors in making decisions. next investment step.
3. Efficient in strong form in weak and semi-strong market conditions, historical data and public information will serve as a reference for investors to make investment decisions, but efficient market in strong form, all published and unpublished

information is reflected in the price of securities (Tandelilin, 2010:223). The strong form of efficient market states that prices that occur reflect all available information, both public and private information.

Arbitrage Pricing Theory (APT)

APT was developed by Ross, which is based on “The Law of One Price” which states that similar or dissimilar assets with the same characteristics have the same price. If this law is not fulfilled, there will be arbitrage conditions in which investors will take long positions or buy assets with lower prices, and then at almost the same time, immediately sell or short the same assets in other markets. Arbitrage conditions lead to a zero-investment portfolio in which investors seem not to use their funds to invest because long and short positions are almost the same time but can promise definite profits without the risk of asset price differences.

Arbitrage Pricing Theory stems from the weakness of the Capital Asset Pricing Model (CAPM) theory, where in theory the CAPM states that the level of profit implied by the security is the same as the risk-free rate of return plus the beta coefficient times the market risk premium $R_i = R_f + \beta (R_m - R_f)$. However, this theory assumes that the level of market profit (R_m) is not only influenced by one factor but by several factors such as macro factors of national income, gross domestic product, interest rates, inflation, changes in taxation and events / noise in the company such as performance. and the performance of the company concerned.

Signaling Theory

In economics, there is a grand theory called signalling theory which was first proposed by Bhattacharya in 1979. Signal according to Brigham and Houston (2009:444) is an action taken by the company’s management that provides instructions for investors on how management views the company’s prospects. This theory reveals that investors can distinguish between companies that have high values and companies that have low values. Profitable companies give a signal about companies that are relatively not easy to go bankrupt and other forms of financial distress, compared to companies that are less profitable, and optimism for better prospects in the future will be shown by the increase in stock prices. Macroeconomic factors such as economic growth conditions, inflation rates,

interest rates, and the exchange rate of the rupiah against the US dollar which are systematic risks that cannot be avoided by all companies are signals that can be used as asymmetric information for investors to find out developments. As a whole about the economic condition of a country which of course has an impact on the condition of the companies in it. Changes and developments in macroeconomic conditions also indicate the country's economic prospects for a certain period of time which will serve as the basis for investment decisions.

Investment Theory

According to Sunariyah (2006: 4) defines investment as an investment for one or more assets owned and usually for a long period of time in the hope of getting profits in the future. According to Taswan and Soliha (2002: 168), the decision to invest can be made by individuals or business entities (including banking institutions) that have excess funds. Investments can be made both in the money market and in the capital market, investment activities enable a community to continuously improve economic activities and employment opportunities, increase national income and increase the level of community prosperity. Generally, investment is divided into two, namely investment in financial assets and investment in real assets carried out in the money market, for example in the form of certificates of deposit, commercial paper, money market securities and so on. Meanwhile, investment in real assets is manifested in the form of purchasing productive assets, establishing factories, opening mines, opening plantations and others (Halim, 2003: 2).

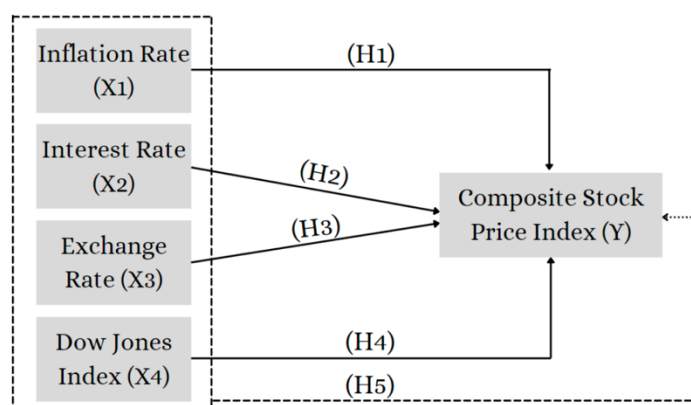


Figure 1. Conceptual Framework

Hypothesis

H₁: Inflation Rate has a negative effect toward the Indonesia Composite Stock Price Index.

H₂: Interest Rate has a negative effect toward the Indonesia Composite Stock Price Index.

H₃: Exchange Rate has a negative effect toward the Indonesia Composite Stock Price Index.

H₄: The Dow Jones Index has a positive effect toward the Indonesia Composite Stock Price Index.

H₅: Inflation, Interest Rate, Exchange Rate, and Dow Jones Index simultaneously have a significant effect on the Indonesia Composite Stock Price Index.

RESEARCH METHODOLOGY

This type of research is quantitative associative research. According to Sugiyono (2012), associative research is research that is causal (explains the relationship between two or more variables) and a causal relationship, there are independent variables (influenced variables) and dependent (influenced) variables. This study analyses the relationship to examine the effect of Inflation, Interest Rates, Exchange Rates, Dow Jones Index on the Composite Stock Price Index and the data are obtained from www.idx.co.id with data processed and then the results are described systematically.

