

Research article

Indonesian Stock Market Reaction: Effects of Uncertainty Policy Shocks in the United States and China

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Abstract: The purpose of this study is to examine and analyze the effect of economic policy uncertainty US and China on the Indonesian stock market. The data uses time series, from January 2000-July 2022. The methods used are the Structural Vector Error Correction Model (SVECM). The results show that the uncertainty of the US and China's economic policies has a negative and significant effect on the Indonesian stock market. The response of Indonesian stock market responded negatively to the economic policy uncertainties of the US and China. The results of the study show that the uncertainty of the US and China's economic policies has a negative and significant effect on the Indonesian stock market. The response of Indonesian stock market responded negatively to the economic policy uncertainties of the United States and China. The results of the study show that the uncertainty of the US and China's economic policies has a negative and significant effect on the Indonesian stock market. Indonesian stock market responded negatively to the economic policy uncertainties of the United States and China.

Keywords: China's Economic Policy Uncertainty, United States Economic Policy Uncertainty, SVECM, Indonesian Stock Market, Time Series Data

JEL Classification: B23, C22, E44, E60, H54

Abstrak: Tujuan dari penelitian ini adalah untuk menguji dan menganalisis pengaruh ketidakpastian kebijakan ekonomi AS dan China terhadap pasar saham Indonesia. Data menggunakan time series, dari Januari 2000-Juli 2022. Metode yang digunakan adalah Structural Vector Error Correction Model (SVECM). Hasil penelitian menunjukkan bahwa ketidakpastian kebijakan ekonomi AS dan China berpengaruh negatif dan signifikan terhadap pasar saham Indonesia. Respon pasar saham Indonesia merespon negatif ketidakpastian kebijakan ekonomi AS dan China. Hasil penelitian menunjukkan bahwa ketidakpastian kebijakan ekonomi AS dan China berpengaruh negatif dan signifikan terhadap pasar saham Indonesia. Respon pasar saham Indonesia merespon negatif terhadap ketidakpastian kebijakan ekonomi Amerika Serikat dan China. Hasil penelitian menunjukkan bahwa ketidakpastian kebijakan ekonomi AS dan China berpengaruh negatif dan signifikan terhadap pasar saham Indonesia. Pasar saham Indonesia merespon negatif terhadap ketidakpastian kebijakan ekonomi Amerika Serikat dan China.

Kata Kunci: Ketidakpastian Kebijakan Ekonomi China, Ketidakpastian Kebijakan Ekonomi Amerika Serikat, Structural Vector Error Correction Model, Pasar Saham Indonesia, Data Runtut Waktu

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1. INTRODUCTION

The stock market is a topic of empirical research on financial markets that continues to be developed by researchers. There are several issues that are always raised in stock market research. The first issue is the long-term evolution of the stock market. These issues are related to the future development of the stock market, for example, related to a more sophisticated and

more practical platform to assist in determining the price of securities, securing transactions, and encouraging a better allocation of capital (Kuvshinov & Zimmermann, 2022; Abbas et al, 2020; abidin et al, 2019). The second issue concerns the factors that affect the performance of the stock market, within the scope of economic conditions. The economic conditions in question are macro factors, so they cannot be controlled by the company. If economic conditions have a positive performance, then the stock market also turns on positively, conversely, if economic conditions have a negative performance, then the stock market also reacts negatively. (Loecker et al., 2020; Aggarwal et al, 2017). Thus, stable macroeconomic conditions are the driving force for the development of the stock market (Khan & Khan, 2018).

The two issues that have been described lead to the dynamics of the stock market. The dynamics of the stock market in a country are based on the condition of the supply and demand for shares. The demand side is domestic and foreign investors, while the supply side is companies that offer shares on the stock exchange (Prasetyo, 2020). Companies that have made transactions on the stock exchange have gone public so that foreign and domestic investors can purchase shares of the company and have rights over the company (Li & Peng, 2017). Indonesia is a country that has many companies that have gone public (Prasetyo, 2020). This means that the supply side gives positive confidence to the Indonesian stock market, while the demand side gets many choices to purchase shares. These conditions may affect the performance of the Indonesian stock market. The performance of the Indonesian stock market can be demonstrated by stock market capitalization. Stock market capitalization, namely the amount of money issued by investors to buy each company's shares at the prevailing price (Alshubiri, 2021). The higher stock market capitalization means that the stock market in Indonesia is growing rapidly, so this condition needs to be maintained so as not to experience shocks (Wirama et al., 2017).

The stock market plays an important role in the Indonesian economy and the LQ 45 stock index is a stock index consisting of 45 issuers with high liquidity and large market capitalization and supported by good company fundamentals. LQ 45 was chosen because it is the 45 best stocks selected based on trading liquidity and market capitalization which are considered to represent 60 percent of market capitalization and transaction value on the regular market of the Indonesian Stock Exchange with several selection criteria to be included in LQ 45. Therefore, LQ 45 is a favorite stock and much in demand by investors (Utomo et al., 2019). The LQ 45 index aims to complement the JCI and provide a reliable means for investors to monitor the price movements of actively traded stocks.

One of the reasons investors have a negative sentiment toward the Indonesian stock market is the existence of external shocks that result in stock price instability. This is an interesting phenomenon for further research. One of the shocks faced by the Indonesian stock market is the uncertainty of the United States' economic policies and the uncertainty of China's economic policies. The policy uncertainty between the two countries has put a halt to the global economic recovery. For this reason, a strategy is needed to strengthen economic recovery amidst this uncertainty through a mix of monetary and fiscal policies. This is done so as not to have a significant impact on the macroeconomy in general and the capital market. The challenge faced by the Indonesian capital market in conditions of economic policy uncertainty is investor protection. Investors will choose a wait-and-see attitude if economic policy uncertainty continues because laws related to investor protection still need to be strengthened (Prasetyo & Susandika, 2021). (Prasetyo & Susandika 2021), said that the reason for seeing the uncertainty of the two countries' economic policies was because the economies of the United States and China were said to be large open economies. This means that the economic policies made by the two countries have had a significant impact on speculation and global economic stability through trade and finance, including the Indonesian stock market.

Economic policy uncertainty is explained in the volatility, uncertainty, complexity, and ambiguity (VUCA) theory (Kuvshinov & Zimmermann, 2022). The combination of causality that when put together characterizes the nature of some difficult conditions and situations. Volatility describes conditions that are uncertain and occur quickly, making them difficult to identify. Uncertainty causes unclear identification of risk situations correctly, thereby increasing losses.

Complexity occurs as a result of globalization which results in an interconnected and networked environment. With increasingly complex conditions, ambiguous situations are unavoidable.

Empirical studies regarding the uncertainty of the US and China's economic policies were carried out (Kirikkaleli, 2020) found that the stock market in Taiwan was negatively affected by the global economic turmoil. (Gao et al., 2019) also found that US economic policy has a negative effect on UK stock returns. (Kannadhasan & Das, 2020) found that economic policy has a consistent negative relationship across all quantiles of distribution in Asian emerging market stock markets. (Adediran & Akpa 2022) also found that economic policy uncertainty has a negative effect on stock returns in Asia Pacific countries. Tursoy and (Faisal, 2018) investigated the long-term and short-term interactions between stock prices, gold prices, and crude oil prices in Turkey using the ARDL model. The result shows that there is a negative relationship between gold prices and stock prices in Turkey.

The research results by Ding et al. (2017); Hadi. (2018); Hung. (2022); Hussein. (2022) using the structural vector autoregression (SVAR) model Finds that in the short and long term, fluctuations in world oil prices have a negative effect on the Chinese stock market. Different results regarding the relationship between inflation and stock returns were obtained by (Hamidi et al., 2018) using the VECM method. Examines the relationship between several macroeconomic variables (industrial production as a proxy for real output, consumer price index, exchange rate, and money supply (M2)) and the Malaysian Stock Market Index (KLCI). It is found that inflation shows a positive and significant value towards the KLCI in the short term and long term, and then there is a negative relationship between the Malaysian stock price index (KLCI) and the exchange rate. The results are different from the study of (Madyan et al., 2019) regarding the relationship between stock exchanges in the world using the Vector Error Correction Model (VECM) and Granger Causality. It was found that in the short term, there is a negative influence between the Indonesian stock exchange and the US stock market (the Dow Jones). However, in the long term, cointegration was not found between the Indonesian stock exchange and the US stock market. (Madyan et al., 2019; lihan & Akdeniz., 2020) regarding the relationship between the world's stock exchanges using the Vector Error Correction Model (VECM) and Granger causality Found that the relationship between the stock exchanges of China (Shanghai) and Indonesia during the Asian financial crisis only showed a long-term relationship. During the subprime mortgage crisis, the Indonesian and Chinese stock markets correlated in the long and short term.

The Indonesian stock market in this study is not only influenced by economic policy uncertainties in the United States and China, but also by oil prices, gold prices, the Consumer Price Index (CPI), the dollar exchange rate, the yuan exchange rate, the Dow Jones index, and the Shanghai index. World oil prices are used in this study because the trend of Indonesia's need for crude oil has increased. Arbitrage pricing theory (APT) is used to describe the relationship between oil prices and stock returns (Alamgir & Amin, 2021). The relationship between world oil prices and stock prices can be positive or negative. Study by Bouoiyour et al. (2017) found that oil prices are positively correlated with stock returns in oil-importing countries, and negatively correlated with stock returns in oil-exporting countries. The difference in this research is between the method and the research object. Previous studies have only used the VAR or VECM methods to see the impact of policy uncertainty on stocks, such as research by Ding et al. (2017); Hamidi et al. (2018); and Madyan et al. (2019). In addition, the object of research was used. Previous studies conducted by Adediran & Akpa (2022); Gao et al. (2019); Kirikkaleli (2020); Tursoy & Faisal (2018) used stock returns from Taiwan, Britain, Asia-Pacific, and Turkey to see the impact of uncertainty over American and Chinese economic policies.

