

The Effect of China and America's Economic Uncertainty on the Performance of the High Dividend 20 Index

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ABSTRACT

This study aims to analyze the effect of Global Uncertainty in China and the United States on the High Dividend 20 Index. The data used in this study are time series financial report data for the period January - December 2021-2023. The research model used is Vector Auto Regressive (VAR). VAR is usually used to analyze the relationship of time series variable systems and to analyze the impact of disturbance factors on variable systems and one of which is global uncertainty. The results show that in the short term the US EPU affects the High Dividend 20 Index. The variable that has no effect in the short term is China EPU. Meanwhile, in the long term, China EPU and US EPU have no effect. Based on the control variables used in the short and long term, the Inflation and Export variables significantly affect the High Dividen 20 Index.

INTRODUCTION

The world economy has now entered the era of globalization so that economic relations between countries have a very high dependence (Lestari, 2022). One factor that causes this dependence is the development of financial investments in various countries that make financial markets more integrated, including the capital market sector. The capital market plays a vital role in determining the direction of the global economy and has a very important role as a driver of a country's economy so that the capital market becomes one of the indicators that reflect how strong a country's economy is. The capital market has an important role in the Indonesian economy, one of which is for those who have excess funds so that they can choose investment alternatives that provide an optimal rate of return. The capital market as an economic instrument is influenced by various factors, from the economic and non-economic sectors. Indonesia as a developing country with great economic openness, cannot avoid the impact of global and domestic economic influences.

Halim & Marcories (2011) stated that capital market globalization causes events abroad to affect the domestic capital market. Therefore, economic development can cause uncertainty both directly and from the economic policies made. Uncertainty is a condition that affects the decision making of all economic agents and is a serious challenge in the global economy. The decline in the index of developed countries that have economic relations with Indonesia can give a negative signal to investors in Indonesia. This is because foreign investors who diversify internationally in Indonesia withdraw their shares to reduce the risk due to changes in the market situation. The follower strategy applied by domestic investors caused the Composite Stock Price Index to decline (Andiyasa, et al., 2014). The existence of economic turmoil shocks originating from one market not only affects its own market but also spreads to other capital markets. Information about a country's fundamental economy will spread to other stock markets, thus affecting other stock markets (Haryanto, 2020). This shows that the capital markets of developed countries have affected the Indonesian capital market, which is a country with a developing economy.

Global economic growth in the second quarter of 2019 was further pressured by the United States' trade conflict with China. The continuing and widening trade conflict has increased global uncertainty, affecting business and consumer sentiment. This dynamic has caused investment and consumption activities to weaken further. The declining performance of exports, investment, and consumption has resulted in the economies of countries around the world growing below expectations (Bank Indonesia, 2019). The imposition of additional import tariffs by both countries, namely the United States and China, had a negative impact on global trade performance. The sharply increased uncertainty caused the volume of world trade to slow down significantly as global supply chains were disrupted. The trade conflict also triggered the United States to divert demand for imported products from China to other countries (trade diversion) and vice versa with China. China has become the world's largest exporter, displacing the United States (US). The Bamboo Curtain country was originally not taken into account in world trade. However, starting in the early

2000s, China has been transformed into one of the world's largest economies. In 2019 the trade balance between the United States and China has always been in deficit. As of August 2019 the value of the trade balance reached US \$ 231.58 M with an export value of US \$ 70.16 M (United States Census Bureau). The following is an overview of the trade balance between the United States and China in 2010-2019.

Economic Policy Uncertainty (EPU) affects the capital market based on the results of research conducted by Alqahtani & Martinez (2020) which states that US and global economic policy uncertainty has a significant effect and long-term negative effect on stock prices in Bahrain and Kuwait. Hammoudeh, et al., (2016) found that US Economic Policy Uncertainty (EPU) shocks have a significant negative effect on Islamic stock returns. According to research by Ftitia & Hadhri (2019), the relationship between stock returns and EPU from a theoretical point of view can affect the stock market through various channels. The results of previous research conducted by Ahrori & Lucik (2017) state that the global cointegration model of Indonesia's GDP shows that Indonesia is not significantly affected by the turmoil of global changes. Thus, this study concludes that global uncertainty does not directly have a shock effect on the Indonesian economy. Another study conducted by Ariputra (2017) states that the effect of uncertainty in Japan is significant and negative on stock market returns. Uncertainty in the United States and the United Kingdom has a positive impact, while China has a negative impact on stock market returns in Indonesia. Other studies use the Composite Stock Price Index (JCI) object based on the phenomenon that occurs, namely the growth of the Composite Stock Price Index (JCI) which has an upward trend from the beginning of the period until the end of the study period. However, in 2008 there was a sharp decline as a result of the subprime mortgage crisis originating from the United States.

