ECONSTOR Make Your Publications Visible.

A Service of

ZBW

Leibniz-Informationszentrum Wirtschaft Leibniz Information Centre for Economics

Garnia, Erna; Riadi, Deden Rizal; T Tahmat; Nainggolan, Ida Margareta

Article

The impact of the last two presidential periods on the performance of the Indonesia stock exchanges: An approach of arbitrage pricing theory

Contemporary Economics

Provided in Cooperation with:

University of Finance and Management, Warsaw

Suggested Citation: Garnia, Erna; Riadi, Deden Rizal; T Tahmat; Nainggolan, Ida Margareta (2024) : The impact of the last two presidential periods on the performance of the Indonesia stock exchanges: An approach of arbitrage pricing theory, Contemporary Economics, ISSN 2300-8814, University of Finance and Management in Warsaw, Faculty of Management and Finance, Warsaw, Vol. 18, Iss. 3, pp. 301-320, https://doi.org/10.5709/ce.1897-9254.539

This Version is available at: https://hdl.handle.net/10419/312955

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.



https://creativecommons.org/licenses/by/4.0/

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.



WWW.ECONSTOR.EU

The Impact of the Last Two Presidential Periods on the Performance of the Indonesia Stock Exchanges: An Approach of Arbitrage Pricing Theory

Erna Garnia o, Deden Rizal Riadi o, T Tahmat o, and Ida Margareta Nainggolan o

ABSTRACT

This study aims to examine the influence of economic and non-economic macro factors on the performance of the Indonesia Stock Exchange (IDX) and the differences in their effects on the last two presidential terms using the Arbitrage Pricing Theory (APT) approach. The macro factors studied are an aggregate of 41 indicators of stock market index returns, benchmark interest rates, exchange rates, economic stability indicators, commodity prices, and corruption perception index (CPI). For the process of aggregation and identification of macro factors, this study uses Principal Component Analysis (PCA). The population studied were publicly listed companies on the IDX since October 2004 (299 companies) with a sample size of 157 companies. The observation period is 205 months: 120 months of the presidency of Susilo Bambang Yudhoyono (SBY) and 85 months of the presidency of Joko Widodo (JKW). The research design used the explanatory study method. The research model was analyzed using panel data regression. The results identified seven macro factor aggregates from 41 indicators studied: global index, macro economy, world oil prices, China index, Arabia index, inflation, and competitive resources. There was a simultaneous effect of macro factors on stock performance during the presidency of SBY and JKW. Partially, stock returns during the SBY era were positively influenced by the global index, world oil prices, the China index, the Arabian index, and inflation and negatively influenced by the macroeconomy. Meanwhile, during the JKW period, returns were positively influenced by the global, China, and Arabia indexes and inflation.

KEY WORDS: Stock Performance, Stock Returns, Macro Factors, President's Term, Arbitrage Pricing Theory.

JEL Classification: C10, C38, G10.

Sangga Buana University, Indonesia

1. Introduction

Technological advances in the Industrial Revolution 4.0 positively impact the progress of the Indonesian capital market. The development of financial technology (fintech) services will provide efficiency and convenience for those who want to invest in the capital market. This condition has an impact on increasing public interest in investing in the capital market. Investment decisions are closely related to returns and risks. Return and risk are natural condi-

Correspondence concerning this article should be addressed to: **Erna Garnia**, Jl. Khp Hasan Mustopa No.68, Cikutra, Kec. Cibeunying Kidul, Kota Bandung, Jawa Barat 40124, Indonesia.

E-mail: erna.garnia@usbypkp.ac.id

tions faced by investors in making investment decisions. To reduce investment risk, investors need to be familiar with various types of investment risks. One type of investment risk that can affect all stocks is systematic risk or risk that cannot be diversified. Some examples of systematic risk included in macroeconomic factors are inflation and interest rates (Nguyen et al., 2022).

One of the other macro factors that influence stock performance is government policy (Samsul, 2015). Government policy decisions significantly affect the economy's structure and impact financial markets (Nasution, 2020). Risks that occur in certain countries due to unforeseen events and policy changes in that country. Uncertainty about the impact of government policies has an effect on unstable economic conditions (Siregar & Diana, 2019). This condition can be analyzed in Indonesia's last two presidential periods, during the financial crisis of 2007-2010 (SBY's presidency) and during the Covid-19 pandemic (Jokowi's presidency).

Arbitrage Pricing Theory (APT) is based on the principle of the law of one price, or it can be considered that securities with the same characteristics cannot be valued at different prices (Husnan, 2015). Arbitrage Pricing Theory (APT) explains that there are certain factors that affect the return of a stock. The possibility of influencing factors is more than one, but this theory does not explain what factors affect the formation of security prices. There are many specific factors that affect the return of a stock. This research originated from the phenomenon of problems due to the empirical gap, where the factors that affect stock returns with different economic conditions are not completely explained and are also influenced by decision-making related to the economic policies underlying the capital market, especially in Indonesia. Various studies on the application of APT show different results in influencing stock performance. Research on the influence of macro factors on stock performance is shown in Table 1. The results show that inconsistencies in macro factors affect stock performance.

Research conducted by Oktarina (2016) related to the influence of several global stock indexes and macroeconomic indicators on the movement of the IHSG was driven by the financial crisis that occurred in the USA in 2007. After the financial crisis, the Junior Chamber International (JCI) suffered a decrease and also caused the collapse of the Dow Jones index. This economic condition affected all countries, including Indonesia. The results showed that the global index affects the movement of the JCI. This is in line with research by Riantani and Tambunan (2013), which states that the global index significantly affects stock returns. However, in the research of Zikri et al. (2020), there are several foreign stock indexes (FTSE Index, Hang Seng Index, Strait Times Index) that have no effect on the JCI.

According to Fadah et al. (2018), oil prices have no effect on stock indexes in the mining sector and consumer goods industry sectors. This could be caused by other unexamined factors, such as a decrease in coal exports during the study period or the election, and World Cup in 2014, which gave positive sentiment to the consumer goods industry sector. This research is in line with the results of research by Mubarok et al. (2014) that world oil prices have no significant effect on stock returns in the plantation sub-sector. However, these results are inversely related to research on the basic and chemical industry sector, miscellaneous industry sector, property and real estate sector and infrastructure, utilities, and transportation sector.

Research on the effect of exchange rates on stock returns has been widely practiced on the IDX. Fadah et al. (2018), Mustafa (2017), Djamaluddin and Hosea (2021), Susan and Winarto (2021), and Saputri et al. (2020) conducted research on different sectors but with the same research results by showing that exchange rates have a significant negative effect. These results align with research by Habib and Islam (2017) on the Islamic Stock Market in India, which showed that the exchange rate (USD/ INR) affects stock returns. This result is inversely proportional to Ali's research (2014). The results of this study show that the exchange rate positively affects the Jakarta Islamic Index (JII). This result can be caused because the rupiah exchange rate has increased. Therefore, investors will try to exchange foreign currency for a rupiah and invest it in stocks. This condition can increase stock prices and increase the stock market.

Research related to the effect of inflation on stock returns has been widely conducted on the IDX. Fadah et al. (2018) and Mustafa (2017) studied the manufacturing sector with different data periods but with the same research results, which showed that inflation has a significant negative effect. Inflation causes an increase in the price of goods and services. The industry that uses raw materials has experienced a decrease in profits due to an increase in the price of raw materials, and the industry cannot directly increase the cost of goods. The decline in profits is responded to by investors with changes in stock prices. This research is in contrast to Ali's research (2014). The results showed that the inflation rate positively affects the JII. This condition will reduce the real value of the rupiah and affect the exchange rate against the dollar, or the rupiah depreciates.

According to the Financial Services Authority (OJK), government policies can affect stock prices even though the policies are still in the discourse stage and have not been realized. Many examples of government policies cause stock price volatility, such as export and import policies, corporate policies, debt policies, and foreign investment policies. In addition, stock returns are influenced by macro and microeconomic factors (Samsul, 2015). This is supported by research conducted by Wibowo (2017), that investors in the capital market responded to the Jokowi-JK Phase I economic policy package as good news. This condition can be represented by a significant positive abnormal return when the economic policy is published. In line with this research, the announcement of Jokowi's cabinet in 2014 was rumored to affect the Indonesian capital market. Then, the phenomenon is called the "Jokowi Effect". The results of this study indicate that the 2014 Jokowi Working Cabinet announcement event affects the JCI (Hidayah, 2018).