In this study, the author uses research data in the form of secondary data obtained from the website of Bank Indonesia, IDX website, and Yahoo Finance. The sampling technique used in this study is the saturated sample method. The sample in this study is monthly time series data for 5 years, starting from January 2016 to December 2020, including data on inflation, interest rates, exchange rates, and the Dow Jones Index and the Composite Stock Price Index (CSPI). Based on this information, the number of samples (n) from monthly time series data is 60 samples (12 months x 5 years). The data is analysed by using EViews 9.0 software. Descriptive statistics analysis, classical assumption test, multiple linear regression analysis, and hypothesis testing were applied to this study. There are 2 types of variables, namely the independent variable and dependent variable.

1. The independent variables include Inflation (X₁), Interest Rate (X₂), Exchange Rate (X₃), and Dow Jones Index (X₄).
2. The dependent variables in this study are determined as Indonesia Composite Stock Price Index (Y).

RESULTS

The analytical technique used in this study is multiple linear regression analysis to find out the description of the effect of Inflation (X_1), Interest Rates (X_2), Exchange Rates (X_3), Dow Jones Index (X_4) on the Composite Stock Price Index (Y). The results of the regression analysis can be seen in the following table:

Table 1. The Result of Multiple Linear Regression Analysis

Variable	Coefficien		t	Std. Error	t-Statistic	Prob.
		t				
C	6620.242	2353.409	2.813043			0.0068
X1	47049.47	11274.86	4.172952			0.0001
X2	19534.59	9607.347	2.033297			0.0469
X3	-0.615900	0.224092	-2.748426			0.0081
X4	0.218112	0.038776	5.624984			0.0000
R-squared	0.425662	Mean dependent var	5691.733			
Adjusted R-squared	0.383892	S.D. dependent var	581.1051			
S.E. of regression	456.1243	Akaike info criterion	15.16306			
Sum squared resid	11442715	Schwarz criterion	15.33759			
Log likelihood	-449.8919	Hannan-Quinn criter.	15.23133			
F-statistic	10.19060	Durbin-Watson stat	0.382523			
Prob(F-statistic)	0.000003					

Based on Table 1, it can be seen that the multiple linear regression equations are:

$$Y = 6620.242 + 47049.47X_1 + 19534.59X_2 - 0.615900X_3 + 0.218112X_4$$

From these equations it can be explained as follows:

1. Constant (β_0) = 6620.242 indicates a constant level where if the variables of Inflation (X_1), Interest Rate (X_2), Exchange Rate (X_3) and Dow Jones Index (X_4) are 0, then the Composite Stock Price Index (Y) will remain at 6620.242 with assuming other variables are fixed.
2. Inflation coefficient (β_1) = 47049.47 > 0. This indicates that the inflation variable (X_1) has a positive effect on the Composite Stock Price Index.
3. Interest Rate Coefficient (β_2) = 19534.59 > 0. This indicates that the Interest Rate (X_2) variable has a positive effect on the Composite Stock Price Index.
4. Inflation coefficient (β_3) = - 0.615900 < 0. This indicates that the inflation variable (X_3) has a negative effect on the Composite Stock Price Index.

5. The Dow Jones Index (β_4) = 0.218112 > 0. This indicates that the Dow Jones Index (X_4) variable has a positive effect on the Composite Stock Price Index.

DISCUSSION

The Effect of Inflation on The Composite Stock Price Index

The inflation variable has a positive and significant effect on the Composite Stock Price Index. This is because the inflation variable (X_1) has a coefficient (β_1) = 47049.47 < 0 with tcount (4.172952) and significance (0.0001) < (0.05). If inflation increases by 1 percent, the composite stock price index will increase by 47049.47 and significantly and vice versa. According to Samsul (2015), High inflation will drop stock prices in the market, while low inflation rates will cause economic growth to be very slow, and in the end stock prices will also move slowly. This research is also supported by Harsono and Worokinasih (2018) which state that inflation has a positive and significant effect on CSPI.

The Effect of Interest Rate on The Composite Stock Price Index

The interest rate variable has a positive and significant effect on the Composite Stock Price Index. This is because the interest rate variable (X_2) has a coefficient of (β_2) = 19534.59 > 0 with tcount (2.033297) and significance (0.0469) < (0.05). If the Interest Rate increases by 1 percent, the composite stock price index will increase by 19534.59 and significantly and vice versa. This contradicts the majority of existing theories. Many theories/concepts state that interest rates have an inverse (negative) effect on the CSPI. The results of this study are supported by the theory of Tandelilin (2010) which states that changes in interest rates will affect stock prices in reverse, ceteris paribus. This means that if interest rates increase, stock prices will fall, and vice versa. High level of inflation is closely related to worsening economic conditions. Demand on a product that exceeds the supply, resulting in the price of an item tends to rise. The high rate of inflation causes a decrease in purchasing power society and reduce the real income received by investors.

