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The effect of the US Dollar Index and foreign stock indexes on Jakarta Composite Index (JKSE)

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ABSTRACT
Many theories explain that the Jakarta Composite Index (JKSE) can be influenced by stock indices or currencies of other countries. With the recent events of the war between Russia and Ukraine, this might be the perfect opportunity to prove that statement. The purpose of this study is to see whether the United States Dollar Index, Dow Jones Industrial Average (DJIA), NASDAQ 100 Index, Shanghai Composite Index (SSEC), Nikkei 225 Index (N225), Australian All Ordinaries Index (AORD), FTSE Index 100, against the Jakarta Composite Index (JKSE). This study uses the documentation method with secondary data in the form of daily closing prices for foreign stock indices and USD indices spread from 4 January 2022 to 25 February 2022. The hypothesis is tested with a partial significant test (t-test), simultaneous significant test (F test), and coefficient of determination. The test results show that the USD, DJIA, NASDAQ, SSEC, N225, AORD, and FTSE indices do not affect the JKSE. But simultaneously the USD Index, DJIA, NASDAQ, SSEC, N225, AORD, and FTSE affect JKSE. This may be because, during the study period, there were no foreign companies listed on the Indonesian Stock Exchange. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. At this time the world is also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country. So, investment from abroad to Indonesia also decreased. This research is limited to using independent and dependent variables used and the research is limited to only 2 months. For further research, it is recommended to add more varied independent variables and extend the observation period so that it can increase better data distribution.

KEYWORDS
US Dollar Index; DJIA; NASDAQ; SSEC; Nikkei 225; AORD; FTSE

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Introduction

The impact of globalization in the economic field has caused a relationship of attachment and mutual influence between capital markets around the world. The impact of globalization in the economic field is generally followed by the emergence of liberalization in the economic field. This means that in this international market, every investor can participate in investing in any market he wants.

The Indonesian Composite Stock Price Index or JKSE is an indicator that can reflect the performance of the capital market whether the price is moving up (bullish) or moving down (bearish). This is because the Composite Stock Price Index (IHSG) is a record of the overall stock price movements of all securities listed on the Indonesia Stock Exchange (IDX). The movement of the JKSE is of concern to investors on the IDX, because the movement of the JKSE will affect investors' actions on whether to buy, hold or sell their shares.

Many theories and studies reveal that the movement of the JKSE is influenced by several factors, such as factors originating from within the country (internal) and factors originating from abroad (external). Factors that come from within the country can come from the exchange rate of the country's currency against other countries, interest rates, and inflation that occurs in that country. Meanwhile, factors originating from abroad can come from foreign stock indices of other countries, trends in foreign oil prices, foreign gold prices, and foreign market sentiment. By knowing the factors that influence JKSE, we can predict the direction of the JKSE movement and make the right investment decisions. That way, we as investors can determine when to invest and what stocks can provide the maximum return.

Exchanges that strongly influence the performance of other stock exchanges are usually stock exchanges in countries that are classified as developed, such as America, Japan, British, and so on. Countries with stronger economies tend to dominate the economies of countries with lower economies. If it is related to the capital market, this can be interpreted that the stock index of a developed country will affect the stock index of developing countries (Kasim, 2010). In addition, stock exchanges that are in the same region can also influence because of their geographical

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location which is close together, such as the Straits Times Index (STI) in Singapore, the Nikkei 225 Index (N225) in Japan, the Hang Seng Index (HSI) in Hong Kong, the Korea Composite Stock Index. Price Index (KOSPI) in Korea, and others. Most foreign countries that invest in Indonesia are stock exchanges that are close to their location. Therefore, changes in one exchange will also be transmitted to other countries' exchanges, where larger exchanges will affect small exchanges (Ardiansyah, 2012).

The foreign stock exchange can affect the Jakarta Composite Index (JKSE). Based on the research by Mie Mie (2017), Hasibuan (2009), Marjohan (2015), Dahlia Br. Pinem (2019), and Novia Nour Halisa & Selvi Annisa (2021), stated that the foreign stock exchange simultaneously affects the Jakarta Composite Index.

The movement of the stock price index is not only influenced by the stock index of another country but also has something to do with the United States Dollar (USD) exchange rate. When the value of the rupiah depreciates against the US dollar, imported goods will become expensive. If most of the company's raw materials use imported materials, production costs will automatically increase. This increase in production costs will certainly reduce the company's profit level. The decline in the company's profit rate will certainly affect investors' buying interest in the company's shares. In general, this will lead to a weakening of the stock price index in that country (Ismyati, 2012:).