The urgency of this research is the inconsistency of information on factors that affect stock returns with different economic conditions during the last two presidencies. Research on economic policy decision-making that can affect stock returns is still relatively limited. Currently, Masulili and Sinaga (2017) studied the influence of economic and political variables on stock returns in the telecommunications, real estate, and construction industries by comparing the SBY administration period (2009-Oct 2014) with the Jokowi administration period (Nov 2014 - Jun 2017).

Several studies have examined the aggregate factor perspective regarding many factors that affect stock returns in empirical studies of Arbitrage Pricing Theory. Darma (2020) examined the ability of the multi-factor APT model to describe the relationship between the expected return of the LQ45 stock portfolio and systematic risk in the Indonesian capital market. The study used 13 macroeconomic variables that were reduced with Principal Component Analysis (PCA) to obtain variables of USD exchange rate, inflation, and market risk using the LQ45 proxy. Similar research was also conducted by Garnia (2021), regarding the impact of macroeconomic factors on the performance of the Indonesian Islamic stock market using the APT approach. Garnia (2021) simplified 8 (eight) macroeconomic factors into 2 (two) factors, namely regional factors and global factors, using Principal Component Analysis (PCA). Based on this background, it is necessary to investigate more specifically, the impact of government policies from two different presidential leadership periods on the Islamic stock market in Indonesia using the APT approach.

2. Literature Review and Hypothesis Development

2.1. Literature Review

• Arbitrage Pricing Theory (APT)

Empirical research related to stock returns has been carried out with various approaches. Of these many studies, Arbitrage Pricing Theory (APT) is an approach often used to explain stock returns (Ross in Husnan, 2015). However, this theory has not specifically confirmed what macro factors affect stock returns. Many researchers using the APT approach are still conducting research on macro factors as a determinant of stock returns.

• Stock Index Return (Y)

Stock index return is the result obtained from the profit of an investment in a certain period (Dewi & Vijaya 2018). Capital gain occurs if the current investment price is higher than the previous period's investment price. Otherwise, a capital loss occurs if the investment price is lower than the investment price of the previous period.

• Government Leadership Period (D)

The government leadership period is the ability or skill of a leader to influence other people in order to achieve government goals at a specific time (Muslim & Hariyati in Nas, 2015). The command leadership period can affect stock performance by making government policy decisions that significantly affect the economy's structure and impact financial markets (Nasution, 2020).

• Market Index Return (x1 to x23)

The market return is the level of profit in the market. Therefore, to get the maximum profit, it would be preferable to know the conditions in the market by using the market index (Waskito and Fitria in Jamil, 2018). For companies that carry out international trade or import-export activities, the economic conditions of counterparty countries (export destination countries or import origin countries) significantly affect issuers' performance in the future.

• Exchange Rate (x24 to x29)

The exchange rate is the price of currency owned by a country assessed by another country. In this case, the price is the amount of money that must be spent. The currency's value can be constant or change to be more expensive or cheaper depending on the amount of demand and supply for the currency (Pujiwati et al in Saputri et al., 2020). For foreign investors, investment opportunities in international capital markets need to pay attention to the factor of changes in foreign exchange rates. This factor does not need to be considered for domestic investors.

• Reference Interest Rate (x30 to x32)

The reference interest rate is the price of using investment funds (loanable funds). The interest rate is one of the indicators in determining an individual to invest or save (Boediono in Saputri et al., 2020). A high-interest rate will certainly affect investors' allocation of investment funds. Investment in bank products such as deposits or savings is less risky than investing in stocks.

• Crude Oil Price (x33)

Commodities as a means of investment will affect prices in the capital market. Oil price changes can affect the macroeconomy and stock prices (Koh, 2017). Petroleum is a commodity that has an important role in the Indonesian economy. The rise in oil prices led to an increase in fuel oil (BBM) prices in Indonesia (Kwanda et al in Fadah et al., 2018). In the economic cycle, almost all aspects of economic activity require energy or fuel oil to operate production machines, produce electrical energy, and transportation vehicles to allocate goods and services.

• Brent Oil Futures Price (x34)

Brent crude oil futures price is the main trading classification price of crude oil, which is the primary benchmark for oil purchase prices worldwide (Kwanda et al in Fadah et al., 2018). When there are fluctuations in world crude oil prices, it will impact changes in fuel prices in Indonesia because they follow world crude oil prices.

• Commodity Prices (x35 to x36)

Commodity prices are the prices of goods or materials that have economic value offered or provided by producers to meet consumer demand (Alfred Pakasi in Martono, 2010). One important commodity that is considered to influence stock prices is gold. Currently, many investors choose to invest in the mining sector, especially gold (Hung, 2021; Nath et al., 2019). Gold is a global currency with universally recognized value.

• Gross Domestic Product (GDP) (x37)

Gross Domestic Product (GDP) is the total income generated by own citizens and foreign citizens from all goods and services in a country (Hasyim in Saputri et al., 2020). The average income of a country's people can be seen from the total GDP. Therefore, GDP is an indicator to determine the level of economic prosperity of a country (Kanjilal & Ghosh, 2021). A higher GDP value can affect the prosperity of its citizens. When people are more prosper-ous, there is more money circulating in society which causes the level of con-sumption to increase. Increased consumption will cause investment to decline, leading to a decrease in the level of investment. This condition will reduce stock prices which in turn will reduce stock returns.

• M1 (x38)

M1 is a more restrictive meaning of JUB held by the public and consists of banknotes and currency plus demand deposits (Zunaitin et al., 2017). The money supply (M1) provides a measure of the level of liquidity of economic activity and provides an indicator that any changes in the money supply will affect investors' investment decisions.

• M2 (x39)

M2 is the amount of money in circulation in the broad meaning of M1 and quasi-money (savings and time deposits) in commercial banks (Zunaitin et al., 2017). An increase in the demand for money will cause interest rates to increase. Investment in • Inflation (x40)

Inflation is a condition of increasing prices in general. Inflation is also a condition of continuous decrease in the value of money because the increase in the amount of money in circulation is not balanced by the increase in the amount of goods offered (Setyaningrum and Muljono in Saputri et al., 2020) . The inflation rate can have a positive or negative impact depending on the inflation rate itself. Excessive inflation can harm the economy in general, which means that many companies will become bankrupt. This means that high inflation will drop stock prices in the market. Very low inflation will result in very slow economic growth, which will cause stock prices to move slowly as well (Pétursson, 2022).

• Corruption Perception Index (x41)

The corruption perceptions index (CPI) is calculated based on expert assessments and opinion surveys. The corruption perceptions index ranks 180 countries worldwide based on their perceived level of public sector corruption in public and political positions. The Corruption Perception Index uses a scale of 0 (high corruption) to 100 (low corruption). Therefore, a higher corruption perception score of a country can lead to lower corruption (Corruption Education Center, 2022). Due to the extent of corruption, investors have become afraid to invest and save less in the capital market, which is indicated by the inefficiency of the capital market.

2.2. Previous Research

Various studies on the application of APT show different results in influencing stock performance. Table 1 shows the research results on the influence of macro factors on stock performance. The results of this study indicate that the inconsistency of macro factors that affect stock performance.

2.3. Hypothesis Development

Based on the framework and previous empirical studies, the hypotheses proposed in this study are as follows:

Hypothesis 1: Economic and non-economic macro factors affect the performance of the

Indonesia Stock Exchange during the last two presidential periods using the Arbitrage Pricing Theory approach.

Hypothesis 2: There are differences in the influence of economic and non-economic macro factors on the performance of the Indonesia Stock Exchange during the last two presidential periods.

2.4. Research Model

Based on the theory and previous empirical studies, the effect of each independent variable on the dependent variable can be described in a paradigm model, as shown in Figure 1.

3. Methodology

3.1. Type of Research

This research design uses an explanatory study method that aims to explain and test hypotheses about the causal relationship between variables (Sugiyono, 2018).