The Effect of Exchange Rate on The Composite Stock Price Index

The exchange rate variable has a negative and significant effect on the Composite Stock Price Index. This is because the exchange rate variable (X_3) has a coefficient (β_3) = -

0.615900 < 0 with tcount (-2.748426) and significance (0.0081) < (0.05). If the Rupiah exchange rate against the Dollar increases by 1 Rupiah, the composite stock price index will decrease significantly by -0.615900 and vice versa. This is in accordance with the theory from Tandelilin (2010) which reveals that macroeconomic factors that can affect the stock price index, one of which is the exchange rate, if the condition of the Rupiah exchange rate is estimated to be bad, it is likely that the reflection on the composite stock price index will decline. This is because the weakening of the Rupiah exchange rate against foreign currencies is a negative signal for investors so that it will affect the composite stock price index. Changes in the exchange rate itself are the most dominant variable that investors pay attention to when placing their funds in the capital market because of the short-term capital gains that investors want to achieve (Nurhakim, 2010).

The Effect of Dow Jones Index on The Composite Stock Price Index

The Dow Jones Index variable has a positive and significant effect on the Composite Stock Price Index. This is because the Dow Jones Index variable (X_4) coefficient (β_4) = 0.218112 > 0 with tcount (5.624984) and significance (0.0000) < (0.05). If the Dow Jones Index increases by 1 percent, the composite stock price index will increase significantly by 0.218112 and vice versa. The positive influence of the Dow Jones Index on the CSPI indicates that the Indonesian capital market has been integrated with the United States capital market. This research is strengthened by the theory put forward (Samsul, 2008) that the Indonesian capital market has been integrated with the world capital market. This will have the consequence that the movement of the Indonesian capital market will be influenced by the movement of the world capital market, either directly or indirectly.

The Effect of Inflation, Interest Rates, Exchange Rates, Dow Jones Index on the Composite Stock Price Index

Based on the F-test that simultaneously tests whether the dependent variable on the independent variables, namely inflation, interest rates, exchange rates, and the Dow Jones index, has a significant effect on the composite stock price index, the F-count is 10.19060 with a significant level of 0.000003 with a significance of 0.05. It can be concluded that inflation, interest rates, exchange rates and the Dow Jones index simultaneously have a

significant effect on the composite stock price index. The results of this study are in line with previous research which states that the variables of inflation, interest rates, exchange rates, and the Dow Jones index simultaneously have a positive influence on the composite stock price index (Harsono and Worokinasih, 2018).

CONCLUSION

Based on the results of the research and discussion that have been stated previously, it can be concluded from research on the effect of inflation, interest rates, exchange rates, and the Dow Jones index on the composite stock price index on the Indonesia Stock Exchange in 2016 – 2020 using a sample of all companies that listed on the Indonesia Stock Exchange are as follows:

1. Based on the results of multiple linear regression analysis using EViews show that Inflation has a positive and significant effect on the composite stock price index on the Indonesia Stock Exchange in 2016 – 2020 with the results of the coefficient is 47049.47 > 0 and a significance level of 0.0001. This result is not in accordance with hypothesis 1 which states that inflation has a negative effect on the composite stock price index.
2. Based on the results of multiple linear regression analysis using EViews show that Interest Rates have a positive and significant effect on the Composite Stock Price Index on the Indonesia Stock Exchange in 2016 – 2020 with the result of the coefficient is 19534.59 > 0 and a significance level of 0.0469. This result is not in accordance with hypothesis 2 which states that interest rate has a negative effect on the composite stock price index.
3. Based on the results of multiple linear regression analysis using EViews show that the Exchange Rate has a negative and significant effect on the Composite Stock Price Index on the Indonesia Stock Exchange in 2016 – 2020 with the result of the coefficient is 0.615900 < 0 and a significance level of 0.0081. This is in accordance with hypothesis 3 which states that the rupiah exchange rate has a negative effect on the composite stock price index.
4. Based on the results of multiple linear regression analysis using EViews show that the Dow Jones Index has a positive and significant effect on the Composite Stock Price Index on the Indonesia Stock Exchange in 2016 – 2020 with the result of the coefficient

is $0.218112 > 0$ and a significance level of 0.0000 . This is in accordance with hypothesis 4 which states that the Dow Jones Index has a positive effect towards the composite stock price index.

5. Based on the results of multiple linear regression analysis using EViews show that Inflation, Interest Rates, Exchange Rates and the Dow Jones Index simultaneously have a significant effect on the Composite Stock Price Index on the Indonesia Stock Exchange in 2016 – 2020 with the level of significance is 0.000003 . This is in accordance with hypothesis 5 which states that Inflation, Interest Rates, Exchange Rates, and Dow Jones Index simultaneously have a significant effect on the composite stock price index.

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