International Journal of Research and Review
Vol. 10; Issue: 5; May 2023
Website: www.ijrrjournal.com
Research Paper *E-ISSN: 2349-9788; P-ISSN: 2454-2237*

Effect of Macro-Economic, Commodity Market, and Asian Stock Index on Composite Stock Price Index, 2018-2022

Oyami Sara[1], Khaira Amalia Fachrudin[2], Nisrul Irawati[3]

[1]Postgraduate Students, Department of Management, Faculty of Economics and Business at Universitas Sumatera Utara, Indonesia
[2,3]Postgraduate Lecturer, Department of Management, Faculty of Economics and Business at Universitas Sumatera Utara, Indonesia

Corresponding Author: Oyami Sara

DOI: https://doi.org/10.52403/ijrr.20230565

ABSTRACT

The purpose of this research is to analyze effect of macro-economic, commodity market, and asian stock index on composite stock price index, 2018 to 2022. This type of research is descriptive quantitative. The type of data in this study is time series data taken from January 2018 to December 2022 so that a target population of 60 (5 years x 12) monthly report data is obtained for the sample data in this study. This is due to research that the sample used uses census research techniques. Data collection techniques through library research and field survey. The data analysis used in the study uses error correction model (ECM). The results show that in long and short term, inflation has a negative and significant effect on composite stock price index. Exchange rate has a negative and insignificant effect on composite stock price index. Interest rate has a negative and significant effect on composite stock price index. World oil price has a negative and significant effect on composite stock price index. Gold price has a negative and significant effect on composite stock price index. Nikkei 225 has a positive and insignificant effect on composite stock price index. KLCI has a negative and insignificant effect on composite stock price index. KOSPI has a negative and insignificant effect on composite stock price index. Hang seng in long term has a negative and insignificant effect on composite stock price index, but in short term has a positive and insignificant effect on composite stock price index.

Keywords: Macro-Economic, Commodity Market, Asian Stock Index, Composite Stock Price Index

INTRODUCTION

The capital market has a big role in the economy of a country, where the capital market can be an alternative source of financing for company activities. This source of financing can be through the sale of shares or the issuance of bonds by companies that need funds.

Every country has certainly experienced critical phases, one of which is the economic crisis. Indonesia is a country that experienced an economic crisis in mid-1997. This crisis hit the Indonesian economy and caused a sharp decline in the performance of the capital market, some of which even suffered losses. The crisis that took place at that time is also the beginning of the collapse of the Indonesian economy. This can be seen from the sharp changes in economic variables in Indonesia, such as inflation which reached 77 percent per year, the weakening of the Rupiah exchange rate, and interest rates which increased to 68.76 percent per year in 1998 (Astuty and Permana, 2020).

The economic crisis occurred again in 2008. This crisis affected the world's finances and is triggered by the housing credit crisis and securities products. Not only did several large companies in America go bankrupt, this crisis made stock prices in the Indonesian capital market fall and slump (Manurung, 2016).

The decline in Indonesia's economy also had an impact on trading on the capital market by showing a decline in composite stock price index (Pratama et al., 2019). The decline in composite stock price index is shown in March reaching 4,583.93, more specifically on March 23, 2020 composite stock price index is at 3,990, experiencing a decrease of 4.9 percent, resulting in a trading halt (temporary freezing of trade) towards the end of session II, it is recorded that 68 stocks strengthened, 322 stocks weakened and 112 stocks stagnated at the end of trading (Abidin, 2021).

The capital market is a market that focuses on trading long term capital in the form of securities, such as bonds and stocks. In addition, the capital market is also a means for those who wish to invest in the medium and long term. The capital market is the most important means of economic activity in a country, because in the capital market the public is able to provide excess funds to companies in developing businesses, business equipment, increasing capital, and expanding their businesses. In addition, the capital market can also be used as an investment in financial instruments traded on the Indonesian capital market, such as stocks, mutual funds, bonds, and others. In making an investment, apart from paying attention to the funds, the object of investment must also be considered. Make sure that as a reliable potential investor, you can see which companies are good and which are not. Because that way you can reduce the risk.