3.2. Population and Research Sample

3.2.1. Population

The target population in this study are all public companies listed on the Indonesia Stock Exchange since the October 2004 period, consisting of 299 companies out of a total of 753 companies listed on the Indonesia Stock Exchange as of 2021.

3.2.2. Research Sample

The research sample is 157 public companies listed on the Indonesia Stock Exchange during the observation period that have complete data. The observed period is October 2004 - October 2021 (205 months), which is divided into the period October 2004 - September 2014 (120 months) for the Susilo Bambang Yudhoyono (SBY) presidency and the period October 2014 - October 2021 (85 months) for the Joko Widodo (JKW) presidency. The sampling method used is convenience sampling by the availability of the required research data. The data used in measuring research variables is secondary data in the form of panel data (pooled data), which is a combination of cross-sectional (between companies) and time series (between months). 306

3.2.3. Method of Collecting Data

The data collection technique used is secondary data documentation (Sugiyono, 2018). Documentation of this studies were conducted on the Indonesia Stock Exchange, the Central Statistics Agency (BPS), Bank Indonesia (BI), Web Investing, and the Ministry of Trade website.

3.2.3. Research Method Framework

The framework method in this study can be seen in Figure 2. The relationship between the variables is as follows:

• PC1 (Global Index) vs Stock Index Return (Y)

For companies that carry out international trade or export and import activities, the economic conditions of counterpart countries (export destination countries or import origin countries) significantly affect issuers' performance in the future (Samsul, 2015). The relationship between market index returns and stock index return is positive.

• PC2 (Macroeconomics) vs Stock Index Return (Y)

(a) Exchange Rate vs Stock Index Return

When the foreign exchange rate becomes higher against the domestic currency, the value of the domestic currency will depreciate or decrease. This condition causes the forex market to be more profitable than the stock market. For investors, the forex market will be more attractive and result in a decrease in stock returns. Therefore, it can be concluded that there is an influence between exchange rates on stock returns (Husnan, 2015). The relationship between exchange rate and stock index return is negative.

(b) Reference Interest Rate vs Stock Index Return

The financial sector interest rate commonly used as a guide for investors is the risk-free interest rate, which includes the central bank interest rate and the deposit interest rate. In addition, high-interest rates will impact the allocation of investors' investment funds. Investing in bank products such as deposits or savings is less risky than investing in stocks. Therefore, investors will sell their shares and deposit their funds in the bank. Simultaneous stock sales will significantly decrease in prices (Samsul, 2015). The relationship between reference interest rate and stock index return is negative. (c) Gross Domestic Product (GDP) vs Stock Index Return

The increasing value of GDP indicates that people are increasingly prosperous. When people are more prosperous, there tends to be more money in the distribution of society, leading to an increase in consumption. Increased consumption will cause investment to decrease, which will reduce stock prices and reduce stock returns (Chasanah, 2018). The relationship between GDP and stock index return is negative.

(d) M1 vs Stock Index Return

The variable money supply (M1) provides a measure of the level of economic activity liquidity. Money supply indicates that any change in the money supply will affect investors' investment decisions (Heriyanto & Chen, 2014). The relationship between M1 and stock index return is negative.

(e) M2 vs Stock Index Return

Increased demand for money will increase interest rates. When interest rates increase, investment in securities causes capital gain losses and lower stock returns (Awaludin & Khairunnisa, 2020). The relationship between M2 and stock index returns is negative.

(f) Corruption Perception Index vs Stock Index Return

The government, civil society, and business people work together to prevent and eradicate corruption and increase investor confidence with existing company data. This cooperation is supported by the research of Budiman (2015). In this study, the illiquidity of the stock market in Nigeria caused by the amount of corruption makes investors afraid to invest and save little in the stock market, which is shown through capital market inefficiency (Budiman, 2015). The relationship between CPI and stock index return is negative.

g) Commodity Prices vs Stock Index Return

The most important commodity that is widely considered to influence stock prices. Many investors choose to invest in the mining sector, especially gold. Gold is a global currency with universally recognized value. Gold has a stable and standardized intrinsic value, which allows it to be purchased and liquefied anywhere. Gold is not affected by inflation (zero inflation). Therefore, the price of gold always follows the movement of inflation. The increase in gold prices will cause investors to be more interested in investing in gold rather than stocks. This situation makes the JCI decrease because investors will sell their shares and switch to gold investments (Sartika, 2017). Therefore, the price of gold will negatively affect the stock price index (Mahendra et al., 2022). The relationship between commodity prices and stock index return is negative.

• PC3 (World Oil Prices) vs Stock Index Return (Y)

(a) Crude Oil Prices vs Stock Index Return

When crude oil production becomes excessive while the oil demand reduces, this leads to a price decline. This condition is explained by the large availability of oil supplies in the market and conversely (Tinambunan, 2019). The relationship between crude oil price and stock index return is positive.

(b) Brent Oil Futures Prices vs Stock Index Return

Generally, an increase in oil prices will lead to an increase in the share price of the mining sector. This condition caused by the increase in oil prices will encourage the increase of mining materials in general. Therefore, it could lead to an increase in the profits of mining sector companies. An increase in the share price of these mining companies would have a direct impact on the JCI. The relationship between brent oil futures price and stock index return is positive.

• PC4 (China Index) vs Stock Index Return (Y)

China is the second developing country with excellent capital market progress. The economic system that has changed from a closed (communist economic system) to an open economic system (Free Market) has brought China to the golden gate to prosperity. The combination of the communist political and market economy systems has made China a very low-price producer. China is ready to compete in international trade in the era of globalization. The progress of China is also influenced by political stability, the implementation of regional autonomy, and the implementation of the national trading system on its stock exchange (Samsul, 2015). The relationship between the China Index and the stock index return is positive.

• PC5 (Arabia Index) vs Stock Index Return (Y)

Several countries with majority muslim populations have been using capital markets to develop their economies for a long time. The implementation of trading in several Islamic countries is regulated in different ways. Iran organizes trading hours only between 09:00 and 12:00 on Saturdays through Wednesdays. Kuwait organizes trading from 07:00 to 14:30 on Saturday, Wednesday, Thursday, and Friday. Trading hours and days are regulated to reduce investor tension in the face of price fluctuations. In addition, this regulation also reduces the risk faced by investors, which is common in countries that do not follow Islamic rules. Examples of several Islamic countries are Bahrain, Bangladesh, Egypt, Indonesia, Iran, Malaysia, Pakistan, Saudi Arabia, Kuwait, Oman, Lebanon and Turkey (Samsul, 2015). The relationship between the Arabia index and stock index return is positive.

• PC6 (Inflation) vs Stock Index Return (Y)

The inflation rate can have a positive or negative effect depending on the actual inflation rate. Excessive inflation can damage the entire economy because many companies will go bankrupt. This means that high inflation will bring down stock prices in the market. Meager inflation will result in prolonged economic growth, which causes stock prices to move slowly (Samsul, 2015). The relationship between inflation and stock index return is positive or negative.

• .PC7 (Competitive Resources) vs Stock Index Return (Y)

Nickel is one of the most important mining materials because it is necessary for many industries, such as the stainless-steel industry, batteries, alloys, and metal plating. Indonesia is the world's largest producer of nickel. According to data from the United States Geological Survey (USGS), Indonesia's nickel production reached 1 million metric tons in 2021, or 37.04% of the world's nickel is in Indonesia. The relationship between competitive resources and stock index return is positive.

4. Results

4.1. Principle Component Analysis (PCA)

Based on the Principal Component Analysis (PCA) results, the 41 macro factors that will be investigated for their influence on Stock Returns as a proxy for IDX performance are reduced to 7 principal components (as an aggregate of macro factors). Referring to the Rotated Component Matrix results, the seven principal components were identified as Global Return Index (PC1 as X1), Macroeconomics (PC2 as X2), World Oil Price (PC3 as X3), China Return Index (PC4 as X4), Saudi Return Index (PC5 as X5), Inflation (PC6 as X6), and Competitiveness (PC7 as X7). The characteristics of each main component on which the identification is based can be seen in Table 2.