The High Dividend 20 Index used as the object of this study is an index with 20 stocks of listed companies that regularly pay cash dividends and have a large dividend yield to their shareholders.

LITERATURE REVIEW

IDX High Dividend 20

The Indonesia Stock Exchange launched the IDX High Dividend 20 since May 17, 2018. The index contains 20 stocks of listed companies that regularly distribute cash dividends and have a sizable dividend yield to their shareholders. The list of stocks in the IDX High Dividend 20 is also selected by considering the criteria of good liquidity and market capitalization. Usually, stocks that inhabit the index are very active in distributing cash dividends over the past 3 years and of course the dividend yield is also attractive. IDX High Dividend-20 is an index that measures the price performance of 20 stocks that pay cash dividends over the past 3 years and have a high dividend yield. Based on data from DataIndonesia.id, until the close of trading on February 20, 2023, the benchmark index experienced a slight correction of 0.37% (ytd) throughout the current year 2023 to the level of 554.06.

Economic Policy Uncertainty

Economic policy uncertainty is the condition of economic uncertainty and the policies taken in relation to these conditions. Uncertainty can be defined as unexpected changes that affect the economic ecosystem, and how those changes occur in fiscal or monetary policy or other government policies that can affect companies. Studies on economic uncertainty have been conducted by several researchers and most of them are related to the capital market. In economic theory it is said that asset prices are determined by future cash flows and most economic events will affect the price of the asset. For example, world oil prices will affect input costs, the higher the oil price, the greater the costs that must be incurred by the company, this will have an impact on future cash flows, profits and dividends (Basher et al., 2019).

Bloom et al. (2001) concluded in their study that the uncertainty of the economic situation reduces the response to the demand for company shares. This uncertainty theory is always influenced by rational investor behavior that takes into account profits and losses in unpredictable conditions. The Economic Policy uncertainty (EPU) Index is used to predict market volatility and helps predict economic recessions. New information in uncertainty can increase volatility. This indicates that if there is a new policy in uncertain conditions, it will increase the uncertainty of stock returns and fluctuations in the company's business (Liu & Zhang, 2015; Karnizova & Li, 2014). Baker et al. (2019) and Huang & Luk (2020) developed constructs to measure EPU using the number of major articles in the US and China containing economic, uncertainty, congress, deficit, federal, legislation, regulation and the white house. With the approach of economic news reported by newspapers, they developed three dimensions of EPU, namely past events, cross-country and special policy categories (Sumiyati et al., 2022)

China Policy Uncertainty

Baker, et al. (2016) compiled the China EPU index by measuring economic policy uncertainty in China by calculating the frequency of articles on policy-related economic uncertainty. In addition, due to dealing with media censorship in the Chinese media, Bloom, Baker and Davis did not conduct text searches on newspapers published in mainland China, but used information from Hong Kong's leading English-language newspaper, the South China Morning Post, as follows:

- a. South China Morning Post (SCMP) articles were identified regarding economic uncertainties associated with China highlighting all articles containing at least one term from each of the European Union (EU) China term sets: {China, China} and {economy, economic} and {uncertainty, uncertainty}.
- b. A subset of European Union (EU) China articles was identified which addressed policy issues. For this purpose, articles corresponding to the following text filters were required: {{policy or spending or budget or politics or "interest rate" or reform} and {{government or Beijing or authority}} or tax or regulation or "central bank" or "People's Bank of China" or PBOC or shortage or WTO. The combined filter was used because it outperformed the simpler alternative in its auditability.

- c. Apply the requirements in an automated search on every South China Morning Post (SCMP) article published since 1995. This automated search yields a monthly frequency count of SCMP articles on policy-related economic uncertainty.
- d. Fourth, we divided the monthly frequency count by the number of South China Morning Post (SCMP) articles in the same month. We then normalized the resulting series to an average value of 100 from January 1995 to December 2011 by applying a multiplier.

America Policy Uncertainty

To measure policy-related economic uncertainty, the US Economic Policy Uncertainty compiles an index of three types of underlying components (www.policyuncertainty.com). These include:

- a. Baker, et al. (2016) produce an EPU index for the United States.