There are several macroeconomic indicators that are often associated with the capital market, namely inflation, exchange rate, and interest rate. These three indicators affect the composite stock price index which is an indicator of stock exchange performance that has an important role. By knowing the movement of composite stock price index, capital market players can find out the condition of Indonesian Stock Exchange in a certain period, which can help capital market players to make investment decisions.

Composite stock price index is a combination of several stocks which serve as a benchmark for the development of stocks in the capital market. Composite stock price index also reflects the performance of various companies, the better the value of composite stock price index, it shows the company is in good condition and is marked with a green arrow pointing upwards but if the condition of a company is declining then the condition will not be good and it is shown with a red arrow pointing down. Therefore, the good or bad of a company can also affect the price of composite stock price index.

The movement of composite stock price index tends to decline in the 2020 period. However, during this period, composite stock price index also experienced a sharp decline throughout 2020 and increased again in 2021. Based on these data, it can be seen that composite stock price index in 2020 experienced a decline, impacting on the condition of the Indonesian economy which is influenced by external factors such as inflation, exchange rate, world oil price, gold price, and interest rate. So that a decline in composite stock price index will affect the condition of the capital market in Indonesia, whether it is in a bullish (tend to rise) or bearish (tend to fall) position. As a result of the drastic rise and fall of composite stock price index, besides being able to cause concern for long term investors as an investment vehicle. Decreasing stock prices in the industry will also have an impact on the decline in the value of composite stock price index.

High inflation and the weakening of the rupiah will cause many industries to experience shock, decreased production due to rising raw material prices which results in

decreased profit levels. A decrease in the profit rate will certainly have an impact on the decline in stock prices in the industry because the dividends that will be received by shareholders will decrease so that many investors will withdraw their investment. Inflation has an influence on composite stock price index. If inflation increases, the price of goods will tend to increase and company expenses will also increase due to increases in raw material costs, operational costs, and so on, which will impact on a decrease in company income. This will cause investors to divert their funds to more risk-free instruments which will cause the composite stock price index to fall.

Another macroeconomic indicator that affects stock prices is the currency exchange rate or what is often referred to as the exchange rate. Currency exchange rate is the price of one unit of foreign currency in domestic currency or it can also be said the price of domestic currency against foreign currency. The exchange rate referred to in this study is the US Dollar exchange rate where changes in the exchange rate will affect investment in the capital market, especially in stock price movements (Rezeki and Worokinasih, 2018).

The BI rate is a policy in determining the value of interest rates set and issued by Bank Indonesia and announced to the public which has a very close relationship with monetary policy which will later be applied to the people of Indonesia.

Investment is something that must be done in the present to prepare for the future. Generally, people make more short-term investments by saving at the bank in the form of deposits, and so on. But now investment in the capital market is starting to grow rapidly, coupled with public knowledge about investing. The development of the stock index market is increasingly in demand as an alternative investment, but that does not mean there is no investment risk on it. Because every investment that provides a large return opportunity is accompanied by a large inherent risk, and conversely, an investment with a small return has a relatively smaller risk.

The purpose of this research is to analyze effect of macro-economic, commodity market, and Asian stock index on composite stock price index, 2018 to 2022.

RESEARCH METHODS

This type of research is descriptive quantitative. Descriptive quantitative is a type of research that aims to describe systematically, factually, and accurately about the facts and characteristics of a particular object or population (Sinulingga, 2011). Therefore, the type in this research is quantitative descriptive in nature, where descriptive is used to explain and describe the influence of variables.

Population is a generalization consisting of objects and subjects that have certain qualities and characteristics determined by researchers to be studied and then conclusions drawn (Sugiyono, 2011). This research is composite stock price index. The type of data in this study is time series data taken from January 2018 to December 2022 so that a target population of 60 (5 years x 12) monthly report data is obtained for the sample data in this study. The sample in this study is the total sample or all members of the population (Ansori, 2020). This is due to research that the sample used uses census research techniques.