4.2. Data Regression Selection Panel

Based on the results of the regression analysis, the regression coefficients for the model of the influence of macro factors on stock returns in the SBY period, as well as in the JKW period (both in the random effect model), can be seen in Table 3 parts (a) and (b). In SBY's model, the direction of influence of the global index, world oil prices, China's index, Arab index, inflation, and competitive resources are positive; whereas in macroeconomics it is negative. Stock returns increased in line with increases in global indices, world oil prices, China indexes, Arab indices, inflation, and competitive resources; and in line with the macroeconomic downturn. Meanwhile, in the JKW model, the direction of influence of the global index, China index, Arab index, inflation, and competitiveness is positive; while macroeconomically and world oil prices are negative. Stock returns increased in line with the increase in global indices, Chinese index, Arab index, inflation, and competitiveness; and in line with the decline in the macroeconomic and world oil prices.

The magnitude of the influence of macro factors simultaneously on stock returns for the SBY period is 6.51% (Adjusted R2) with an F-statistic value = 188.52 (p < 0.001), while for the JKW period it is 3.92% with F = 78.83 (p < 0.001). Referring to the multiple correlation coefficients, namely R = 0.255 and 0.200 for each model (obtained from the root of Adjusted R2), it shows that the simultaneous effect of all the factors studied is relatively weak, while R is between 0.20 - 0.40 (Machali, 2018), both for the SBY and JKW periods. The p < 0.001 for each model shows that the global index, macroeconomics, world oil prices, China index, Arab index, inflation, and competitiveness simultaneously have a significant effect on stock returns, both for the SBY and JKW periods.

In the SBY model, Table 3 part (a) shows that the global index (X1), macro economy (X2), world oil prices (X3), China index (X4), Arab index (X5), and inflation (X6) partially significant effect on stock returns (Y1); but resource competitiveness (X7) has no significant effect. While in the JKW model, Table 3 part (b) shows that the global index (X1), China index (X4), Arab index (X5) and inflation (X6) partially have a significant effect on stock returns (Y2); while macroeconomics (X2), world oil prices (X3), and competitive resources (X7) have no significant effect.

The results of the regression analysis on the different effects of macro factors on stock performance in the last two presidencies (in the random effects model) can be seen in Table 3 part (c). The magnitude of the effect of macro factors simultaneously on stock returns during the SBY and JKW periods was 5.84% (Adjusted R2) with F = 134.01 (p < 0.001). Referring to the value of R = 0.242, it shows that the simultaneous effect of all the factors studied is relatively weak. It was found that macro factors had a significant simultaneous effect on stock returns.

It was found that there was no partial significant difference between the JKW and SBY periods (D.X1). Overall, the table shows that there is no difference in the effect of the global index (D.X1), macro economy (D.X2), China index (D.X4), Arab index (D.X5), and competitiveness (D.X4), (D.X7); however, there is a significant difference in the effect of world oil prices (D.X3) and inflation (D.X6). The difference in the effect of world oil prices in the SBY and JKW periods, the increase in world oil prices in the JKW period tends not to affect changes in stock returns, in contrast to the SBY period, which is followed by an increase in stock returns. While the difference in the effect of inflation in the SBY and JKW periods, the increase in inflation in the JKW period tends to be followed by an increase in stock returns, but with a smaller increase in stock returns compared to the SBY period.

5. Discussion

5.1. The Effect of Macro Factors on Stock Returns in the Last Two Presidencies

The findings of this study prove that the Arbitrage Pricing Theory approach can be used to explain differences in stock performance based on differences in the factors that influence it, as also stated by Samuel (2015). The research findings also tion, and competitiveness. Research findings on the positive influence of the global index, the Chinese index, and the Arab index, as an aggregate of macro factors, on stock performance. This is in accordance with the theory put forward by Samuel (2015) whereas for companies conducting international trade or export-import activities, the economic condition of the counterparty country (country of export destination or country of origin of imports) greatly influences the performance of the issuer in the future. This means that the economic progress and setbacks of the counterparty countries will have a major impact on the Indonesian economy. To find out the progress and decline of the counterpart country's economy in general, one of which is reflected in the changes in the joint stock price index of companies listed on the counterparty country's stock exchange. This is the reason investors always pay attention to regional stock indexes. Often the influence of foreign regional indices is stronger on stock prices on the IDX than domestic macroeconomic conditions at any one time.

Research findings on the effect of macroeconomics on stock performance support the results of research by Astuti et al. (2013) regarding the effect of the benchmark interest rate on the JCI and the results of research by Riantani and Tambunan (2013) and Miyanti and Wiagustini (2018) regarding the effect of reference interest rates on returns. share. In addition, it also supports the results of research by Mutakif and Nurwulandari (2014), Heriyanto and Chen (2014), Astuti et al. (2013), as well as Gojali, Juniwati, and Pratiwi (2021) on the effect of the exchange rate on the JCI and research results Riantani and Tambunan (2013) and Agustina (2020) regarding the effect of the exchange rate on stock returns. Similarly, the results of research by Budiman (2015) and Mahendra et al. (2022) about the effect of commodity prices on the JCI and the results of Miyanti and Wiagustini's (2018) research on the effect of commodity prices on stock returns. Supports the research results of Gojali, Juniwati, and Pratiwi (2021) on the effect of the money supply on the JCI and Agustina's (2020) research on the effect of the money supply on stock returns.

The contribution of this study compared to the results of previous studies is the disclosure of the negative influence of Macroeconomics as an aggregate of macro factors whose characteristics are dominated by all macroeconomic indicators that have been studied (reference interest rates, money supply, gold commodity prices, exchange rates, and the Corruption Perception Index) as well as GDP and bond yields. As an aggregate of macro factors, macroeconomics shows a negative influence on stock returns. The decline in macroeconomic factor scores reflects the increase in the BI Rate, The FED Rate, Indonesia's GDP, and bond yields (negative correlation), as well as the decline in MI, M2, CPI, gold prices, and exchange rates, both for the US, Hong Kong, Singapore, Japan, China, and Malaysia exchange rates (positive correlation).

Research findings on the positive effect of world oil prices on stock performance. In an economic cycle, almost all aspects of economic activity require energy or fuel oil whether it is used to run production machines, producing electrical energy and also means of transportation that can be used as an allocator of goods and services. When there is a fluctuation in world oil prices, it will have an impact on changes in fuel prices in Indonesia because it follows the world crude oil price. In the current condition, if world oil production is abundant while oil demand does not increase or even decreases, then this will cause oil prices to decline due to the large supply of oil in the market (Hap, 2019), and vice versa if there is an increase in oil prices in general it will increase the share price of the mining sector. This is because the increase in oil prices will encourage an increase in mining materials in general. In consequent, this will have the potential to increase the profits of mining sector companies. The increase in the share price of this mining company will have a direct impact on the increase in the JCI. So that world oil prices will have a positive effect on stock returns.

The results of research have the positive effect of inflation as an aggregate of macro factors on stock performance. This is in accordance with the theory put forward by Samsul (2015) that the inflation

rate can have a positive or negative effect depending on the degree of inflation itself. Excessive inflation can harm the economy as a whole, in the sense that many companies will go bankrupt. This means, high inflation will drop stock prices in the market. Very low inflation will result in very sluggish economic growth, which in turn will cause stock prices to move slowly as well. Meanwhile, the results of research on the absence of influence from Competitive Resources is an additional contribution for instance influence of nickel prices as Indonesia's competitive resource in the global stock market. The nickel price (Source of Competitiveness) has no effect because there is a diversity of information that causes differences in decision making by investors.

5.2. Differences in the Effect of Macro Factors on Stock Performance in the Last Two Presidencies

The results showed that there was a significant difference in the effect of the macro factors studied on stock performance in the last two presidencies, namely between the SBY period and the JKW period. Among the seven identified macro factors, the effect of world oil prices and inflation on stock performance during the JKW period differed significantly from that of the SBY period. Meanwhile, the influence of global indexes, macroeconomics, Chinese indices, Arab indices, and competitiveness on stock performance during the JKW period was no different from the SBY period. During the SBY era, world oil prices had a positive effect on stock performance, while during the JKW world oil prices had no significant effect. These results indicate that the term of office of the president moderates the effect of macro factors on stock performance. During the JKW period, the leadership of the JKW government weakened the influence of world oil prices and inflation on stock performance. Meanwhile, the effect of global index, macroeconomic, Chinese index, Arab index, and competitiveness on stock performance is not determined by differences in government leadership.