2. RESEARCH METHODS

The researcher uses monthly from January 2000 to July 2022. This period was taken because during that period there were many shocks, such as economic policy uncertainties in the United States and China, the global economic crisis, the increase or decrease in oil prices, the trade war between the United States and China, and the pandemic. Covid-19. The data consists of US epu (Economic Policy Uncertainty), Chinese epu, world oil prices, world gold prices, Indonesian

Consumer Price Index (CPI), dollar exchange rate, yuan exchange rate, Dow Jones Index, Shanghai Index, CPI United States, China CPI, and LQ45 stocks. Data in the research in the form of numbers come from the official websites www.stlouisfed.org and www.investing.com. This study used the structural vector error correction model (SVECM) analysis method. SVECM is used because, in the VECM model, there is a correlation between errors in VECM. In addition, SVECM is a structural model, meaning that it still considers economic theory.

In theory, economic uncertainty acts as a pull factor or driver of capital flows and a good predictor of recession (Al-Thaqeb et al., 2020). An understanding of uncertainty is a key factor in making investment decisions. This observation stems from the fact that increased uncertainty hampers economic activity and business prospects which jeopardizes future cash flows and in turn, stock prices (Chiang, 2022; Kosangwa & Minja., 2022). Increased economic uncertainty tends to dampen the economic outlook, reduce the attractiveness of domestic investment, and possibly increase capital outflows, thereby weakening stock prices.

Youssef & Mokni (2019) see different results for the relationship between oil prices and stock prices for oil-importing countries and exporting countries. The relationship between stock prices and changes in oil prices in oil-exporting countries is positive because changes in oil prices can stimulate profits for oil-exporting companies. Conversely, the relationship between stock prices and oil prices in oil-importing countries is negative because changes in oil prices can reduce the profits of oil-importing companies. The increase in world gold prices made investors more interested in investing in gold than stocks. (Morema & Bonga, 2020) that investing in the oil and gold markets provides an opportunity to hedge against stock market exposure in developed countries. An increase in the price of gold will encourage investors to choose to invest in gold rather than in the capital market (Basit, 2020; li & Peng., 2017), because, with a relatively lower risk, gold can provide good returns with rising prices.

John (2019) finds that the inflation relationship shows a negative effect on the performance of the stock market in Nigeria. (Badullahewage, 2018; Bouri et al., 2017; Dewi et al., 2022) reveals that the Consumer Price Index plays an important role and increases, and monetary shocks consistently affect stock returns negatively. (Farooq & Ahmed, 2018) also found that higher inflation causes a decrease in investment sensitivity to stock prices. This occurs because higher inflation reduces price efficiency, resulting in less dependence of managers on stock prices. As a result, the sensitivity of investment to stock prices decreases. The relationship between the exchange rate and the stock price index is based on flow-oriented theory, namely the exchange rate has a significant negative effect on the stock index, and this means that an increase in the rupiah exchange rate against the US dollar will reduce the level of risk in stocks that are members of the stock index. Exchange rates rise, the value of sales of exported goods will decrease which will reduce sales and income and the company's share price.

An empirical study regarding the relationship between the Dow Jones Stock Index (USA) and Indonesian stocks was conducted by (Rizqia et al., 2021; Magweva & Sibanda, 2020) in his research show that the Dow Jones Stock Index (USA) has a significant and positive effect on the Indonesian capital market. That is, if the stock price in the USA increases, the Indonesian stock market will also increase. Another study by (Antonakakis et al., 2017; Arjoon et al., 2012; Artini et al., 2017) found that the United States capital market influenced the Indonesian stock market. (Prasetyo, 2020; Majerova & Prazak, 2020; Maulida, 2018) found that the Dow Jones Index has a significant effect on the composite stock price index. Therefore, there is a contagion effect from the Dow Jones Stock Index (USA) on the Indonesian Indonesian stock market. The Shanghai Stock Exchange Composite Index (SSEC) is the largest stock exchange in China. SSEC reflects the overall performance of the stock market in China, so when SSEC increases, the performance of the Chinese economy also improves (Yulianti & Purwohandoko, 2019; Sugiyono). As China is one of Indonesia's biggest export destinations, the rise or fall of China's economy will affect Indonesia, all of these things can reflect the stock exchange conditions of each country. Therefore, an increase in stock prices in China can push up stock prices in Indonesia, and vice versa.

SVECM is an approach to identifying shocks by applying constraints to matrix parameters. In the SVECM analysis, all variables used are assumed to be endogenous variables. The equation

from structural vector error correction model as follow:

Model 1

$$\nabla Y_t = \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \nabla Y_{t-i} + B \varepsilon_t$$

$$\nabla Y_t = \begin{bmatrix} \nabla \ln stocks \\ \nabla \ln EPUUS \\ \nabla \ln OP \\ \nabla \ln GP \\ \nabla \ln CPIIna \\ \nabla \ln Dollar \\ \nabla \ln DJIA \\ \nabla \ln CPIUS \end{bmatrix}_{8 \times 1} = Y_{t-1} \begin{bmatrix} \nabla \ln stocks_{t-1} \\ \nabla \ln EPUUS_{t-1} \\ \nabla \ln OP_{t-1} \\ \nabla \ln GP_{t-1} \\ \nabla \ln CPIIna_{t-1} \\ \nabla \ln Dollar_{t-1} \\ \nabla \ln DJIA_{t-1} \\ \nabla \ln CPIUS_{t-1} \end{bmatrix}_{8 \times 1} + \nabla Y_{t-i} = \begin{bmatrix} \nabla \ln stocks_{t-i} \\ \nabla \ln EPUUS_{t-i} \\ \nabla \ln OP_{t-i} \\ \nabla \ln GP_{t-i} \\ \nabla \ln CPIIna_{t-i} \\ \nabla \ln Dollar_{t-i} \\ \nabla \ln DJIA_{t-i} \\ \nabla \ln CPIUS_{t-i} \end{bmatrix}_{8 \times 1}$$

$$\Pi = \begin{bmatrix} \Pi_{1-1} & \Pi_{1-2} & \Pi_{1-3} & \Pi_{1-4} & \Pi_{1-5} & \Pi_{1-6} & \Pi_{1-7} & \Pi_{1-8} \\ \Pi_{2-1} & \Pi_{2-2} & \Pi_{2-3} & \Pi_{2-4} & \Pi_{2-5} & \Pi_{2-6} & \Pi_{2-7} & \Pi_{2-8} \\ \Pi_{3-1} & \Pi_{3-2} & \Pi_{3-3} & \Pi_{3-4} & \Pi_{3-5} & \Pi_{3-6} & \Pi_{3-7} & \Pi_{3-8} \\ \Pi_{4-1} & \Pi_{4-2} & \Pi_{4-3} & \Pi_{4-4} & \Pi_{4-5} & \Pi_{4-6} & \Pi_{4-7} & \Pi_{4-8} \\ \Pi_{5-1} & \Pi_{5-2} & \Pi_{5-3} & \Pi_{5-4} & \Pi_{5-5} & \Pi_{5-6} & \Pi_{5-7} & \Pi_{5-8} \\ \Pi_{6-1} & \Pi_{6-2} & \Pi_{6-3} & \Pi_{6-4} & \Pi_{6-5} & \Pi_{6-6} & \Pi_{6-7} & \Pi_{6-8} \\ \Pi_{7-1} & \Pi_{7-2} & \Pi_{7-3} & \Pi_{7-4} & \Pi_{7-5} & \Pi_{7-6} & \Pi_{7-7} & \Pi_{7-8} \\ \Pi_{8-1} & \Pi_{8-2} & \Pi_{8-3} & \Pi_{8-4} & \Pi_{8-5} & \Pi_{8-6} & \Pi_{8-7} & \Pi_{8-8} \end{bmatrix}_{8 \times 8} + \Gamma_i = \begin{bmatrix} \Gamma_{1-1} & \Gamma_{1-2} & \Gamma_{1-3} & \Gamma_{1-4} & \Gamma_{1-5} & \Gamma_{1-6} & \Gamma_{1-7} & \Gamma_{1-8} \\ \Gamma_{2-1} & \Gamma_{2-2} & \Gamma_{2-3} & \Gamma_{2-4} & \Gamma_{2-5} & \Gamma_{2-6} & \Gamma_{2-7} & \Gamma_{2-8} \\ \Gamma_{3-1} & \Gamma_{3-2} & \Gamma_{3-3} & \Gamma_{3-4} & \Gamma_{3-5} & \Gamma_{3-6} & \Gamma_{3-7} & \Gamma_{3-8} \\ \Gamma_{4-1} & \Gamma_{4-2} & \Gamma_{4-3} & \Gamma_{4-4} & \Gamma_{4-5} & \Gamma_{4-6} & \Gamma_{4-7} & \Gamma_{4-8} \\ \Gamma_{5-1} & \Gamma_{5-2} & \Gamma_{5-3} & \Gamma_{5-4} & \Gamma_{5-5} & \Gamma_{5-6} & \Gamma_{5-7} & \Gamma_{5-8} \\ \Gamma_{6-1} & \Gamma_{6-2} & \Gamma_{6-3} & \Gamma_{6-4} & \Gamma_{6-5} & \Gamma_{6-6} & \Gamma_{6-7} & \Gamma_{6-8} \\ \Gamma_{7-1} & \Gamma_{7-2} & \Gamma_{7-3} & \Gamma_{7-4} & \Gamma_{7-5} & \Gamma_{7-6} & \Gamma_{7-7} & \Gamma_{7-8} \\ \Gamma_{8-1} & \Gamma_{8-2} & \Gamma_{8-3} & \Gamma_{8-4} & \Gamma_{8-5} & \Gamma_{8-6} & \Gamma_{8-7} & \Gamma_{8-8} \end{bmatrix}_{8 \times 8} +$$