The US Dollar exchange rate also can affect the Jakarta Composite Index (JKSE). Based on the research by Hasibuan (2009), Adi Mursalin, Dina Oktaviani, Aisyah, & Ery Niswan (2017), and Novia Nour & Selvi Annisa (2021), which stated that the USD exchange affected tha Jakarta Composite Index.

On February 24, 2022, Russian troops invaded Ukraine, marking the beginning of the Russia-Ukrainian War. This Russia-Ukrainian war had a very serious impact on the global economy. The effects of the war have been seen in the increase in the prices of goods, such as food, minerals such as coal, and the like, as well as commodities such as coffee, rice, wheat flour, rubber, corn, and others. This condition added to global inflationary pressure from strong demand during the recovery period after the pandemic. In addition, economic penalties against Russia will have a major impact on the global economy and finance. As European stocks plunged, the FTSE 100 fell 3.9% in London. Meanwhile, France's CAC 40 fell 3.8% and Germany's DAX 30 fell 4%. Russian shares also fell with the main indexes down 45% and closing 33% lower. US stocks also fell sharply, with the NASDAQ Composite down 0.2%. The Dow slumped 1.9% or 675 points. The S&P 500 fell 1.2%. Asian stock markets also recorded significant declines. Hong Kong's Hang Seng Index (HSI) fell 3.2%, its biggest decline in five months. Japan's Nikkei 225 (N225) fell 1.8% and China's Shanghai Composite fell 1.7%.

The purpose of this study was to determine and analyze the effect of the US Dollar Index, Dow Jones (DJIA), NASDAQ, Shanghai Composite (SSEC), Nikkei 225, Australia All Ordinaries (AORD), and FTSE on the Indonesia Composite Stock Price.

Literature review

Contagion theory

Contagion Effect is a situation when economic movement spreads from one country or region to another. The contagion effect phenomenon happened when a financial crisis that occurs in one country triggers a financial or economic crisis in another country (Hasanah, 2013). According to Morris (2010), Contagion effects might occur because there are differences in information and collective behavior of investors. This can happen because investors share the same information and this information can trigger changes in expectations in the capital market. It is believed that the stock market of a country with other countries is indirectly integrated and has influence. So, it is agreed that a strong stock market such as the US will affect a weaker market such as the Asian market, but not vice versa. Other factors can influence, for example, regions that are geographically close together or caused by strong global markets so that they have an impact on other markets (Suparmun, 2014).

US Dollar Index

Dollar is the basic unit of money value in the United States and several other countries, such as Singapore, Hong Kong, Canada, and others. The United States (US) dollar is the official currency of the United States of America. The US dollar is also used widely around the world. The US Dollar Index is an index number that reflects and measures the strength of the US Dollar against 6 other major currencies in the world. The composition of the dollar index is as follows:

- Euros (EUR): 57.60%
- Yen (JPY): 13.60%
- Pound Sterling (GBP): 11.90%
- Canadian dollars (CAD): 9.10%
- Krona (SEK): 4.20%
- Swiss Franc (CHF): 3.60%

It can be seen here that the euro has the largest valuation compared to other currencies, which is 56.7% and the 2nd position is occupied by the Japanese yen. Since the Euro currency has a total value of more than 50%, the EUR/USD pair has a strong negative correlation to the US Dollar Index. (www.seputarforex.com)

Jakarta Composite Index (JKSE)

According to Hartono (2014), Jakarta Composite Index or JKSE is a value to measure the performance of shares listed on the stock exchange. JKSE on the Indonesia Stock Exchange includes price movements for ordinary shares and preferred shares. JKSE is used as a basis for analysis which is often used by analysts to see how stock conditions are in the Indonesian capital market. This is because the JKSE pays attention to and observes intensively all stock movements in the market (Fahmi, 2014). According to Sugiono (2010), the factors that affect stock prices change every day. Therefore, investors must be able to recognize the factors that affect stock prices. Two main factors cause changes in stock market prices, namely internal and external factors. Internal factors come from within the company and can be controlled by company management. While external factors can usually be caused by economic conditions such as interest rates and government policies.