News releases on Economic Policy Uncertainty have an index component of search results from 10 major newspapers (USA Today, Miami Herald, Chicago Tribune, Washington Post, Los Angeles Times, Boston Globe, San Francisco Chronicle, Dallas Morning News, Houston Chronicle, and WSJ). To compile the index, monthly searches were conducted for terms related to the economy and policy uncertainty. Specifically, articles containing the terms 'uncertainty' or 'unpredictable', the terms 'economy' or 'economy' and one or more terms such as 'congress', 'legislation', 'white house', 'regulation', 'federal reserve', or 'deficit' were searched.

- b. Tax Code Expiration Date

The second component of the index is based on a report by the Congressional Budget Office (CBO) that compiles a list of temporary federal tax code provisions. Temporary tax measures are a source of uncertainty for businesses and households as congress often extends them at the last minute, undermining stability and certainty about the tax code.

- c. Economic Forecaster Disagreement

The third component of the policy-related uncertainty index is based on research by professional forecasters from the Federal Reserve Bank of Philadelphia. It measures the spread of data at the individual level for three forecast variables that are directly affected by government policy: purchases of goods and services by state and local governments, and purchases of goods and services by the federal government. For each series, quarterly forecasts for one year ahead are examined. The selection of these variables is because they are directly influenced by monetary and fiscal policy.

Downes & Goodman (1994:251) say that an index is a statistical composite that measures changes in the economy or in financial markets, and is often expressed as a percentage change from a base year or previous month while the Stock Price index is information about stock market performance which is often summarized in an index called stock market indexes. The stock price index is an indicator that reflects the performance of stocks in the market. Martalena & Malinda (2011) define a stock price index as an indicator that shows stock price movements. The index serves as an indicator of market trends, meaning that the movement of the index illustrates the condition of the market at any given time, whether the market is active. Arouri et al. (2016) studied the impact of economic policy uncertainty on the stock market in the United States over the period 1900-2014 using linear and market-switching models. The study found that an increase in policy uncertainty reduces stock returns significantly. However, the relationship between EPU and stock returns is not linear and the effect of EPU on stock returns is stronger and more persistent during periods of extreme volatility.

METHODOLOGY

This research data uses secondary data issued by the Indonesian Capital Market, namely Chinese EPU, American EPU and HD20 Index data. The data used is monthly data for the period January 2021 to November 2023. Data processing was carried out using the R version 3.5.1 program and Microsoft Excel. The type of data used in this study is time series data. Data is obtained from www.idx.com and yahoo finance. While Economic policy uncertainty (EPU) Index is obtained from www.policyuncertainty.com. On the website, the EPU Index is available for each country including Indonesia. Data samples were taken for 35 months from January 2021 to November 2023.

This study uses monthly EPU data from two major economies, the United States and China. Both countries are the largest economies in terms of nominal GDP in 2022, so we assume that these two countries already represent the conditions of global economic uncertainty as measured by the Economic Policy Uncertainty (EPU) index. Meanwhile, for capital market data we take from the Jakarta Composite Index (JCI). To obtain valid results, we take a timeframe of data on global economic conditions that are quite diverse, starting in the recovery phase after the Covid 19 pandemic, therefore, we use EPU data and monthly stock market indices from January 2022 to December 2023. EPU data is obtained from policyuncertainty.com and selected stock indices are obtained from investing.com (Davis, 2016).

The data analysis technique in this study is divided into two types. First, testing stationary time series data using the Unit Root Test with Augmented Dickey-Fuller (ADF). In this test, several runs can be done if the time series data is not stationary. If the time series data is not stationary at the zero level, then the 1st order or first difference can be done. Likewise, if it is not stationary at the 2nd order or second difference and so on until it produces stationary data. The Vector Autoregressive (VAR) method according to Gujarati (2012) is simultaneous equation modeling that has several endogenous variables simultaneously, but each endogenous variable is explained by the lag of its own value and other endogenous variables in the model.

RESEARCH RESULT

Data Stationarity Test with Augmented Dickey Fuller Test

The unit root test was first developed by Dickey-Fuller and is known as the Dickey-Fuller (DF) unit root test. The unit root stationarity test is conducted to determine whether the data is stationary at the level using the Augmented Dickey Fuller (ADF) method. Data can be called stationary if at the level level it has a value of Prob. Mac-Kinnon is less than the significance level of the critical value with an alpha of 5%, while if at the level level the value of Prob. Mac-Kinnon value is more than the significance level of the critical value with an alpha of 5%, then the step that must be taken is to perform differentiation in the degree of integration test first.