$$B = \begin{bmatrix} b_{1-1} & b_{1-2} & b_{1-3} & b_{1-4} & b_{1-5} & b_{1-6} & b_{1-7} & b_{1-8} \\ b_{2-1} & b_{2-2} & b_{2-3} & b_{2-4} & b_{2-5} & b_{2-6} & b_{2-7} & b_{2-8} \\ b_{3-1} & b_{3-2} & b_{3-3} & b_{3-4} & b_{3-5} & b_{3-6} & b_{3-7} & b_{3-8} \\ b_{4-1} & b_{4-2} & b_{4-3} & b_{4-4} & b_{4-5} & b_{4-6} & b_{4-7} & b_{4-8} \\ b_{5-1} & b_{5-2} & b_{5-3} & b_{5-4} & b_{5-5} & b_{5-6} & b_{5-7} & b_{5-8} \\ b_{6-1} & b_{6-2} & b_{6-3} & b_{6-4} & b_{6-5} & b_{6-6} & b_{6-7} & b_{6-8} \\ b_{7-1} & b_{7-2} & b_{7-3} & b_{7-4} & b_{7-5} & b_{7-6} & b_{7-7} & b_{7-8} \\ b_{8-1} & b_{8-2} & b_{8-3} & b_{8-4} & b_{8-5} & b_{8-6} & b_{8-7} & b_{8-8} \end{bmatrix}_{8 \times 8} \quad \varepsilon_t = \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \\ \varepsilon_{4t} \\ \varepsilon_{5t} \\ \varepsilon_{6t} \\ \varepsilon_{7t} \\ \varepsilon_{8t} \end{bmatrix}_{8 \times 1}$$

Model 2

$$\nabla Y_t = \Pi Y_{t-1} + \sum_{i=1}^{p-1} \Gamma_i \nabla Y_{t-i} + B \varepsilon_t$$

$$\nabla Y_t = \begin{bmatrix} \nabla \ln stocks \\ \nabla \ln EPUChina \\ \nabla \ln OP \\ \nabla \ln GP \\ \nabla \ln CPIIna \\ \nabla \ln Yuan \\ \nabla \ln SSEC \\ \nabla \ln CPICChina \end{bmatrix}_{8 \times 1} + Y_{t-1} = \begin{bmatrix} \nabla \ln stocks_{t-1} \\ \nabla \ln EPUChina_{t-1} \\ \nabla \ln OP_{t-1} \\ \nabla \ln GP_{t-1} \\ \nabla \ln CPIIna_{t-1} \\ \nabla \ln Yuan_{t-1} \\ \nabla \ln SSEC_{t-1} \\ \nabla \ln CPICChina_{t-1} \end{bmatrix}_{8 \times 1} + \nabla Y_{t-i} = \begin{bmatrix} \nabla \ln stocks_{t-i} \\ \nabla \ln EPUChina_{t-i} \\ \nabla \ln OP_{t-i} \\ \nabla \ln GP_{t-i} \\ \nabla \ln CPIIna_{t-i} \\ \nabla \ln Yuan_{t-i} \\ \nabla \ln SSEC_{t-i} \\ \nabla \ln CPICChina_{t-i} \end{bmatrix}_{8 \times 1}$$

$$\Pi = \begin{bmatrix} \Pi_{1-1} & \Pi_{1-2} & \Pi_{1-3} & \Pi_{1-4} & \Pi_{1-5} & \Pi_{1-6} & \Pi_{1-7} & \Pi_{1-8} \\ \Pi_{2-1} & \Pi_{2-2} & \Pi_{2-3} & \Pi_{2-4} & \Pi_{2-5} & \Pi_{2-6} & \Pi_{2-7} & \Pi_{2-8} \\ \Pi_{3-1} & \Pi_{3-2} & \Pi_{3-3} & \Pi_{3-4} & \Pi_{3-5} & \Pi_{3-6} & \Pi_{3-7} & \Pi_{3-8} \\ \Pi_{4-1} & \Pi_{4-2} & \Pi_{4-3} & \Pi_{4-4} & \Pi_{4-5} & \Pi_{4-6} & \Pi_{4-7} & \Pi_{4-8} \\ \Pi_{5-1} & \Pi_{5-2} & \Pi_{5-3} & \Pi_{5-4} & \Pi_{5-5} & \Pi_{5-6} & \Pi_{5-7} & \Pi_{5-8} \\ \Pi_{6-1} & \Pi_{6-2} & \Pi_{6-3} & \Pi_{6-4} & \Pi_{6-5} & \Pi_{6-6} & \Pi_{6-7} & \Pi_{6-8} \\ \Pi_{7-1} & \Pi_{7-2} & \Pi_{7-3} & \Pi_{7-4} & \Pi_{7-5} & \Pi_{7-6} & \Pi_{7-7} & \Pi_{7-8} \\ \Pi_{8-1} & \Pi_{8-2} & \Pi_{8-3} & \Pi_{8-4} & \Pi_{8-5} & \Pi_{8-6} & \Pi_{8-7} & \Pi_{8-8} \end{bmatrix}_{8 \times 8} + B = \begin{bmatrix} b_{1-1} & b_{1-2} & b_{1-3} & b_{1-4} & b_{1-5} & b_{1-6} & b_{1-7} & b_{1-8} \\ b_{2-1} & b_{2-2} & b_{2-3} & b_{2-4} & b_{2-5} & b_{2-6} & b_{2-7} & b_{2-8} \\ b_{3-1} & b_{3-2} & b_{3-3} & b_{3-4} & b_{3-5} & b_{3-6} & b_{3-7} & b_{3-8} \\ b_{4-1} & b_{4-2} & b_{4-3} & b_{4-4} & b_{4-5} & b_{4-6} & b_{4-7} & b_{4-8} \\ b_{5-1} & b_{5-2} & b_{5-3} & b_{5-4} & b_{5-5} & b_{5-6} & b_{5-7} & b_{5-8} \\ b_{6-1} & b_{6-2} & b_{6-3} & b_{6-4} & b_{6-5} & b_{6-6} & b_{6-7} & b_{6-8} \\ b_{7-1} & b_{7-2} & b_{7-3} & b_{7-4} & b_{7-5} & b_{7-6} & b_{7-7} & b_{7-8} \\ b_{8-1} & b_{8-2} & b_{8-3} & b_{8-4} & b_{8-5} & b_{8-6} & b_{8-7} & b_{8-8} \end{bmatrix}_{8 \times 8} +$$

$$\Gamma_i = \begin{bmatrix} \Gamma_{1-1} & \Gamma_{1-2} & \Gamma_{1-3} & \Gamma_{1-4} & \Gamma_{1-5} & \Gamma_{1-6} & \Gamma_{1-7} & \Gamma_{1-8} \\ \Gamma_{2-1} & \Gamma_{2-2} & \Gamma_{2-3} & \Gamma_{2-4} & \Gamma_{2-5} & \Gamma_{2-6} & \Gamma_{2-7} & \Gamma_{2-8} \\ \Gamma_{3-1} & \Gamma_{3-2} & \Gamma_{3-3} & \Gamma_{3-4} & \Gamma_{3-5} & \Gamma_{3-6} & \Gamma_{3-7} & \Gamma_{3-8} \\ \Gamma_{4-1} & \Gamma_{4-2} & \Gamma_{4-3} & \Gamma_{4-4} & \Gamma_{4-5} & \Gamma_{4-6} & \Gamma_{4-7} & \Gamma_{4-8} \\ \Gamma_{5-1} & \Gamma_{5-2} & \Gamma_{5-3} & \Gamma_{5-4} & \Gamma_{5-5} & \Gamma_{5-6} & \Gamma_{5-7} & \Gamma_{5-8} \\ \Gamma_{6-1} & \Gamma_{6-2} & \Gamma_{6-3} & \Gamma_{6-4} & \Gamma_{6-5} & \Gamma_{6-6} & \Gamma_{6-7} & \Gamma_{6-8} \\ \Gamma_{7-1} & \Gamma_{7-2} & \Gamma_{7-3} & \Gamma_{7-4} & \Gamma_{7-5} & \Gamma_{7-6} & \Gamma_{7-7} & \Gamma_{7-8} \\ \Gamma_{8-1} & \Gamma_{8-2} & \Gamma_{8-3} & \Gamma_{8-4} & \Gamma_{8-5} & \Gamma_{8-6} & \Gamma_{8-7} & \Gamma_{8-8} \end{bmatrix}_{8 \times 8} + \varepsilon_t = \begin{bmatrix} \varepsilon_{1t} \\ \varepsilon_{2t} \\ \varepsilon_{3t} \\ \varepsilon_{4t} \\ \varepsilon_{5t} \\ \varepsilon_{6t} \\ \varepsilon_{7t} \\ \varepsilon_{8t} \end{bmatrix}_{8 \times 1}$$

Information on the SVECM model i explained $1, 2, \dots, p - 1, \nabla y_t$ is the first discriminating vector of the 8-dimensional endogenous variable. y_t are variables that can be observed at time t , Π is cointegration matrix measuring 8×8 . Γ_i is parameter coefficient matrix measuring 8×8 . B is the short-term effect matrix of the shock measures 8×8 . Variable ε_t explained 8-dimensional structural shock vector.