Regarding the differences in the influence of World Oil Prices during the leadership of SBY and JKW, the background of differences in World Oil Prices during the reigns of SBY and JKW so that there are differences in the focus of budget allocations related to the policy focus of each government. During the three years of JKW's administration, the average price of oil was around US\$ 49.2 per barrel. At the beginning of the government JKW has reduced subsidies for fuel oil. During the administration, JKW chose to reallocate the subsidy budget to finance infrastructure development, which was a top priority in its work agenda, in addition to education and health. Therefore, the budget allocation for infrastructure during the JKW administration tends to increase from year to year. Likewise with the budget for education and health. In contrast to the SBY administration. The beginning of the SBY administration was faced with the development of world crude oil prices which were still high. Previously, the price of oil had penetrated its highest level, reaching US\$ 146 per barrel in July 2008. At that time, the rupiah exchange rate was also under pressure following the aftermath of the 2008-2009 global financial crisis. The SBY government faces pressure from world oil prices so that the budget allocation for energy subsidies during the SBY administration is quite large. The energy subsidy budget accounts for more than 20 percent of total state spending. Through energy subsidies, the government tries to control the inflation rate when oil prices are high. Apart from energy subsidies, one of the largest budget allocations beyond energy subsidies is to finance the education sector with an increasing number from year to year. Meanwhile, the ceiling for the infrastructure budget did not increase significantly during the SBY administration. Likewise with the budget for health, the amount of the budget spent is less than half of the budget for infrastructure development.

Regarding the difference in the influence of inflation during the leadership of SBY and JKW, the background of differences in inflation control policies, where low inflation during the JKW administration is a sign that the pattern of economic development is starting to change. More emphasis on the direction of Indonesia's economic development on income distribution. Meanwhile, during the SBY administration, the economy was directed to reach an optimal growth point with a relatively high inflation rate. The SBY government tries to create a positive margin from the difference between economic growth and the inflation rate with the hope that economic growth can create and encourage people's welfare in a better direction. Welfare resulting from economic growth is expected to be greater than the erosion of purchasing power due to inflation. Meanwhile, during the JKW administration, economic development focused more on income distribution and equitable distribution of welfare levels. In this pattern, the main focus of development is price control in order to maintain the purchasing power of the people as a whole. In other words, the JKW development pattern will tend to maintain the inflation rate at a low level with the consequence of relatively low economic growth as

Based on the results of the analysis, the dominant interaction factor in the model of the difference in the influence of macro factors on stock performance during the SBY and JKW periods is the interaction between the presidency and inflation. This interaction factor is dominant compared to other interaction factors that partially affect stock performance. This shows that the interaction between the leadership of the JKW government and inflation is the most dominant differentiator from the influence of macro factors on stock performance between the SBY and JKW periods. Meanwhile, the interaction factor with the biggest difference in elasticity is the interaction between the leadership period of the JKW government and world oil prices.

6. Conclusion

well.

Arbitrage Pricing Theory (APT) explains that there are certain factors that affect the return of a stock and the possibility of more than one influencing factor. However, this theory does not explain what factors affect the formation of securities prices. Using 7 factor aggregates from 41 indicators that affect stock returns, this research can be an additional reference to explain the Arbitrage Pricing Theory (APT).

Referring to the results of research, it showed that there was a simultaneous effect of macro factors on stock performance, both during the SBY and JKW presidencies. During SBY's presidency, stock returns were positively influenced by global indices, world oil prices, China's index, Arab index, and inflation; and is negatively affected by macroeconomics, entirely in the aggregate of macro factors. Meanwhile, during the JKW presidency, returns were positively influenced by the global index, the Chinese index, the Arab index, and inflation. During his two presidential terms, the global index was the dominant macro factor influencing stock performance. The findings also reveal that there are differences in the effect of world oil prices and inflation on stock performance between the SBY and JKW presidencies. World oil prices during the JKW presidency, it has a positive impact on returns. In addition, inflation during the JKW presidency had a positive effect on returns, but was smaller than during the SBY presidency.

It is recommended that investors consider global stock market performance as the dominant macro factor in making investment decisions in a stock market, including the performance of interacting stock markets such as the performance of China and Arabia stock markets. Investors are also suggested to pay attention to the complexity of the relationship between macroeconomic indicators, both direct and indirect - such as the Corruption Perception Index, especially about their influence on stock performance. In addition, it is recommended to sort out their portfolios based on the sensitivity of stock prices to world oil prices.

Bank Indonesia is suggested to improve its ability to control inflation so that changes in inflation have a positive effect on stock market performance. It is suggested that the government consider the impact of a policy before setting it, both economic and noneconomic policies, on the performance of all economic sectors, including stock market performance. In their investment considerations, investors are advised to involve government policies as a factor that moderates the influence of macro factors, both economic and non-economic, on stock performance.

7. Acknowledgement

We would like to thank the Ministry of Education, Culture, Research, and Technology for funding this research (017/SP2H/RT-JAMAK/LL4/2022). We also thank Sangga Buana University Bandung for campus facilities. We also thank our colleagues in the Faculty of Economics of Sangga Buana University Bandung who have encouraged us to write this work.

References

- Aditya, Sinaga, B. M., & Maulana, T. A. (2018). The Influence of Foreign Exchange Index, Macroeconomic Indicators and Global Economic Crisis on the Composite Stock Price Index in Indonesia. *Journal* of Business and Management Applications, 4(2), 284–295. https://doi.org/10.17358/jabm.4.2.284
- Agustina, L. D. (2020). The effect of macroeconomic indicators on return of the financial sector stock index on the Indonesia stock exchange for the 2011-2015 period. *Journal of Economics and Management Research*, 18(1), 27–43.
- Ali, H. (2014). Analysis of the influence of macroeconomic variables on the Jakarta Islamic Index (Jii) period 2010 – 2013. Significant: Journal of Economics, 3(2), 185–198. https://doi.org/10.15408/sigf. v3i2.2061
- Alianty, H. (2016). The effect of inflation, Rupiah exchange rate (Middle Rate Bi), GDP, world gold prices and world crude oil prices on the JCI for the 2009-2014 Period. *Executive Journal*, 13(2), 345–363. http://jurnal.ibmt.ac.id/index.php/jeksekutif/article/view/123/pdf
- Anwar, S., Kustina, L., & Kaniawati, F. (2018). The effect of the Global Sharia Stock Exchange on the Jakarta Islamic Index period of 2015-2017. JURNAL INVESTASI, 4(2), 16–28.
- Astuti, R., Apriatni, & Susanta, H. (2013). Analysis of the Effect of Interest Rates (SBI), Rupiah Exchange Rates, Inflation, and International Exchange Indexes on the JCI. *Diponegoro Journal of Social* and Political Science, 1–8. http://ejournal-s1.undip.ac.id/index.php/
- Awaludin, R. C., & Khairunnisa. (2020). The influence of the money supply (m2), the Rupiah Exchange Rate against the dollar (USD), and the Bi 7 day (reverse) repo rate on the return of the Jakarta Islamic Index. *EProceedings of Management*, 7(1), 787–794.
- Budiman, A. M. A. (2015). Analysis of the effect of unemployment rate, corruption index, nikkei 225 index, oil prices and gold prices on the JCI for the 1998-2014 period. *Parsimonia*, 2(1), 67–75.
- Chasanah, A. N. (2018). The effect of macroeconomics on stock returns in banking companies. *Journal of Economic Focus*, *13*(2), 111–122.
- Corruption Education Center. (n.d.). Corruption perception index. Retrieved December 6, 2022. https://aclc.kpk.go.id/learning-materials/politic/ infographics/corruption-perception-index
- Darma, Y. D. (2020). Can the multi-factor APT model

describe the relationship of expected return on the LQ45 stock portfolio with systematic risk in the Indonesian capital market. *Journal of Strategic Management and Business Simulation (JMASSBI)*, *1*(2), 1–22. https://doi.org/10.25077/mssb.1.2.1-22.2020