Table 1. Unit Root Test Results

Variable	<i>t-Statistic</i>	<i>Test Critical Values 5% Level</i>	Probability
EPU - USA	-4.713409	-1,69236	0.0000
EPU – CHINA	-3.511027	-1,69236	0.0014
HDI 20	-4.892709	-1,69236	0.0000

Determination of the Optimum Lag Length

To conduct causality tests and VAR tests, it is necessary to first determine the optimal lag length, because causality tests and VAR tests are very sensitive to many optimal lags. In this study, researchers determined the optimal lag length by looking at the lowest/ minimum Akaike Information Criteria (AIC) value. The lag length included in this test is from 0 to lag 5 because the data used is monthly and only 3 years. This lag length is sufficient to describe USA EPU, China EPU and HDI 20 with monthly period. The results of the lag length test in VAR by entering AIC show that the optimal lag length is at lag 5 which has the smallest AIC value. The estimation results using the VAR model will produce a variance decomposition function and impulse response function used to answer research problems.

Table 2. Lag Order Selection Criteria

Lag	0	1	2	3	4	5
AIC	31.78412	31.60792	31.84743	31.18677	31.33602	30.94857*

VAR Stability Test

To test whether or not the VAR estimate that has been formed is stable, the VAR stability condition is checked in the form of roots of characteristic polynomial. A VAR system is said to be stable if all of its roots have a modulus smaller than one (Gujarati, 2003). The stability of the VAR model can be seen in the modulus value of each variable. The VAR model is said to be stable if the modulus value is at a radius < 1 , and unstable if the modulus value > 1 . If the largest modulus value is less than one and is at the optimal point, then the composition is already in the optimal position and the VAR model is stable.

Table 3 . VAR Stability Test

Roots of Characteristic Polynomial
 Endogenous variables: D(EPUCHINA)
 D(EPUUSA) D(HDI20)
 Exogenous variables: C
 Lag specification: 1 5
 Date: 02/03/24 Time: 21:40

Root	Modulus
0.704082 - 0.670657i	0.972374
0.704082 + 0.670657i	0.972374
-0.963785	0.963785
0.408004 - 0.870314i	0.961204
0.408004 + 0.870314i	0.961204
-0.700502 - 0.634550i	0.945175
-0.700502 + 0.634550i	0.945175
-0.913596	0.913596
-0.178920 - 0.894803i	0.912516
-0.178920 + 0.894803i	0.912516
-0.542544 - 0.585648i	0.798334
-0.542544 + 0.585648i	0.798334
0.698500	0.698500
0.245744 - 0.581493i	0.631287
0.245744 + 0.581493i	0.631287

No root lies outside the unit circle.
 VAR satisfies the stability condition.

Based on the Modulus value above, the largest is less than one and is at the optimal point, then the composition is in the optimal position and the VAR model is stable.

GRANGER Causality Test

If stationarity is at the first difference or I (1) level, it is necessary to test for the possibility of cointegration. The concept of cointegration is basically to see the long-term balance among the observed variables. Sometimes data that is individually non-stationary, but when connected linearly, the data becomes stationary. This is then called cointegrated data. If a set of variables is truly cointegrated, then it should be possible to detect implied or unrestricted VAR (Greene, 2006: 294).

Table.4 Granger Causality Test

Pairwise Granger Causality Tests

Date: 02/03/24 Time: 21:50

Sample: 2021M01 2023M12

Lags: 5

Null Hypothesis:	Obs	F-Statistic	Prob.
EPUUSA does not Granger Cause			
EPUCHINA	30	1.50060	0.2364
EPUCHINA does not Granger Cause EPUUSA		1.99372	0.1258
HDI20 does not Granger Cause			
EPUCHINA	30	1.09328	0.3961
EPUCHINA does not Granger Cause HDI20		1.72777	0.1766
HDI20 does not Granger Cause			
EPUUSA	30	0.39175	0.8483
EPUUSA does not Granger Cause HDI20		2.03996	0.1187

From the results obtained above, it is known that those that have a causal relationship are those that have a probability value smaller than alpha 0.05 so that later H_0 will be rejected, which means that a variable will affect other variables. From the Granger test above, we know the reciprocal/causality relationship as follows:

1. The EPU-USA variable is statistically insignificant affecting the EPU-CHINA and vice versa the EPU-CHINA variable is statistically insignificant affecting the EPU-USA variable as evidenced by the Prob value greater than 0.05, namely 0.23 and 0.12 respectively (both results are failed to reject the null hypothesis) so it is concluded that there is only no causality whatsoever for the two variables EPU-USA and EPU-CHINA.
2. The variable HDI 20 does not statistically significantly affect EPU-CHINA (0.39) thus accepting the null hypothesis as well as EPU-CHINA does not statistically significantly affect HDI 20 (0.17) thus failing to reject the null hypothesis. Thus, it is concluded that there is no unidirectional causality between the variables EPU-CHINA and HDI 20