The first step in carrying out the analysis is to carry out a stationary test. Testing for stationarity on time series data generally uses the Augmented Dickey-Fuller (ADF) test. Data is said to be stationary if it does not contain a unit root. There are three levels in the stationary test, namely level, $I(1)$, and $I(2)$. The stationarity test uses the ADF test by looking at the ADF p-value. If the probability of the ADF test is less than the level of significance of 1%, 5%, or 10% then the null hypothesis is rejected, so that it can be said that there is no unit root or stationery. If the probability of the ADF test is more than the level of significance of 1%, 5%, or 10%, then the null hypothesis is accepted, meaning that there is a unit root or not stationary. The second step is to do an analysis to choose the optimum lag. The optimum lag is determined through the Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Bayesian Information Criterion (SBIC), and Hannan-Quinn Information Criterion (HQIC), which is the lowest value with the approach. Following are the equations for Final Prediction Error (FPE), Akaike Information Criterion (AIC), Schwarz Bayesian Information Criterion (SBIC), and Hannan-Quinn Information Criterion (HQIC). The selection of this lag is important because if the lag is too short, then the residual from the regression does not show a white noise process so the model cannot estimate the actual error precisely. However, if the lag is too long, the degree of freedom becomes larger (Prasetyo & Susandika, 2021; Maulida, 2018; Nti et al, 2019; Okoebor, 2022; Onyebuchi & Wasiu., 2020; Phuong, 2020).

The third step is the cointegration test. The cointegration test used is the cointegration test with the Johanson cointegration test approach. The Johansen cointegration test is carried out by comparing the Max-Eigen value and the trace statistical value. The null hypothesis indicates no cointegration. The criterion is if the Max-Eigen value and the trace value are less than 1%, 5%, or 10% then the null hypothesis is rejected and the alternative hypothesis is accepted. That is, the data is cointegrated and has a long-term relationship. The fourth step is VECM. The VECM model was first popularized by and is a model used in the non-structural VAR model if the time series data is not stationary at the level and cointegrated so that it shows a theoretical relationship between variables. VECM is part of a restricted VAR, restrictions are given because the data is not stationary but there is cointegration. The fifth step is the Portmanteau Autocorrelation test. An identified model is said to be correct, which is reflected in the error (u_t) which is white noise. That is, the error (u_t) does not correlate with the zero mean and constant variance (Rosyidah et al., 2017; Pujowati et al 2022; Sousa et al.,2018). The hypothesis of the Portmanteau Autocorrelation test for H_0 is that there is no autocorrelation, while H_1 means that there is at least one $\rho_i \neq 0$, and there is autocorrelation. If the p-value of the Q test statistic is greater than α , then accept H_0 meaning that there is no autocorrelation in the remainders until the h-th lag. If the p-value of the Q test statistic is less than α , then reject H_0 means that there is autocorrelation in the residuals up to the h-th lag and the model does not fit. If H_0 is rejected, then proceed with the SVECM method.

3. RESULTS AND DISCUSSION

3.1. Descriptive statistics

Descriptive statistics provide information about the data used in the study which contains the average value (mean), standard deviation, minimum value, and maximum value of each variable. The research variables consist of stocks, Economic Policy Uncertainty (EPU) United State America, Economic Policy Uncertainty (EPU) China, oil prices, gold prices, Indonesian CPI, dollar exchange rate, yuan exchange rate, Dow Jones Index, Shanghai Index, United States CPI, and China CPI which were transformed into natural logarithms from January 2000 until July 2022.

Table 1. Descriptive statistics

Variables	N	Mean	Std Deviasi	Min	Max
lnStocks	271	6.079544	0.8493818	4.264228	7.008288
lnEPUUSA	271	4.758161	0.3380361	4.0466	5.859246
lnEPUChina	271	4.637628	0.7602974	2.313657	6.495006
lnCPIIna	271	4.294967	0.39535	3.475956	4.821185
lnGP	271	6.778067	0.6334272	5.5576	7.593828
lnOP	271	4.057443	0.4584087	2.967333	4.941642
lnDollar	271	9.287467	0.2015304	8.892721	9.672024
lnYuan	271	7.328815	0.285502	6.520939	7.730399
lnDJIA	271	9.587733	0.4176323	8.862616	10.50063
lnSSEC	271	7.787176	0.3578289	6.966722	8.691948
lnCPIUSA	271	4.528951	0.1367754	4.265753	4.828448
lnCPIChina	271	4.48918	0.1637802	4.233706	4.745936

Source: Authors calculations

Table 1 reports the amount of data used in the research for each variable is 271. The LnSaham variable has a mean value of 6.079544 with a standard deviation of 0.8493818. LnepuUS and LnepuChina have a mean of 4.758161 and 4.637628 with a standard deviation of 0.3380361 and 0.7602974, respectively. LnIHKIna has a mean value of 4.294967 with a standard deviation of 0.39535. LnGP and LnOP have mean values of 6.778067 and 4.057443 respectively with standard deviations of 0.6334272 and 0.4584087 respectively. The mean values of the variables LnDollar and LnYuan are 9.287467 and 7.328815, respectively, with a standard deviation of 0.2015304 and 0.285502, respectively. The standard deviation of the LnDJIA and LnSSEC variables are 0.4176323 and 0.3578289. The variables LnCPIUSA and China's CPI have mean values of 4.528951 and 4.48918, respectively.

3.2. Results

The data stationarity test is the first step in analyzing time series data. The stationarity test was carried out on all the variables used in the study to see which variables used were stationary at the level, first difference, or at the second difference level. The stationarity test used in this study is the Augmented Dickey-Fuller (ADF) Unit Root Test at the same degree so that stationary data is obtained.

Table 2 reports the results of the Augmented Dickey-Fuller (ADF) test for the Economic Policy Uncertainty (EPU) United State America, Economic Policy Uncertainty (EPU) China, Indonesian CPI, and the yuan exchange rate are stationary at $I(0)$ which indicates stationary at the level. The four variables are stationary at 1%. This means that H_0 is rejected which indicates that it does not contain a unit root problem. However, other research variables are LQ 45 stocks (Lnsaham), oil prices (LnOP), gold prices (LnGP), dollar exchange rate (LnDollar), Dow Jones Index (LnDJIA), Shanghai Index (LnSSEC), United States America CPI (LnCPIUSA), and China CPI (LnCPIChina) are not stationary. Therefore, a stationary test is carried out at the first difference level to find out whether the other variables are stationary or not. Based on the results of the stationarity test at the first difference level indicated by the p-value $I(1)$ that all research variables namely LQ 45 shares, US epu, Chinese epu, oil prices, gold prices, Indonesian CPI, dollar exchange rate, yuan

exchange rate, dollar volatility, the volatility of the yuan, the United States CPI, and the Chinese CPI are stationary with probability values of less than 1%, 5%, and 10%. This means that H0 is rejected so that all research variables are stationary at the first difference level.

Table 2. Augmented Dickey Fuller (ADF) test

Variables	p-value ADF I(0)	p-value ADF I(1)
Instocks	0.7248	0.0000***
InEPUUSA	0.0001***	0.0000***
InEPUChina	0.0004***	0.0000***
InOP	0.5322	0.0000***
InGP	0.5722	0.0000***
InCPIIna	0.0001***	0.0000***
InDollar	0.5605	0.0000***
InYuan	0.0083***	0.0000***
InDJIA	0.9690	0.0000***
InSSEC	0.3788	0.0000***
InCPIUSA	0.9934	0.0000***
InCPIChina	0.9677	0.0000***

Note: ***, **, * stationary at 1%, 5%, 10%

Source: Authors calculations

The probability value of the Portmanteau Autocorrelation test is less than $\alpha = 0.05$, so it is decided to reject H_0 , which means that there is a correlation between errors in the VECM. Thus, it can be said that the modeling is not suitable if it is modeled using VECM. Therefore, it is continued with Structural VECM modeling. Based on the theory of Volatility, Uncertainty, Complexity, and Ambiguity, it is said that when uncertainty occurs it will lead to ambiguity in evaluating and identifying conditions accurately so that it has the potential to increase larger losses. In these conditions, information is needed to reduce uncertainty (Albulecu et al, 2017; alkhazali & Zoubi., 2020). The estimation results show that in the long run, the uncertainty of the US and China's economic policies has a negative and significant effect on stocks. That is, when there is an increase in uncertainty, the US and China's economic policies will cause a decline in stocks. However, in the short term, the economic policy uncertainties of the United States and China do not have a significant effect on stocks. The results of this estimation are supported by (Chiang, 2022) which concludes that there is a negative relationship between international economic policy uncertainty and stocks. Another study by (Das et al., 2019) concluded that economic policy uncertainty has a significant effect on stock returns in 24 stock markets in developing countries. Another empirical study by (Kirikkaleli., 2019; Albulescu et al., 2017) concluded that the stock market in Taiwan was negatively affected by the global economic shock. This implies that increasing global economic policy uncertainty leads to a decline in the stock market index in Taiwan in the long run.

The United States and China are the countries with the largest economies in the world. Uncertainty in the economic policies of the two countries is a source of uncertainty in global economic policies that have an impact on the Indonesian economy. This condition is called the contagion effect, which is a phenomenon when a financial crisis that occurs in one country will trigger a financial crisis in another country (Adisetiawan & Ahmadi, 2018; al-Ameer et al., 2018). The uncertainty over the economic policies of the two countries has resulted in high-risk perceptions by investors on the Indonesian financial market, which has had an impact on the Indonesian stock market. Uncertainty about the economic policies of the United States and China was caused by the global financial crisis, the trade war between China and the United States, China's structural reforms were not going smoothly, the devaluation of the RMB, and the COVID-19 pandemic. An example of economic policy uncertainty on the monetary side, namely the Fed which initially raised interest rates, but changed to lower interest rates, then the Fed is not known to want to lower or raise interest rates. This condition sent the Indonesian stock market into shock.