- Desitania, R. (2021). The effect of macroeconomic variables on stock return of sectoral groups listed on the Indonesia stock exchange. *Journal of Management and Business Science*, *12*(2), 201–214. https:// doi.org/10.31258/sorot.16.2.85-98
- Dewi, G.A.K.R., & Vijaya, D.P. (2018). Investment and Indonesian capital market (Rev.ed). Rajagrafindo Persada.
- Djamaluddin, S., & Hosea, J.G. (2021). Effect of macroeconomic variables on the telecommunication sector share return. *Dynasty International Journal* of Economics, Finance & Accounting (DIJEFA), 1(6), 1081–1101. https://dinastipub.org/DIJEFA/ issue/view/34
- Ernawati, Reno Kemala Sari, P., & Ananda, NA. (2019). Comparative study: Reaction of the capital market and Sharia Capital market to the victory of Jokowi 2019 (Jokowi's Effect). *Journal of Management* and Business, 2(2), 8–16. https://doi.org/10.37673/ jmb.v2i2.515
- Fadah, I., Kristianto, D., & Puspitasari, N. (2018). World oil and gold prices as determinants of movement of sectoral indices in BEI period 2011 - 2015. EQUITY (Journal of Economics and Finance), 1(4), 472–490. https://doi.org/10.24034/j25485024.y2017.v1.i4.2685
- Garnia, E. (2021). Impact of Macroeconomic Factors on The Market Performance of Indonesia Sharia Stocks. *International Journal of Economic Research*, 1(1), 49–58.
- Gojali, D. I., Juniwati, E.H., & Pratiwi, L.N. (2021). The Influence of Jub Arti Narrow (M1), BI rate, inflation, and exchange rate on JCI on the Indonesia stock exchange. *Indonesian Journal of Economics* and Management, 1(3), 561–577.
- Habib, M., & Islam, K. U. (2017). Impact of macroeconomic variables on Islamic stock market returns : Evidence from Nifty 50 Shariah index. Academia Accelerating the World's Research, 37–44.
- Hanivah, V., & Wijaya, I. (2018). Effect of debt to equity ratio, total asset turnover, inflation and BI rate on stock return. *Profita Journal*, 11(1), 106– 119. https://doi.org/10.22441/profita.v11.01.008
- Hartantio, V., & Yusbardini, Y. (2020). The influence of various Asian stock indices on the 2015-2019 composite stock price index. *Journal of Manage*-

rial And Entrepreneurship, 2(4), 1096–1105. https://doi.org/10.24912/jmk.v2i4.9895

- Heriyanto, & Chen, M. (2014). Analysis of the effect of consumer price index, money supply (M1), Rupiah exchange rate, and S&P 500 Index on the composite stock price index: Empirical study on the Indonesia stock exchange. Nominal, Barometer of Accounting and Management Research, 3(2), 25–54. https://doi.org/10.21831/nominal. v3i2.2694
- Hidayah, M. N. (2018). "Jokowi Effect" on the composite stock price index. Sukowati Research and Development Journal: Research and Development Media, 1(2), 107–117. https://doi.org/10.32630/ sukowati.v1i2.28
- Hung, N. T. (2021). Dynamic spillover effect and hedging between the gold price and key financial assets. New evidence from Vietnam. *Macroeconomics and Finance in Emerging Market Economies*, 00(00), 1–31. https://doi.org/10.1080/17520843.2 021.1947614
- Husnan, S. (2015). Fundamentals of portfolio theory & securities analysis. UPP STIM YKPN.
- Hutapea, G., Margareth, E., & Tarigan, L. (2014). Analysis of the effect of exchange rates US \$ / IDR , oil prices , gold prices on stock returns (Case Study on IDX Period 2007-2011). *Scientific*, 18(2), 23–33.
- Jabar & Cahyadi, I. F. (2020). Effect of exchange rate, inflation, systematic risk and BI rate on Sharia Stock Returns in the Jakarta Islamic Index (JII) 2015-2018 Period. MALIA: Journal of Islamic Banking and Finance, 4(1), 12–39. https://doi. org/10.21043/malia.v4i1.8409
- Jamil, P. C. (2018). Market return analysis in Indonesia. *KIAT Journal of Economics*, 29(1), 61–65.
- Kalengkongan, N. C., & Rate, P. Van. (2016). The influence of macroeconomic factors on the composite stock price index in Indonesia (JCI) and Japan (Nikkei 225) for the 2011-2015 period. *Scientific Journal of Efficiency*, 16(3), 321–333.
- Kanjilal, K., & Ghosh, S. (2021). Asymmetric and regime switching behaviour of GDP and energy nexus in India: New evidences. *Macroeconomics* and Finance in Emerging Market Economies, 14(1), 45–65. https://doi.org/10.1080/17520843.2020.17 51670
- Koh, W. C. (2017). How do oil supply and demand shocks affect Asian stock markets? *Macroeconomics and Finance in Emerging Market Economies*, 10(1), 1–18. https://doi.org/10.1080/17520843.20 15.1135819

- Lubis, M., Kamaliah, & Savitri, E. (2020). Analysis of the effect of Rupiah exchange rate and Bi Rate on plantation subsector stock returns with crude palm oil (Cpo) Reference prices as moderating variables. *Procuratio Scientific Journal of Management*, 8(1), 108–124.
- Machali, I. (2018). *Education management statistics*. Agency Palace.
- Mahendra, A., Amalia, M. M., & Leon, H. (2022). Analysis of the effect of interest rates, world oil prices, world gold prices on the composite stock price index with inflation as moderating variables in Indonesia. Owner of Research & Accounting Journal, 6(1), 1069–1082. https://doi.org/10.33395/ owner.v6i1.725
- Martiningsih, T., Nas, S., & Mujiono. (2019). The Influence of Bank Indonesia Interest rates and earning per share of chemical sector manufacturing companies listed in Indonesia Stock Exchange in 2013 To 2017. JOM FKIP-UR, 6(1), 1–14.
- Martono, R. D. (2010). Analysis of the effect of world commodity prices on movements in the Composite Stock Price Index (JCI), Lq 45 Index, and the Jakarta Islamic Index (JII) on the Indonesia stock exchange (IDX) (Issue 106081002483). Syarif Hidayatullah State Islamic University.
- Masulili, A. M., & Sinaga, T. H. (2017). Analysis of the Effect of Economic and Political Variables on Stock Returns and JCI of the Telecommunications, Real Estate, and Construction Industries Listed on the IDX for the Period 2009 - October 2014 (SBY Administration) and Nov 2014 - June 2017 (Jokowi Administration). PPM Jakarta College of Management.
- Mawarni, C. P., & Widiasmara, A. (2018). The Influence of the FED Rate, World Oil Prices, BI Rate, Inflation and the Rupiah Exchange Rate on the Indonesian Sharia Stock Index (ISSI) for the Period of 2011-2017. *Journal of Accounting Inventory*, 2(2), 281–297.
- Mie, M., & Agustina. (2014). Analysis of the Influence of the Foreign Composite Stock Price Index on the Indonesian Composite Stock Price. *JWEM* (*Journal of Microskilled Economics Wira*), 4(2), 81–90.
- Miyanti, G. A. D. A., & Wiagustini, L. P. (2018). The Effect of Fed Interest Rates, Oil Prices and Inflation on the Composite Stock Price Index (IHSG) on the Indonesia Stock Exchange. *E-Journal* of Economics and Business, Udayana University, 7(5), 1261–1288. https://doi.org/10.24843/ eeb.2018.v07.i05.p02