3. The variable HDI 20 statistically insignificantly affects EPU-USA (0.84), thus failing to reject the null hypothesis while EPU-USA also statistically insignificantly affects HDI 20 ($p = 0.11$), thus failing to reject the null hypothesis. Thus it is concluded that there is no unidirectional causality between the HDI 20 variable and EPU-USA and similarly, HDI 20 is statistically insignificant in influencing EPU-USA

Tble.5 Kointegrasi Johansen's test

Date: 02/03/24 Time: 21:57
 Sample (adjusted): 2021M08 2023M11
 Included observations: 28 after adjustments
 Trend assumption: Linear deterministic trend
 Series: D(EPUCHINA) D(EPUUSA) D(HDI20)
 Lags interval (in first differences): 1 to 5

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.546771	37.07766	29.79707	0.0061
At most 1	0.289082	14.91962	15.49471	0.0609
At most 2 *	0.174400	5.366060	3.841465	0.0205

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.546771	22.15804	21.13162	0.0358
At most 1	0.289082	9.553562	14.26460	0.2429
At most 2 *	0.174400	5.366060	3.841465	0.0205

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Based on the table above, it can be seen that the trace statistic and maximum eigenvalue at $r = 0$ are smaller than the critical value with a significance level of 5%. This means that the null hypothesis stating that there is no cointegration fails to be rejected and the alternative hypothesis stating that there is cointegration is rejected. Based on the econometric analysis above, it can be seen that among the four variables in this study, there is one cointegration at the 5% significance level. Thus, the results of the cointegration test indicate that among the movements of EPU-USA, EPU China and HDI 20, there is no relationship of stability/equilibrium and similarity of movements in the long run.

DISCUSSION

IRF analysis for 10 periods for the response of export variables to import variables, in the first period responds negatively to shocks and continues to decline until the third period and in the fourth period the shocks begin to decrease and increase and respond positively. Then in the fifth period it decreases again and is negative until the tenth period. For the response of the export variable to the exchange rate variable in the first period to the fifth period, it fluctuates, namely responding positively and negatively (up and down) to shocks. Then in the fifth period until the tenth period, the fluctuations began to shrink, meaning that exports were no longer very volatile and began to stabilize against the exchange rate. Meanwhile, the response to itself is quite high and positive from the first period to the tenth period.

Estimation of the impulse response function is done to examine the shock response of innovation variables to other variables. The estimation uses the assumption that each variable of China EPU, USA EPU and HDI 20 is not correlated with each other so that tracking the effect of a shock can be direct. The impulse response picture will show the response of a variable due to the shock of other variables up to several periods after the shock. If the impulse response picture shows a movement that is getting closer to the equilibrium point (convergence) or returns to the previous equilibrium, it means that the response of a variable due to a shock will gradually disappear so that the shock does not leave a permanent influence on the variable.

Forecast Error Variance Decomposition (FEVD) decomposes the innovations in a variable into components of other variables in a VAR. The information conveyed in FEVD is the proportion of sequential movements caused by own shocks and other variables. (Nugroho, 2009)

Variance decomposition decomposes the variation of one endogenous variable into the shock components of other endogenous variables in the VAR system. This variance decomposition explains the proportion of movement of a series due to its own shock compared to the shocks of other variables. If the shock e_{zt} is not able to explain the forecast error variance of variable y_t , it can be said that variable y_t is exogenous (Enders, 2004: 280). In this condition, the y_t variable will be independent of the e_{zt} surprise and the z_t variable. Conversely, if the e_{zt} shock is able to explain the forecast error variance of the y_t variable, the y_t variable is endogenous.

CONCLUSIONS AND RECOMMENDATIONS

After analyzing the research above, the author concludes as follows:

1. EPU-CHINA, EPU-USA), and HDI 20 are not closely related and do not affect each other. In the long term, the relationship between EPU-CHINA and EPU-USA with HDI 20 tends to be stable but in the short term it tends to decrease.
2. Johansen's cointegration test shows the trace statistic value $>$ critical value at 5% confidence level. Thus identifying the two variables are cointegrated.

ADVANCED RESEARCH

Still conducting further research to find out more about The Effect of China and America's Economic Uncertainty on the Performance of the High Dividend 20 Index.

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