Table 3 is the optimum lag test result. Table 3 can be seen that all models used in the study have an optimum lag at lag 2. The results of determining the optimum lag are based on the smallest Akaike Information Criterion (AIC) value of each research model. Thus, the optimum lag used in each research model is lag 2.

Table 3. The optimum lag criteria and Johansen cointegration test

Model	Lag Optimum AIC	Rank
Model 1	Lag 2	1
Model 2	Lag 2	1

Source: Authors calculations

The next estimation result is the cointegration test result. The cointegration test carried out in this study is the Johansen Cointegration Test. The following are the results of the Johansen cointegration test. Table 3 shows the results of the cointegration test with the Johansen cointegration test approach. In all models used in the study, there is cointegration with rank 1. This indicates that accepting H1 states that there is cointegration in the movement of all research variables. Further analysis can be carried out using the VECM model.

The VECM model is said to be stable if the modulus value is less than 1 or is in a circle and is said to be unstable if the modulus value is more than 1. Based on the stability test results in Figure 1 the VECM model is stable. This can be seen from the modulus value inside the circle. Based on the results of the VECM stability test in Figure 1, the analysis models 1 and 2 are stable. The modulus value is less than 1 or is not outside the circle.

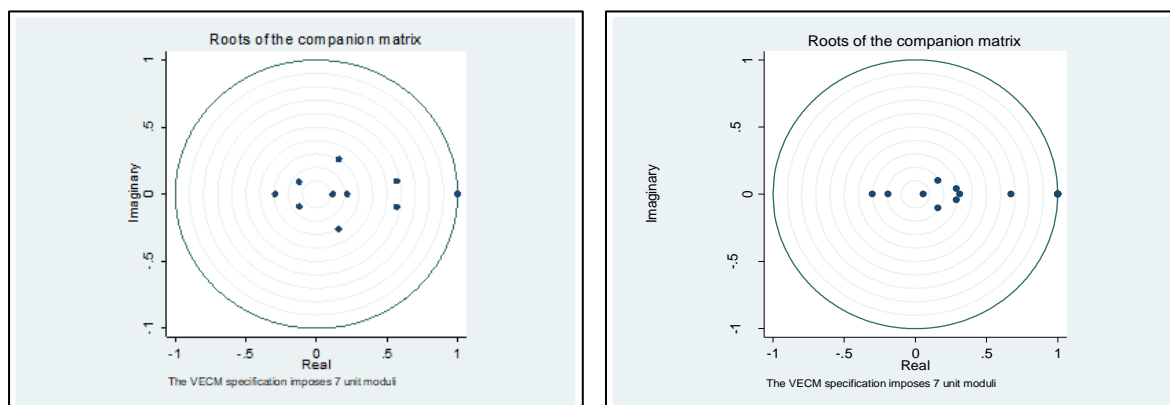


Figure 1. Parameter Stability of VECM Model 1 and Model 2

Source: Authors calculations

The estimation of the vector error correction model is carried out because the time series data is stationary at the first difference level and there is cointegration during the Johansen Cointegration Test to see short-term and long-term analysis. Table 4 shows the short-term estimation results. The results of the short-term estimation above show that there are more variables that are not significant to stocks. The variables LnepuUS, LnepuChina, and LnDJIA have a positive and significant effect on stocks in the short term, while the variable LnYuan has a negative and significant effect on stocks in the short term. The ECT coefficient on all models shows negative and significant results. Table 4 shows the long-term estimation results. Based on the table above, in the long run, US epu and China epu have a negative and significant effect on stocks in all models. The estimation results show that H0 is rejected, which means that the US epu variable influences stocks. This means that the decline in US epu and China epu will encourage an increase in stocks. Assumption *ceteris paribus*.

Table 4. The result of vector error correction model

Variables	Dependent variable = lnStocks			
	Short-run		Long-run	
	Model 1	Model 2	Model 1	Model 2
lnEPUUSA			1.314306*** (0.1603884)	-
lnEPUChina			-	0.8867111*** (0.0786577)
lnOP			-0.1158669 (0.1519869)	-0.3387193*** (0.0863572)
lnGP			-2.151922*** (0.3477693)	0.2615926 (0.2092774)
lnCPIIna			1.547871*** (0.7505558)	-1.82645*** (0.5130881)
lnDollar			-2.286258*** (0.5718096)	-
lnYuan			-	1.545427*** (0.3485127)
lnDJIA			0.1951852 (0.2568377)	-
lnSSEC			-	-0.0842647 (0.1087615)
lnCPIUSA			0.0697935 (2.388317)	-
lnCPIChina			-	-6.603823*** (1.124245)
D(lnstocks)	0.0902831 (0.0704701)	0.461433 (0.0660247)		
D(lnEPUUSA)	0.0454337* (0.024492)	-		
D(lnEPUChina)	-	0.0237719** (0.118141)		
D(lnOP)	-0.0030849 (0.0611946)	0.0065064 (0.0561602)		
D(lnGP)	0.0242157 (0.097278)	-0.0142264 (0.0938411)		
D(lnCPIIna)	0.1014438 (0.5561234)	0.18561 (0.5461915)		
D(lnDollar)	0.1381638 (0.1463816)	-		
D(lnYuan)	-	-0.9828653*** (0.2146163)		
D(lnDJIA)	0.3274396*** (0.1042396)	-		
D(lnSSEC)	-	0.0277416 (0.0531394)		
D(lnCPIUSA)	0.0769939 (1.056155)	-		
D(lnCPIChina)	-	-0.3277961 (0.6435048)		
ECT	-0.0291999* (0.0163481)	-0.0253205* (0.0145969)		

Note: ***, **, * significant at 1%, 5%, 10%

Source: STATA 17, Authors calculations

The next estimation result, namely the Portmanteau autocorrelation test, is used to test the overall significance of the residual autocorrelation up to lag h . The hypothesis used is that H_0 is that there is no autocorrelation between residuals, while H_1 is that there is autocorrelation between residuals. Table 5 reports the probability value of the Portmanteau autocorrelation test is less than $\alpha = 0.05$, so it is decided to reject H_0 , which means that there is a correlation between errors in the VECM. Thus, it can be said that the modeling is not suitable if it is modeled using VECM. Therefore, it is continued with structural VECM modeling.

Table 5. Portmanteau autocorrelation test

Model	Q statistic	P-Value	Note
Model 1	39675.7847	0.0000	Reject H_0
Model 2	41010.3153	0.0000	Reject H_0

Source: Authors calculations

3.3. Discussion

The results of the Portmanteau Autocorrelation test show that H_0 is rejected, so H_1 is accepted. This means that there is a correlation between errors in the VECM model, so the model used is SVECM. The model is used to analyze the impulse response and variance decomposition. The long-term and short-term estimation results can be analyzed using VECM. The SVECM results are listed in Figure 2 and 3.

Gao et al. (2019) revealed that the uncertainty of international economic policies had a negative effect on British stock returns. The results of this estimation are also supported by Chiang (2022) which concludes that there is a negative relationship between international economic policy uncertainty and stocks. Another study by Das et al. (2019) concluded that economic policy uncertainty had a significant effect on stock returns in 24 stock markets in developing countries. Another empirical study by Kirikkaleli (2019) concluded that the stock market in Taiwan was negatively affected by the global economic shock. This implies that increasing global economic policy uncertainty leads to a decline in the stock market index in Taiwan in the long term.

The United States and China are the countries with the largest economies in the world. Uncertainty in the economic policies of the two countries is a source of uncertainty in global economic policies that have an impact on the Indonesian economy. This condition is called the contagion effect, which is a phenomenon when a financial crisis that occurs in one country will trigger a financial crisis in another country (Adisetiawan & Ahmadi, 2018). The uncertainty over the economic policies of the two countries has resulted in high-risk perceptions by investors on the Indonesian financial market, which has had an impact on the Indonesian stock market. Uncertainty about the economic policies of the United States and China was caused by the global financial crisis, the trade war between China and the United States, China's structural reforms were not going smoothly, the devaluation of the RMB, and the Covid-19 pandemic. An example of economic policy uncertainty on the monetary side, namely the Fed which initially raised interest rates, but changed to lower interest rates, then the Fed is not known to want to lower or raise interest rates. This condition sent the Indonesian stock market into shock.

The coefficient results of the oil price variable have a positive and significant effect on stocks in model 2 with coefficient values of -0.338719. Rising oil prices will drive up stocks. The results of this estimation are supported the empirical study by Tursoy & Faisal (2018); Trabelsi et al. (2021); Ullah et al. (2017); Zamovic et al. (2021) which concludes that there is a positive relationship between oil prices and stock prices in Turkey in the short and long term. However, Model 1 show that oil prices have no effect on stocks in the long run. The results of this estimation indicate that accepting H_0 means that the oil price variable has no significant effect on stocks. These results are not in accordance with the research hypothesis. The results of the gold price coefficient have a positive and significant effect on stocks in Model 1. These results indicate that partially the gold price variable has effect on gold in the long term. This means that an increase in the price of gold will encourage an increase in stocks.