- Mubarok, F., Siregar, H., & Nuryartono, N. (2014). Analysis of the Effect of Financial Performance and Macroeconomic Variables on Stock Return of the Plantation Subsector. *Significant: Journal of Economics*, 3(2), 149–168. https://doi. org/10.15408/sigf.v3i2.2058
- Mustafa, M. (2017). Analysis of the Effect of Macroeconomic Factors on Stock Prices in Manufacturing Companies That Go Public on the Indonesia Stock Exchange. EQUITY (Journal of Economics and Finance), 13(1), 1–17. https://doi.org/10.24034/ j25485024.y2009.v13.i1.2102
- Mutakif, F., & Nurwulandari, A. (2014). The Effect of Stock Trading Volume, Exchange Rate and Hang Seng Index on the Movement of the Composite Stock Price Index. *Scientific Journal of Accounting* and Business, 7(2), 178–192.
- Nangoi, Z. L., Mangantar, M., & Loindong, S. S. R. (2022). Impact of Rupiah Exchange Rate and Foreign Stock Price Index on the Indonesian Composite Stock Price Index. *EMBA Journal: Journal* of Economic Research, Management, Business And Accounting, 10(1), 461–470.
- Nas, J. (2015). Contemporary Government Leadership Discourse. Government: Journal of Government Science, 8(1), 1–8. https://journal.unhas.ac.id/index.php/government/article/view/91
- Nasution, M. R. (2020). Shock Macroeconomics: Year 1998; 2008; 2020. Edu Academy, June, 1–8. https:// doi.org/10.13140/RG.2.2.19490.45761
- Nath, G., Dalvi, M., Pawaskar, V., Rajaram, S., & Pacheco, M. (2019). An empirical analysis of efficiency in the Indian gold futures market. *Macroeconomics and Finance in Emerging Market Economies*, *12*(3), 240–269. https://doi.org/10.1080/17520843 .2019.1604556
- Nguyen, C. P., Schinckus, C., Su, T. D., & Chong, F. H. L. (2022). Determinants of stock market returns in emerging markets: The linkage between institutional quality and macro liquidity. *International Journal of Finance and Economics*, 27(4), 4472–4486. https://doi.org/10.1002/ijfe.2382
- Nugraha, D. P., & Putera, A. K. (2021). Analysis of world commodity prices on the mining sector stock price index in Indonesia. FOCUS Journal of Social Studies, 2(1), 48–60. https://doi. org/10.37010/fcs.v2i1.297
- Oktarina, D. (2016). The influence of several global stock indices and macroeconomic indicators on the JCI movement. *Journal of Business & Banking*, 5(2), 163–182. https://doi.org/10.14414/jbb. v5i2.701

- Pétursson, T. G. (2022). Long-term inflation expectations and inflation dynamics. *International Journal of Finance & Economics*, 27(1), 158–174. https://doi.org/https://doi.org/10.1002/ijfe.2144
- Poetra, R. P., & Cahyono, H. (2016). The Effect of Inflation, Crude Oil Prices, Interest Rates, Rupiah Exchange Rates on the Composite Stock Price Index (JCI) on the Indonesia Stock Exchange. UNESA Journal of Management and Business, 4(3), 1–8.
- Prastyo, E. W. Z., & Sertiartiti, L. (2018). Analysis of mining commodity price determination against mining index in JCI (Joint Stock Price Index) period January 2016 - August 2017. *Director*, 2(1), 13–22.
- Riantani, S., & Tambunan, M. (2013). Analysis of the effect of macroeconomic variables and global index on stock returns. National Seminar on Applied Information & Communication Technology, 2013(November), 532–537.
- Samsul, M. (2015). Capital markets & portfolio management. Erlangga.
- Saputri, D., Tahmat, Garnia, E., & Rizal, D. (2020). The effect of inflation, interest rates, exchange rates and gross domestic product on stock returns in the agriculture and mining sector period 2009 – 2019. JEMPER (Journal of Banking Management Economics), 2(2), 112–120. https://doi. org/10.32897/jemper.v2i2.418
- Sartika, U. (2017). The effect of inflation, interest rates, exchange rates, world oil prices and world gold prices on IHSG and JII on the Indonesia Stock Exchange. BALANCE Journal of Accounting and Business, 2(2), 285. https://doi.org/10.32502/jab. v2i2.1180
- Siregar, E. I., & Diana. (2019). The Impact of political risk and macro economics on stock return at indonesia stock exchange (An Approach of arbritage pricing theory (APT). *KnE Social Sciences*, 2019, 744–772. https://doi.org/10.18502/kss.v3i26.5412
- Sugiyono. (2018). Business research methods. Alphabeta.
- Sunarto. (2020). The Influence of the Dow Jones Industrial, Nikkei 225 and FTSE indexes on the composite index and indonesian foreign investors. *Scientific Journal of Reflection: Economics, Accounting, Management and Business*, 3(2), 221–230. https://doi.org/10.37481/sjr.v3i2.198
- Susan, M., & Winarto, J. (2021). Macroeconomic factors' effects on the stock returns of manufacturing companies listed on the Indonesia stock exchange. *Review of Integrative Business and Economics Research*, 10(2), 84–93.

315

- Syarif, M. M., & Asandimitra, N. (2015). The influence of macroeconomic indicators and global factors on the composite stock price index (JCI). *Competence: Journal of Management Studies*, 9(2), 142–156.
- Tinambunan, T. A. (2019). The effect of world gold price, world crude oil price, SSEC index and TASI index on JCI for the period 2012-2016. https://repositori.usu.ac.id/handle/123456789/24224
- Utama, I. W. A. B., & Artini, L. G. S. (2015). The effect of the world stock exchange index on the Indonesia stock exchange composite stock price index. *Journal of Management, Business Strategy And Entrepreneurship*, 9(1), 65–73.
- Wibowo, A. (2017). The Reaction of Indonesian Capital Market Investors to the Jokowi-JK Phase I Economic Policy Package (Study on LQ 45 Stocks for the Period August 2015 – February 2016). Media Economics And Management, 32(1), 58–70. https://doi.org/10.24856/mem.v32i1.452
- Wicaksono, I. S., & Yasa, G. W. (2017). Effect of fed rate, dow jones index, Nikkei 225, Hang Seng on the Composite Stock Price Index. *E-Journal of Accounting*, 18(1), 358–385.
- Wijayaningsih, R., Rahayu, S. M., & Saifi, M. (2016). Effect of BI rate, FED rate, and Rupiah exchange rate on the composite stock price index (JCI) (Study on the Indonesia Stock Exchange Period 2008-2015). Journal of Business Administration S1 Universitas Brawijaya, 33(2), 69–75.
- Wiradharma, M. S., & Sudjarni, L. K. (2016). The effect of interest rates, inflation rates, Rupiah exchange rates and GDP on stock returns. *E- Journal of Management UNUD*, 5(6), 3392–3420.
- Zikri, M., Derriawan, & Salim, F. (2020). The influence of several global stock indices and the dollar exchange rate (USD) on the JCI on the IDX and their impact on the return on shares of companies in the consumer goods industry sector. *Ecobisman Journal*, 4(3), 210–228.
- Zunaitin, E., W, R. N., & P, F. W. (2017). The effect of e-money on inflation in Indonesia. *Journal of Equilibrium*, *II*(1), 18–23.

Appendix

Table 1

Comparison of Research Results Related to Stock Performance

Researcher	Other Market Indices	Researcher	Other Market Indices
	VS		Vs
	JCI		Returnshare
Anwar et al. (2018)	Inconsistent	Riantani & Tambunan (2013)	inconsistent
Mie & Agustina (2014)	Not significant		
Utama & Arti (2015)	Inconsistent		
Sunarto (2020)	Inconsistent		
Mutakif & Nurwulandari	Positive		
(2014)			
Hartantio & Yusbardini	Inconsistent		
(2020)			
Heriyanto & Chen	Positive		
(2014)			
Astuti et al. (2013)	Positive		
Nangoi et al. (2022)	Inconsistent		
Aditya et al. (2018)	Inconsistent		
Wicaksono & Yasa (2017)	Inconsistent		
Budiman (2015)	Positive		
Oktarina (2016)	Inconsistent		
Zikri et al. (2020)	Inconsistent		
Researcher	Reference Interest Rate	Researcher	Reference Interest Rate
	VS		Vs
	JCI		Returnshare
Syarif & Asandimitra (2015	Not significant	Riantani & Tambunan (2013)	Negative
Poetra & Cahyono	Negative	Desitania (2021)	Positive
Astuti et al. (2013)	Negative	Wiradharma & Sudjarni (2016)	Positive
Aditya et al. (2018)	Negative	Miyanti & Wiagustini, (2018)	Positive
Gojali et al. (2021)	Not significant	Martiningsih et al. (2019)	Negative
Wicaksono & Yasa (2017)	Not significant	Chasanah (2018)	Negative
Wijayaningsih et al. (2016)	Inconsistent	Jabar & Cahyadi (2020)	Negative
Mawarni & Widiasmara	Not significant	Awaludin & Khairunnisa (2020)	Not significant
(2018)			
Kalengkongan & Rate	Not significant	Augustina (2020)	Not significant
(2016)			
Mahendra et al. (2022)	Not significant	Hanivah & Wijaya (2018)	Negative
Oktarina (2016)	Not significant	Lubis et al. (2020)	Positive
Mustafa (2017)	Negative	Mubarok et al. (2014)	Negative
Ali (2014)	Negative	Djamaluddin & Hosea (2021)	Negative
Hidayah (2018)	Not significant	Susan & Winarto (2021)	Negative
		Saputri et al. (2020)	Not significant
		Habib & Islam (2017)	Negative