Data collection techniques through library research and field survey. Data collection techniques in this study are as follows (Abdussamad, 2021):

1.Library Research

Literature research is carried out by collecting information from published scientific research journals related to the problems studied and to obtain alternative problem solving.

2.Field Survey

Field surveys are conducted via the internet to obtain secondary data that are used to solve problems related to library research.

This study uses secondary data from various sources of information issued by other parties that have been published to the public. This research uses time series. Data for composite stock price index from Indonesia Stock Exchange. Interest rates and exchange rates are obtained from Bank Indonesia. Furthermore, world oil price data will be obtained directly on the global investment prediction service website www.investing.com, on that site world oil price data has been calculated based on valid survey methods and measurement standards by world commodity trading institutions.

The data analysis used in the study uses error correction model (ECM). A way to identify the relationship between variables that are non-stationary. ECM is a technique for correcting short-term imbalances towards long-term balance (Gujarati, 2001). In addition, it can explain the relationship between dependent variables and independent variables in the present and past times. ECM modeling requires cointegration in a group of non-stationary variables. ECM model specifications are said to be valid if error correction term (ECT) coefficient is statistically significant, that is, with a probability of less than 0.05 (5 percent).

RESULT

Composite Stock Price Index

Composite stock price index is one of the stock market indices used by Indonesia Stock Exchange. Introduced for the first time on April 1, 1983, as an indicator of stock price movements on Indonesia Stock Exchange. This index includes price movements of all ordinary shares and preferred shares listed on Indonesia Stock Exchange. The share price used in calculating composite stock price index is the share price in the regular market which is based on prices that occur based on an auction system. The calculation of the composite stock price index is carried out every day, namely after the close of trading every day. The value of the composite stock price index always fluctuates according to economic conditions (inflation rates, interest rates, etc.), and various other factors.

Composite stock price index is an indicator to help share price movements. Composite stock price index is an illustration for investors to make portfolio investments in the capital market. By looking at the composite stock price index, investors can predict the possibilities that will occur in the capital market, such as the size of the stock price and the profits that will be obtained. However, these possibilities may not be in accordance with the expectations that investors want to obtain after they make the portfolio investment, because the level of risk that will be accepted is almost the same as the level of profit that will be achieved. So the existence of a composite stock price index is very helpful for investors to make portfolio investments in the capital market.

The movement of composite stock price index tends to decline in the 2020 period. However, during this period, composite stock price index also experienced a sharp decline throughout 2020 and increased again in 2021. Based on these data, it can be seen that composite stock price index in 2020 experienced a decline, impacting on the condition of the Indonesian economy which is influenced by external factors such as inflation, exchange rate, world oil price, gold price, and interest rate. So that a decline in composite stock price index will affect the condition of the capital market in Indonesia, whether it is in a bullish (tend to rise) or bearish (tend to fall) position. As a result of the drastic rise and fall of composite stock price index, besides being able to cause concern for long-term investors as an investment vehicle. Decreasing stock prices in the industry will also have an impact on the decline in the value of composite stock price index.

Hypothesis Test

The long run equation in error correction model (ECM) is an ordinary regression equation with the variables y and x, which are not stationary at levels. Then, the error

(e) in the long-term regression equation determines whether there is cointegration or not in the y and x variables. If e is stationary at the level, then y and x are cointegrated with each other. This long term equation is often referred to as the balance equation and can only be used if the residual or error (e) is stationary at the level.