The results of the estimation of the Indonesian CPI show that model 1 it shows that the Indonesian CPI has a negative and significant effect on stocks. That is, the decline in Indonesia's CPI led to an increase in stocks. Assumption *ceteris paribus*. The estimation results are supported study by Alam (2020) which reveals that inflation has a negative effect on stock market returns in selected South Asian countries. At 2 shows that the Indonesian CPI has a positive and significant effect on stocks. These results indicate that H_0 is rejected, which means that the Indonesian CPI variable affects stocks. The estimation results are supported by the research results of Hamidi et al. (2018) which states that inflation has a positive and significant effect on KLCI in the short and long term.

The results of the dollar exchange rate coefficient show a positive and significant effect on stocks with a coefficient value of -2.286258. These results indicate that partially the dollar exchange rate variable affects stocks in the long term. An increase in the dollar exchange rate by 1 percent will encourage an increase in shares of -2.286258 percent. The results of this estimation are supported by the results of (Khalid, 2017) which concluded that the exchange rate has a positive effect on the performance of the Pakistan stock market. Another study by Rizqia et al. (2021) concluded that the exchange rate has a positive effect on the development of the Indonesian capital market.

The estimation results of the yuan exchange rate have a negative and significant effect on stocks with a coefficient of 1.545427. That is, a decrease in the yuan exchange rate of 1 percent will encourage an increase in shares of 1.545427 percent. Assumption *ceteris paribus*. These results indicate that H_0 is rejected, which means that the yuan exchange rate variable affects stocks in the long run. The estimation results are supported by Hamidi et al. (2018) who concluded that there is a negative relationship between the Malaysian stock price index (KLCI) and the exchange rate. Another study by (Alam, 2020) revealed that exchange rates have a negative impact on stock market returns in selected South Asian countries.

The results of the estimation of the Dow Jones Index variable show that there is no significant effect on stocks in the long run. That is, H_1 is rejected which states that the Dow Jones index has effect on stocks in the long run. The estimation results are not in accordance with the research hypothesis. The estimation results of the Shanghai Index variable show that there is no effect on stocks in the research model. Thus, H_1 is rejected which states that the Shanghai Index variable has effect on stocks in the long run. The estimation results are not in accordance with the research hypothesis. The United States CPI estimation results in Model 1 show that the United States CPI has no significant effect on stocks. That is, H_1 is rejected which states that the United States CPI has effect on stocks in the long run. Thus, these results are not in accordance with the research hypothesis. The estimation results of China's CPI variable have a positive and significant effect on stocks. These results indicate that China's CPI increase pushed up stocks. Thus, H_0 is rejected, which means that China's CPI variable partially affects stocks in the long run. The estimation results are supported by Hamidi et al. (2018) which revealed that inflation had a positive effect on the Malaysian stock market index in the short and long term.

The impulse Response Function is used to provide an overview of how the response of an endogenous variable to a certain shock. The response to the resulting impulse response function can be positive, or negative, and can also not respond. A positive response is obtained when it is above the horizon line and in the same direction, whereas a negative response is obtained when it is below the horizon line and in the opposite direction. Saying not responding is indicated by a graph that tends to be horizontal and close to the horizon line. The horizontal axis in the impulse response function is the period in the future after the shock occurs, while the vertical axis shows the response value.

Figure 2 reports the results of the estimation of the impulse responses to uncertainty in the US and China's economic policies on the Indonesian stock market. Based on the graph, it shows that the Indonesian stock market responded negatively to the shock of uncertainty over the US and China's economic policies. This condition means that when there is a shock, the economic policy uncertainty of the United States and China results in a decline in the Indonesian stock market. The Indonesian stock market is more sensitive to China's economic policy uncertainties

than the United States' economic policy uncertainties. Uncertainty over China's economic policy has caused investors' perceptions of risk in the Indonesian stock market to increase. This means that Indonesia is better able to deal with the impact of US economic policy uncertainty than China's economic policy uncertainty. Based on this response, a correction is likely to occur, in line with the weakening that occurred in regional and global markets (indicated by a negative response). Therefore, it is necessary to look at the resilience of the business sectors in various economic conditions with moderate to poor assumptions.

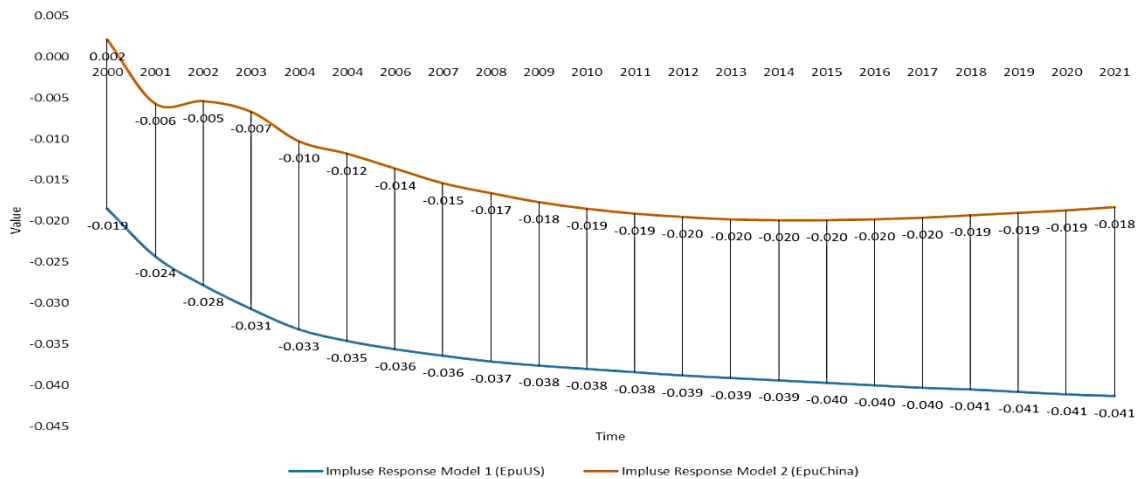


Figure 2. SVECM Respon LQ45 Stocks to Impluse EPUUSA and EPUChina
Source: Authors calculations

The estimation results are supported by Das et al. (2019) who concluded that the impact of US economic policy uncertainty shocks was heterogeneous across stock markets in terms of causality and the intensity and uncertainty of US economic policy had a significant effect on stock returns in 24 emerging markets. This result is supported by Chiang (2022) who concluded that there is a negative relationship between the uncertainty of international economic policies and stock prices. Another study by (Adediran & Akpa, 2022) states that economic policy uncertainty has a negative impact on APC stock returns. Uncertainty about the US and China's economic policies was responded negatively by the Indonesian stock market. This happens because investors will delay making transactions on the Indonesian stock exchange until economic policy uncertainties can be resolved. Investors will also delay investing because economic policy uncertainty can increase investment risk. These conditions caused the Indonesian stock market to experience a decline when there was an increase in economic policy uncertainty.

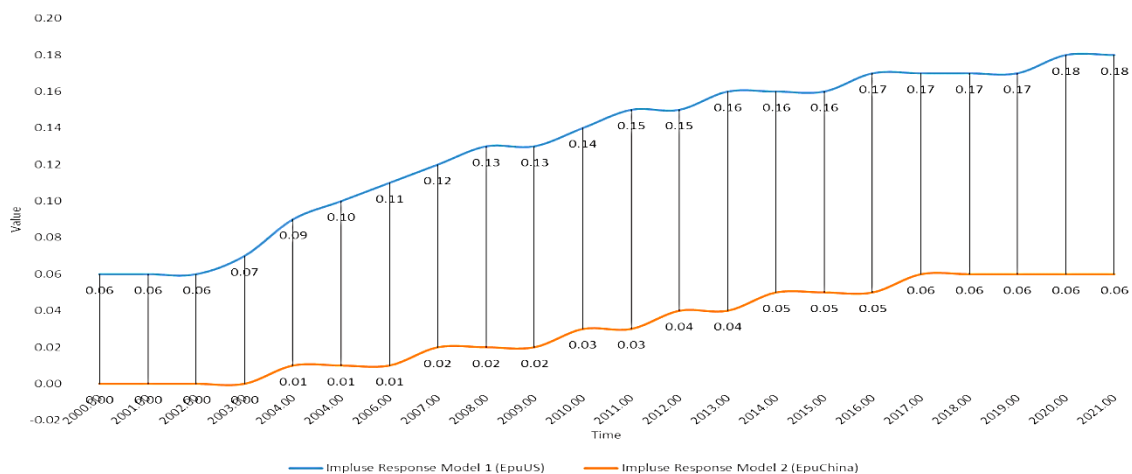


Figure 3. SVECM Variance Decomposition EPUUSA and EPUChina on LQ45 Stocks
Source: Authors calculations

Analysis of variance decomposition (VD) is used to explain the contribution of each variable to the shock it causes to the main endogenous variables observed. This analysis is used to predict how much the variance contribution of each variable affects other variables currently and in the next period. The variance decomposition shows how much uncertainty the US and China's economic policies contribute to the Indonesian stock market during a shock. The results of the estimation of the variance decomposition of the economic policy uncertainties of the United States and China can be seen in Figure 3.

Figure 3 shows the contribution of China's economic policy uncertainty to the Indonesian stock market is higher when compared to the United States' economic policy uncertainty both using exchange rates and exchange rate volatility. This is a finding that China's economic policy uncertainties play a greater role in influencing the Indonesian stock market. The large contribution of China's economic policy uncertainty to the Indonesian stock market can be through international trade because China is a major trading partner that makes a major contribution to Indonesia. Uncertainty over the US and China's economic policies played a role in influencing stock performance. Bank Indonesia and the government are always vigilant and careful in responding to these two problems. If Indonesian banks and the government are slow to respond to these conditions, it will put pressure on the Indonesia Stock Exchange. This also means that the macroeconomic policies implemented by the Indonesian government have not been optimal in stabilizing the impact of global economic policy uncertainty.