The Impact of the Last Two Presidential Periods on the Performance of the Indonesia Stock Exchanges: An Approach of Arbitrage Pricing Theory

Table 1

Comparison of Research Results Related to Stock Performance (Continued)

Researcher	Exchange Rate	Researcher	Exchange Rate
	vs		Vs
	JCI		Returnshare
Syarif & Asandimitra (2015)	Negative	Riantani & Tambunan (2013)	Negative
Hidayah (2018)	Not significant	Hutapea et al.(2014)	Negative
Poetra & Cahyono (2016)	Not significant	Desitania (2021)	Negative
Mutakif & Nurwulandari	Negative	Wiradharma & Sudjarni (2016)	Not significant
(2014)			
Heriyanto & Chen (2014)	Negative	Chasanah (2018)	Negative
Astuti et al. (2013)	Negative	Awaludin & Khairunni (2020)	Not significant
Nangoi et al. (2022)	Not significant	Augustina (2020)	Negative
Aditya et al. (2018)	Negative	Jabar & Cahyadi (2020)	Negative
Gojali et al. (2021)	Negative	Lubis et al. (2020)	Negative
Mawarni & Widiasmara	Negative	Mubarok et al. (2014)	Not significant
(2018)			
Wijayaningsih et al. (2016)	Negative	Djamaluddin & Hosea (2021)	Negative
Kalengkongan & Rate (2016)	Not significant	Susan & Winarto (2021)	Negative
Oktarina (2016)	Negative	Saputri et al. (2020)	Negative
Zikri et al. (2020)	Negative	Habib & Islam (2017)	Negative
Mustafa (2017)	Negative		0
Ali (2014)	Positive		
Hidavah (2018)	Negative		
Researcher	Commodity Price	Researcher	Commodity Price
	VS		Vs
	JCI		Returnshare
Nugraha & Putera (2021)	Inconsistent	Hutapea et al. (2014)	Inconsistent
Prastyo & Sertiartiti (2018)	Inconsistent	Desitania (2021)	Not significant
Syarif & Asandimitra (2015)	Inconsistent	Miyanti & Wiagustini (2018)	0
Alianty (2016)	Not significant	Augustina (2020)	Not significant
Poetra & Cahyono (2016)	Not significant	Mubarok et al. (2014)	0
Aditya et al. (2018)	No effect		
Mawarni & Widiasmara	Not significant		
(2018)	U		
Kalengkongan & Rate (2016)	Positive		
Oktarina (2016)	Inconsistent		
Budiman (2015)	Positive		
Mahendra et al. (2022)	Positive		
Fadah et al. (2018)	Inconsistent		
Prastyo & Sertiartiti (2018)	Inconsistent		

Table 1

Comparison of Research Results Related to Stock Performance (Continued)

Researcher	JUB	Researcher	JUB
	VS		Vs
	JCI		Returnshare
Heriyanto & Chen(2014)	Not significant	Awaludin & Khairunnisa (2020)	Negative
Gojali et al. (2021)	Positive	Augustina (2020)	Positive
		Habib & Islam (2017)	Not significant
Researcher	Inflation	Researcher	Inflation
	VS		Vs
	JCI		Returnshare
Oktarina (2016)	Not significant	Mubarok et al. (2014)	Negative
Mustafa (2017)	Negative	Djamaluddin & Hosea (2021)	Negative
Ali (2014)	Positive	Susan & Winarto (2021)	Negative
Hidayah (2018)	Not significant	Saputri et al. (2020)	Negative
		Habib & Islam (2017)	Not significant
Researcher	Non-Economy	Researcher	Non-Economy
	VS		Vs
	JCI		Returnshare
Budiman (2015)	Not significant	Masulili & Sinaga (2017)	N/A
Hidayah (2018)	Positive	Mubarok et al. (2014)	Negative
		Wibowo (2017)	Positive
		Ernawati et al. (2019)	Inconsistent

Note: *Junior Chamber International (JCI) Source: Data processed

Figure 1 Research Model





Framework Method



 Table 2

 Main Components of Macro Aggregate Factors Affecting Stock Returns

Agregate Macro Factors	Factors		
PCI: Global Index (17 factors)	Dow Jones, S&P 500, Nasdaq, Nasdaq 100, NYSE, Composite (US Index); Hang-		
	seng (Hongkong Index); Kospi 50, Kospi (Korean Index); FTSE Malaysia KLCI		
	(Malaysia Index); FTSE Singapore, MSCI Singapore (Singapore Index); SET		
	(Thailand Index); Nikkei 225 (Japan Index); DAX, Euro Stoxx 50 (Germany In-		
	dex); CAC 40 (France Index); FTSE England 100 (England Index)		
PC2: Macroeconomics (14 factors)	Bank Indonesia (BI) Rate, FED Rate, Indonesia's Gross Domestic Product (GDP),		
	MI, M2, Corruption Perception Index (CPI), Bond Yield, Gold Prices, US Ex-		
	change Rate (US XR), Hongkong XR, Singapore XR, Japan XR, China XR, Ma-		
	laysia XR		
PC3: World Oil Prices (2 factors)	Crude Oil Prices, Brent Oil Futures		
PC4: China Index (3 factors)	SZSE Composite, Shanghai, Composite, FTSE China 50 (China Index)		
PC5: Arabia Index (3 factors)	UAE ADX, AUE DFM (United Arab Emirates Index); Tasi (Saudi Arabia Index)		
PC6: Inflation (1 factors)	Inflation		
PC7: Competive Resources (1	Nickel Prices		
factors)			

Table 3

The Effect of Macro Factors on Stock Returns During the SBY and JKW Periods

	Coefficient		
	SBY presidency	JKW presidency	SBY_JKW presidency
Variable	(a)	(b)	(c)
С	0.0107(3.27)**	0.0184 (2.58)**	0.0107(3.48)***
Global Index - X1	0.0315(26.12)***	0.0287(20.67)***	0.0315(27.75)***
Macro Economics - X2	-0.0144(-4.18)***	-0.0105(-1.34)	-0.0144(-4.44)***
World Oil Prices - X3	0.0067(3.22)**	-0.0040(-0.99)	0.0067(3.42)***
China Index - X4	0.0122(10.23)***	0.0128(7.14)***	0.0122(10.87)***
Arabia Index - X5	0.0102(9.66)***	0.0078(3.72)***	0.0102(10.26)***
Inflation - X6	0.0202(18.30)***	0.0130(5.78)***	0.0202(19.45)***
Competitive Resources - X7	0.0025(1.75)	0.0059(1.61)	0.0025(1.86)
Presidential Term – D			0.0077(0.91)
D.X1			-0.0028(-1.49)
D.X2			0.0040(0.43)
D.X3			-0.0106(-2.20)*
D.X4			0.0006(0.28)
D.X5			-0.0024(-0.93)
D.X6			-0.0071(-2.65)**
D.X7			0.0034(0.80)
Adjusted R2	6.51%[188.52]***	3.92%[78.83]***	5.84%[134.01]***
(), T values [], E values $* p < 0.0$	5. ** m < 0.01. *** m < 0.001		

() : T-value; [] : F-value; * p < 0.05; ** p < 0.01; *** p < 0.001