Table 1. Long Term of Error Correction Model (ECM) Testing

Dependent Variable: LN_NY				
Method: Least Squares				
Sample: 1 60				
Included observations: 60				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Inflation (X_1)	-0.509402	0.227073	-2.243336	0.0293
Exchange Rate (X_2)	-0.320483	0.505527	-0.633958	0.5290
Interest Rate (X_3)	-1.150408	0.336659	-3.417132	0.0013
World Oil Price (X_4)	-0.039332	0.013427	-2.929355	0.0051
Gold Price (X_5)	-0.005537	0.001364	-4.058060	0.0002
Nikkei 225 (X_6)	0.000214	0.000107	1.988321	0.0523
KLCI (X_7)	-0.004682	0.002771	-1.689559	0.0973
Hang Seng (X_8)	-7.19E-05	9.33E-05	-0.770540	0.4446
KOSPI (X_9)	-0.000336	0.000727	-0.461784	0.6462
C	36.36174	9.382947	3.875301	0.0003
R-squared	0.527775	Mean dependent var		8.582677
Adjusted R-squared	0.442774	S.D. dependent var		3.002123
S.E. of regression	2.241011	Akaike info criterion		4.602743
Sum squared resid	251.1065	Schwarz criterion		4.951801
Log likelihood	-128.0823	Hannan-Quinn criter.		4.739279
F-statistic	6.209076	Durbin-Watson stat		1.250859
Prob(F-statistic)	0.000008			

Table 2. Short Term of Error Correction Model (ECM) Testing

Dependent Variable: D(LN_NY)				
Method: Least Squares				
Sample (adjusted): 2 60				
Included observations: 59 after adjustments				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
Inflation (X_1)	-0.644704	0.171870	-3.751121	0.0005
Exchange Rate (X_2)	-0.234239	0.442374	-0.529506	0.5989
Interest Rate (X_3)	-0.907246	0.285308	-3.179885	0.0026
World Oil Price (X_4)	-0.049565	0.009057	-5.472569	0.0000
Gold Price (X_5)	-0.004851	0.001145	-4.235165	0.0001
Nikkei 225 (X_6)	0.000177	8.86E-05	1.998633	0.0513
KLCI (X_7)	-0.003690	0.002338	-1.578346	0.1211
Hang Seng (X_8)	2.62E-05	0.000111	0.235625	0.8147
KOSPI (X_9)	-3.56E-06	0.000530	-0.006729	0.9947
RESIDUAL(-1)	-0.592707	0.137008	-4.326079	0.0001
C	-0.001323	0.267041	-0.004955	0.9961
R-squared	0.766711	Mean dependent var		-0.031361
Adjusted R-squared	0.718109	S.D. dependent var		3.848374
S.E. of regression	2.043233	Akaike info criterion		4.433489
Sum squared resid	200.3904	Schwarz criterion		4.820826
Log likelihood	-119.7879	Hannan-Quinn criter.		4.584690
F-statistic	15.77533	Durbin-Watson stat		1.887675
Prob(F-statistic)	0.000000			

The results show that in long and short term, inflation has a negative and significant effect on composite stock price index. Exchange rate has a negative and insignificant effect on composite stock price index. Interest rate has a negative and significant effect on composite stock price index. World oil price has a negative and significant effect on composite stock price index. Gold price has a negative and significant effect on composite stock price index. Nikkei 225 has a positive and insignificant effect on composite stock price index. KLCI has a negative and insignificant effect on composite stock price index. KOSPI has a negative and insignificant effect on composite stock price index. Hang seng in long term has a negative and insignificant effect on composite stock price index, but in short

term has a positive and insignificant effect on composite stock price index.

CONCLUSION AND SUGGESTION

The results show that in long and short term, inflation has a negative and significant effect on composite stock price index. Exchange rate has a negative and insignificant effect on composite stock price index. Interest rate has a negative and significant effect on composite stock price index. World oil price has a negative and significant effect on composite stock price index. Gold price has a negative and significant effect on composite stock price index. Nikkei 225 has a positive and insignificant effect on composite stock price index. KLCI has a negative and insignificant effect on composite stock price index. KOSPI has a negative and insignificant effect on composite stock price index. Hang seng in long term has a negative and insignificant effect on composite stock price index, but in short term has a positive and insignificant effect on composite stock price index.