4. CONCLUSIONS

Based on the estimation results, it can be concluded that the economic policy uncertainty of the United States and China has a negative and significant impact on the Indonesian stock market. The results of the study show that the uncertainty of the US and China's economic policies has a negative and significant effect on the Indonesian stock market. The response of Indonesian stock market responded negatively to the economic policy uncertainties of the United States and China. The results of the study show that the uncertainty of the US and China's economic policies has a negative and significant effect on the Indonesian stock market. The response of Indonesian stock market responded negatively to the economic policy uncertainties of the United States and China. The results of the study show that the uncertainty of the US and China's economic policies has a negative and significant effect on the Indonesian stock market. The response of Indonesian stock market responded negatively to the economic policy uncertainties of the United States and China. It is for the government and the authorized Bank of Indonesia to be able to establish policies that can truly maintain optimal macroeconomic stability in overcoming the uncertainty of global economic policies so that movements in the Indonesian stock market remain stable. Investors should always observe and consider macroeconomic conditions to predict stock price movements on the Indonesia Stock Exchange. There are limited time and the ability of researchers, so that in this study only used 3 stock price indices. It is hoped that in future research it can add other stock price indexes. The predictor variables used can be added, for example regarding political factors. It is also hoped that further research can use a longer timeframe.

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REFERENCES

- Abbas, G., & Wang, S. (2020). Does macroeconomic uncertainty really matter in predicting stock market behavior? A comparative study on China and USA. *China Finance Review International*, 10(4), 393–427. <https://doi.org/10.1108/CFRI-06-2019-0077>
- Abidin, S. Z., & Banchit, A. (2019). Causality and cointegration of stock markets within the asian growth triangle. *Proceeding International Congress on Modelling and Simulation, December*, 498–504. <https://doi.org/10.36334/modsim.2019.e1.abidin>

- Adediran, I. A., & Akpa, E. O. (2022). A Note on the Transmission of Policy Uncertainty Shocks on Asia- Pacific Stock Returns. *Asian Economics Letters*, 3(3), 1–7.
- Adisetiawan, R., & Ahmadi, A. (2018). Contagion Effect Antar Negara Asean-5. *J-MAS (Jurnal Manajemen Dan Sains)*, 3(2), 203. <https://doi.org/10.33087/jmas.v3i2.58>
- Aggarwal, P., & Saqib, N. (2017). Impact of Macro Economic Variables of India and USA on Indian Stock Market. *International Journal of Economics and Financial*, 7(4), 10–14.
- Alam, Q. N. (2020). Impacts of macroeconomic variables on the stock market returns of South Asian Region. *Canadian Journal of Business and Information Studies Journal*, 2(2), 24–34.
- Al-Ameer, M., Hammad, W., Ismail, A., & Hamdan, A. (2018). The relationship of gold price with the stock market: The case of frankfurt stock exchange. *International Journal of Energy Economics and Policy*, 8(5), 357–371.
- Alamgir, F., & Amin, S. Bin. (2021). The nexus between oil price and stock market : Evidence from South Asia. *Energy Reports*, 7, 693–703. <https://doi.org/10.1016/j.egyr.2021.01.027>
- Albulescu, C. T., Aubin, C., & Goyeau, D. (2017). Stock prices, inflation and inflation uncertainty in the U.S.: testing the long-run relationship considering Dow Jones sector indexes. *Applied Economics*, 49(18), 1794–1807. <https://doi.org/10.1080/00036846.2016.1226491>
- Alkhazali, O. M., & Zoubi, T. A. (2020). Gold and portfolio diversification: A stochastic dominance analysis of the Dow Jones Islamic indices. *Pacific Basin Finance Journal*, 60(June 2019), 101264. <https://doi.org/10.1016/j.pacfin.2020.101264>
- Alshubiri, F. (2021). Portfolio Returns of Islamic Indices and Stock Prices in GCC Countries : Empirical Evidence From the ARDL Model. *SAGE Open*, 1–16. <https://doi.org/10.1177/21582440211018460>
- Al-Thaqeb, S. A., Algharabali, B. G., & Alabdulghafour, K. T. (2020). The pandemic and economic policy uncertainty. *International Journal of Finance and Economics*, 27(3), 2784–2794. <https://doi.org/10.1002/ijfe.2298>
- Antonakakis, N., Gupta, R., & Tiwari, A. K. (2017). Has the correlation of inflation and stock prices changed in the United States over the last two centuries? *Research in International Business and Finance*, 42, 1–8. <https://doi.org/10.1016/j.ribaf.2017.04.005>
- Arjoon, R., Botes, M., Chesang, L. K., & Gupta, R. (2012). The long-run relationship between inflation and real stock prices: Empirical evidence from South Africa. *Journal of Business Economics and Management*, 13(4), 600–613. <https://doi.org/10.3846/16111699.2011.620162>
- Artini, L. G. S., Aryati, N. T., Lestari, P. V., Darmayanti, N. P. A., & Sudiarta, G. M. (2017). Analisis Fundamental Makro Dan Integrasi Pasar Saham Dunia Dengan Bursa Efek Indonesia. *Matrik : Jurnal Manajemen, Strategi Bisnis Dan Kewirausahaan*, 11(2), 128. <https://doi.org/10.24843/matrik:jmbk.2017.v11.i02.p03>
- Badullahewage, S. U. (2018). The Effects of Macroeconomic Factors on the Performance of Stock Market in Sri Lanka. *International Journal of Innovation and Economic Development*, 3(6), 33–41. <https://doi.org/10.18775/ijied.1849-7551-7020.2015.36.2002>
- Basit, A. (2020). Pengaruh Harga Emas Dan Minyak Dunia Terhadap Indeks Harga Saham Gabungan (IHSG) Periode 2016-2019. *Jurnal Aplikasi Akuntansi*, 5(1), 42–51. <https://doi.org/10.29303/jaa.v5i1.89>
- Bennett, N., & Lemoine, G. J. (2014). What a difference a word makes: Understanding threats to performance in a VUCA world. *Business Horizons*, 57(3), 311–317. <https://doi.org/10.1016/j.bushor.2014.01.001>
- Bouoiyour, J., Selmi, R., Shahzad, S. J. H., & Shahbaz, M. (2017). Response of stock returns to oil price shocks: Evidence from oil importing and exporting countries. *Journal of Economic Integration*, 32(4), 954–977. <https://doi.org/10.11130/jei.2017.32.4.954>
- Bouri, E., Jain, A., Biswal, P. C., & Roubaud, D. (2017). Cointegration and nonlinear causality amongst gold, oil, and the Indian stock market: Evidence from implied volatility indices. *Resources Policy*, 52(May 2016), 201–206. <https://doi.org/10.1016/j.resourpol.2017.03.003>
- Chiang, T. C. (2022). Evidence of Economic Policy Uncertainty and COVID-19 Pandemic on Global Stock Returns. *Journal of Risk and Financial Management*.

- Das, D., Kannadhasan, M., & Bhattacharyya, M. (2019). Do the emerging stock markets react to international economic policy uncertainty, geopolitical risk and financial stress alike? *North American Journal of Economics and Finance*. <https://doi.org/10.1016/j.najef.2019.01.008>
- Dewi, Risna, & Nawawi, Z, M. (2022). Analysis of The Development of Import Exports of Economic Goods Group in North Sumatra Province in 2016-2020. *Jurnal Pamator*, 15(1), 137-145
- Ding, Z., Liu, Z., Zhang, Y., & Long, R. (2017). The contagion effect of international crude oil price fluctuations on Chinese stock market investor sentiment. *Applied Energy*, 187, 27–36. <https://doi.org/10.1016/j.apenergy.2016.11.037>
- Farooq, O., & Ahmed, N. (2018). Does inflation affect sensitivity of investment to stock prices? Evidence from emerging markets. *Finance Research Letters*, 25, 160–164. <https://doi.org/10.1016/j.frl.2017.10.019>
- Gao, J., Zhu, S., O’Sullivan, N., & Sherman, M. (2019). The Role of Economic Uncertainty in UK Stock Returns. *Journal of Risk and Financial Management*, 12(1), 5. <https://doi.org/10.3390/jrfm12010005>
- Hadi, S. (2018). Keterkaitan Pasar Modal di Amerika Serikat, Indonesia dan Korea Selatan. *Jurnal Inovasi Ekonomi*, 3(01), 19–22. <https://doi.org/10.22219/jiko.v3i01.5526>
- Hamidi, H. N. A., Khalid, N., & Karim, Z. A. (2018). Revisiting relationship between Malaysian stock market index and selected macroeconomic variables using asymmetric cointegration. *Jurnal Ekonomi Malaysia*, 52(1), 311–319.
- Hung, N. T. (2022). Re-study on dynamic connectedness between macroeconomic indicators and the stock market in China. *Romanian Journal of Economic Forecasting*, 2.
- Hussein, A. A. (2020). Effect of inflationary expectations on stock market returns in Nigeria. *Journal of Economic Studies*.
- Ilhan, A., & Akdeniz, C. (2020). The impact of macroeconomic variables on the stock market in the time of COVID-19 : The case of Turkey. *Journal of Research in Economics, Politics & Finance*, 5(3), 893–912. <https://doi.org/10.30784/epfad.810630>
- John, E. I. (2019). Effect of Macroeconomic Variables on Stock Market Performance in Nigeria. *Journal of Economics Management and Trade*, 22(6), 1–14. <https://doi.org/10.9734/jemt/2019/v22i630110>
- Kannadhasan, M., & Das, D. (2020). Do Asian emerging stock markets react to international economic policy uncertainty and geopolitical risk alike? A quantile regression approach. *Finance Research Letters*, 34(August 2019), 1–7. <https://doi.org/10.1016/j.frl.2019.08.024>
- Karim, A. (2020). Does the Covid-19 Pandemic Affect the Stock Market in Indonesia. *ACADEMIA Accelerating the World’s Research*, 24(1), 33–47. <https://doi.org/10.22146/jsp>
- Karim, Z. A., Karim, B. A., & Zaidi, M. A. S. (2012). Fixed investment , household consumption , and economic growth : A structural vector error correction model (SVECM) study of Malaysia. *International Journal of Business and Society*, 13(1), 63–76.
- Kasongwa, L., & Minja, E. (2022). Moderating Effects of Oil Price on the Impact of Macroeconomic Variables on Stock Market Performance. *The Journal of the University of Dar Es Salaam Business School*, 25(1), 75–89.
- Khalid, W. (2017). Effects of Interest Rate and Exchange Rate on the Stock Market Performance of Pakistan : A Cointegration Approach. *Journal of Finance and Economics*, 5(5), 219–232. <https://doi.org/10.12691/jfe-5-5-4>
- Khan, J., & Khan, I. (2018). The Impact of Macroeconomic Variables on Stock Prices : A Case Study of Karachi Stock Exchange. *Journal of Economics and Sustainable Development*, 9(13).
- Kirikaleli, D. (2020). The effect of domestic and foreign risks on an emerging stock market: A time series analysis. *North American Journal of Economics and Finance*, 51, 100876. <https://doi.org/10.1016/j.najef.2018.11.005>
- Kuvshinov, D., & Zimmermann, K. (2022). The big bang : Stock market capitalization in the long run R. *Journal of Finance Economics*, 145, 527–552. <https://doi.org/10.1016/j.jfineco.2021.09.008>
- Li, X., & Peng, L. (2017). US economic policy uncertainty and co-movements between Chinese and US stock markets. *Economic Modelling*, 61(November 2016), 27–39. <https://doi.org/10.1016/j.econmod.2016.11.019>