Based on the results of the research that has been done, the suggestions that can be given are as follows:

1. In the long term, exchange rate does not affect composite stock price index, meaning that investors continue to invest even though the Indonesian exchange rate is weakening. This is because investors already know that there is a turnaround story, that is, a country's economy will recover after experiencing a downturn.
2. In the long term, inflation affects composite stock price index, meaning that high inflation rates will be a burden to the company. Thus a policy must be made in such a way as to increase the company's profitability, so the company will have high competitiveness so that many investors will invest in the stock market.
3. The depreciating rupiah exchange rate is expected to provide policies that facilitate regulations and make the investment process less convoluted. This policy is very good for companies to get operational funds quickly for productivity processes.
4. Investors wishing to invest in the capital market must really be able to read stock movements through composite stock price index indicator so that investors can make the right investment decisions.
5. For future researchers, it is hoped that they can further examine the factors that can affect the condition of composite stock price index. The addition of independent variables outside those that have been examined in this study, different capital market sectors, and the addition of the study period can explain further about the condition of composite stock price index.
6. This study only focuses on inflation, exchange rate, interest rate, world oil price, gold price, Nikkei 225, KLCI, hang seng, and KOSPI as variables that affect the condition of composite stock price index due to the limitations of previous research literature. It is possible that the proxies used are not fully accurate in predicting composite stock price index.

Declaration by Authors

Acknowledgement: None
Source of Funding: None
Conflict of Interest: The authors declare no conflict of interest.

REFERENCES

1. Abdussamad, Zuchri. (2021). *Metode Penelitian Kualitatif*. Makassar: CV. Syakir Media Press.
2. Abidin, Z. (2021). *Pengaruh Religiusitas terhadap Keputusan Investasi Saham Syariah di Indonesia*. Doctoral, Universitas Hasanuddin. http://repository.unhas.ac.id/id/eprint/3521.
3. Ansori, M. (2020). *Metode Penelitian Kuantitatif*. Airlangga University Press.
4. Astuty, Pudji dan Dwi Chandra Permana. (2020). Determinan Indeks Harga Saham Gabungan (IHSG) di Bursa Efek Indonesia

(Nilai Tukar, Harga Mas Dunia, Harga Minyak). *Jurnal Ekonomi, 22*(3), 218-238
5. Gujarati, Damodar. (2001). *Ekonometrika Dasar*. Jakarta: Erlangga.
6. Manurung, Ria. (2016). Pengaruh Inflasi, Suku Bunga, dan Kurs terhadap Indeks Harga Saham Gabungan pada Bursa Efek Indonesia. *Jurnal Ekonomi, 19*(4), 148-56.
7. Pratama, Cendy Andrie, Devi Farah Azizah, & Ferina Nurlaily. (2019). Pengaruh Return on Equity (ROE), Earning Per Share (EPS), Current Ratio (CR), dan Debt to Equity Ratio (DER) Terhadap Harga Saham (Studi pada Perusahaan Jakarta Islamic Index yang Terdaftar di BEI pada Tahun 2014- 2017). *Jurnal Administrasi Bisnis, 66*(1).
8. Rezeki, Harsono Ardelia dan Worokinasih, Saparila W. (2018). Pengaruh Inflasi, Suku Bunga, dan Nilai Tukar Rupiah terhadap Indeks Harga Saham Gabungan. *Jurnal Administrasi Bisnis, 60*(2.
9. Sinulingga, Sukaria. (2011). *Metode Penelitian*. Medan: USU Press.
10. Sugiyono. (2011). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. Bandung: Alfabeta.

How to cite this article: Oyami Sara, Khaira Amalia Fachrudin, Nisrul Irawati. Effect of macro-economic, commodity market, and Asian Stock Index on composite stock price index, 2018-2022. *International Journal of Research and Review*. 2023; 10(5): 553-559. DOI: *https://doi.org/10.52403/ijrr.20230565*

******