- Liu, L. (2021). U . S . Economic Uncertainty Shocks and China ' s Economic Activities : A Time-Varying Perspective. *SAGE Open*, 9. <https://doi.org/10.1177/21582440211032672>
- Loecker, J. De, Eeckhout, J., & Unger, G. (2020). The rise market power and the macroeconomic implications. *The Quarterly Journal Of Economics*, 135(2), 561–644. <https://doi.org/10.1093/qje/qjz041>. Advance
- Madyan, M., Adila, H., & Firdausi, N. A. (2019). Keterkaitan antar Bursa Efek Dunia (Studi Kasus Pada Bursa Efek Negara Maju dan Berkembang). *Journal of Chemical Information and Modeling*, 12(1), 85–97.
- Magweva, R., & Sibanda, M. (2020). Inflation and infrastructure sector returns in emerging markets—panel ARDL approach. *Cogent Economics and Finance*, 8(1). <https://doi.org/10.1080/23322039.2020.1730078>
- Majerova, I., & Prazak, T. (2020). The impact of crises on the relationship between stock market development and macroeconomic variables : evidence from Hong Kong and Singapore. *Forum Scientiae Oeconomia*, 8(4). <https://doi.org/10.23762/FSO>
- Maulida, T. S. (2018). Pengaruh Harga Minyak Dunia, Nilai Tukar, Inflasi, Suku Bunga Sbi, Indeks Dow Jones, Dan Indeks Nikkei 225 Terhadap Indeks Sektor Pertambangan Yang Terdaftar Di Bursa Efek Indonesia (Bei) Periode 2011-2017. *Jurnal Ilmu Manajemen (JIM)*, 6(3), 314–322.
- Morema, K., & Bonga-bonga, L. (2020). The impact of oil and gold price fluctuations on the South African equity market : Volatility spillovers and financial policy implications. *Resources Policy*, 68(June), 101740. <https://doi.org/10.1016/j.resourpol.2020.101740>
- Nti, I. K., Adekoya, A. F., & Weyori, B. A. (2019). Random Forest Based Feature Selection of Macroeconomic Variables for Stock Market Prediction. *American Journal of Applied Sciences*. <https://doi.org/10.3844/ajassp.2019.200.212>
- Okoebor, S. E. (2022). Effects of macroeconomic variables on stock market performance in Nigeria : 1986 - 2020. *African Journal of Social and Behavioural Sciences (AJSBS)*, 12(1), 49–70.
- Onyebuchi, I., & Wasiu, A. B. (2020). Effect of inflationary expectations on stock market returns in Nigeria. *Journal of Economic Studies*.
- Phuong, L. C. M. (2020). Institutions , microeconomic factors and stock market capitalization : Evidence from the EAP. *Licensee Growing Science, Canada*, 6, 817–824. <https://doi.org/10.5267/j.ac.2020.6.001>
- Prasetyo, A. S. (2020). Peran Ketidak pastian Kebijakan Ekonomi dan Resiko Geopolitik Amerika Serikat Terhadap Indeks Harga Saham Gabungan. *Sketsa Bisnis*, 7(1), 56–71. <https://jurnal.yudharta.ac.id/v2/index.php/SKETSABISNIS/index><https://jurnal.yudharta.ac.id/v2/index.php/SKETSABISNIS>
- Prasetyo, A. S., & Susandika, M. D. (2021). Analisis Respon Pertumbuhan Ekonomi Indonesia Akibat External. *Journal Ekonomi Bisnis Dan Akuntansi*, 8(1), 20–32.
- Pujowati, Yenik, Hasibuhan, Putu, & Budino, S, T. (2022). Analysis of The Impact of Covid-19 on MSME Income In Nganjuk Regency. *Jurnal Pamator*, 15(1), 100-112
- Rizqia, A., Astuty, P., & Subiyantoro, H. (2021). Impact of Macroeconomic Variables, American Stock Market Index and Covid-19 on Indonesia Capital Market Development (Time Series Study 1990-2000). *Asian Institute of Research*, 4(4), 1–11. <https://doi.org/10.31014/aior.1992.04.04.388>
- Rosyidah, H., Rahmawati, R., & Prahutama, A. (2017). Pemodelan Vector Autoregressive X (Varx) Untuk Meramalkan Jumlah Uang Beredar Di Indonesia. *Jurnal Gaussian*, 6(3), 333–343. <http://ejournal-s1.undip.ac.id/index.php/gaussian>
- Sousa, A. M. de, Noriller, R. M., Huppel, C. M., Lopes, A. C. V., & Meurer, R. malta. (2018). Relation between the macroeconomic variables and the stock return in companies of the finance and insurance sector from Latin American stock market. *Revista Journal*, 12(3), 20–30. <https://doi.org/10.3232/GCG.2018.V12.N3.01>
- Sugiyono. (n.d.). *Metode Penelitian Kuantitatif Kualitatif dan R&D*.
- Trabelsi, N., Gozgor, G., Tiwari, A. K., & Hammoudeh, S. (2021). Effects of Price of Gold on Bombay Stock Exchange Sectoral Indices: New Evidence for Portfolio Risk Management. *Research in*

- International Business and Finance*, 55(June 2020), 101316.
<https://doi.org/10.1016/j.ribaf.2020.101316>
- Tursoy, T., & Faisal, F. (2018). The impact of gold and crude oil prices on stock market in Turkey: Empirical evidences from ARDL bounds test and combined cointegration. *Resources Policy*, 55(April), 49–54. <https://doi.org/10.1016/j.resourpol.2017.10.014>
- Ullah, G. M. W., Islam, A., Alam, S., & Khan, K. (2017). Effect of macroeconomic variables on stock market performance of SAARC countries. *Asian Economic and Financial Review*, 7(8), 770–779. <https://doi.org/10.18488/journal.aefr.2017.78.770.779>
- Utomo, S. H., Wulandari, D., Narmaditya, B. S., Handayati, P., & Ishak, S. (2019). Macroeconomic factors and LQ45 stock price index: Evidence from Indonesia. *Investment Management and Financial Innovations*, 16(3), 251–259. [https://doi.org/10.21511/imfi.16\(3\).2019.23](https://doi.org/10.21511/imfi.16(3).2019.23)
- Wang, R., & Li, L. (2020). Dynamic relationship between the stock market and macroeconomy in China (1995 – 2018): new evidence from the continuous wavelet analysis the continuous wavelet analysis. *Economic Research-Ekonomska Istraživanja*, 33(1), 521–539. <https://doi.org/10.1080/1331677X.2020.1716264>
- Wirama, D. G., Wiksuana, I. G. B., Mohd-sanusi, Z., & Kazemian, S. (2017). Price Manipulation by Dissemination of Rumors : Evidence from the Indonesian Stock Market. *International Journal of Economics and Financial*, 7(1), 429–434.
- Youssef, M., & Mokni, K. (2019). Do crude oil prices drive the relationship between stock markets of oil-importing and oil-exporting countries? *Economies*, 7(3). <https://doi.org/10.3390/economies7030070>
- Yulianti, M. T., & Purwohandoko. (2019). Pengaruh Variabel Makroekonomi, Harga Komoditas & Indeks Saham Global Terhadap IHSG Periode 2014-2018. *Jurnal Ilmu Manajemen (JIM)*, 7(3), 629–641.
- Zaimovic, A., Omanovic, A., & Arnaut-Berilo, A. (2021). How Many Stocks Are Sufficient for Equity Portfolio Diversification? A Review of the Literature. *Journal of Risk and Financial Management*, 14(11), 551. <https://doi.org/10.3390/jrfm14110551>