Dow Jones (DJIA)

Dow Jones Industrial Average (DJIA) is a stock market index founded by the editors of The Wall Street Journal. The Dow Jones Industrial Average (DJIA) was founded by Charles Dow. Dow created this index as a way to measure the performance of the industrial components of the American stock market. Dow Jones (DJIA) represents 95% of the capitalization of large companies in America, excluding small and medium companies whose stock movements are very slow. So, the Dow Jones index (DJIA) reflects the condition of the American economy globally.

NASDAQ

NASDAQ stands for National Association of Securities Dealers Automated Quotations. It was operated by the National Association of Securities Dealers. NASDAQ first started trading on February 4, 1971, and was the world's first electronic stock exchange. The stock market index consists of the 100 largest non-financial companies listed on the NASDAQ. Companies in this index are selected based on their market capitalization, with certain rules determining the influence of the largest component. NASDAQ has no financial companies and includes several companies formed outside the United States. These two factors set the NASDAQ 100 Index apart from other indices in America such as Dow Jones, and S&P 500 Index.

Shanghai Composite (SSEC)

Shanghai Composite is a stock market index traded on the Shanghai Stock Exchange in the People's Republic of China. This index was launched on July 15, 1991. Shanghai Stock Exchange opened 23 locations of trading centers (exchange centers) spread across various provinces. Products traded are stocks, corporate bonds, and government bonds. It is also the largest stock exchange in Shanghai (Samsul, 2006).

Nikkei 225

Nikkei 225 Index (N225) is an average price index of 225 leading stocks listed on the Tokyo Stock Exchange. Until now Nikkei 225 is the best indicator to show price movements that occur in Tokyo Stock Exchange so that it can represent the overall. The initial calculation of this index was carried out by the Nihon Keizaki Shimbun on May 16, 1949, with an initial level of 176.21 Yen. At that time, Nikkei 225 was only an index on the cash market.

Australia All Ordinaries (AORD)

AORD Index is Australia's oldest stock index and is an all-common stock listed on the Australian Securities Exchange (ASX). The market capitalization of AORD listed companies is worth more than 95% of the value of all ASX listed shares. When it was founded, AORD had 500 base indexes. On April 3, 2000, AORD was restructured into the 500 companies with the largest market capitalization.

FTSE

FTSE Index is a stock index of the 100 companies with the largest market capitalization that are listed on the London Stock Exchange. It's one of the most widely used stock indexes as an indicator of market performance in the UK. FTSE is managed by the FTSE Group, which is a subsidiary of the London Stock Exchange Group. It represents approximately 81% of companies by market capitalization across the London Stock Exchange.

Effect of the US Dollar Index on Jakarta Composite Index (JKSE)

US Dollar Index is an index number that reflects and measures the strength of the US Dollar against 6 other major currencies in the world. An increase in the US Dollar Index will also increase the USD exchange rate against the Rupiah. The increase in the USD exchange rate has a negative impact on companies that have debt in dollars. Meanwhile, companies that do export business will be positively affected by this increase in the USD exchange rate. This means that the stock prices of companies that are negatively affected will experience a decrease in their stock prices, while companies that are positively affected will experience an increase in their stock prices. Some companies on the Stock Exchange will be negatively affected and some will be positively affected by sharp changes in the US Dollar Index. Thus, the Jakarta Composite Index (JKSE) will also be affected negatively or positively depending on the dominant stock group.

Effect of Dow Jones (DJIA) on Jakarta Composite Index (JKSE)

DJIA represents 95% of the company's capitalization in the United States. So, the DJIA reflects America's condition globally. So, the relation with the other index is, if the DJIA movement weakens or strengthens, then foreign indexes in the world will also be affected. In other words, if the prices of all stocks belonging to the DJIA go up, then other foreign indices in the world will also go up, and vice versa. The linkage between the Indonesian capital market and foreign capital markets began after investors were allowed to participate in the buying and selling of shares listed on the IDX. Even though the role of local investors is also increasing, there are habits and local investors to follow the strategy of foreign investors or at least local investors who use the behavior of foreign investors as a reference. So, when foreign investors sell shares, local investors who follow foreign investors will also sell their shares, and as a result, the index will experience pressure and decrease (Cahyono, 2000). Based on research conducted by Mie Mie (2017) and Adi Mursalin, Dina Oktaviani, Aisyah, and Ery Niswan (2017) stated that DJIA does not affect JKSE, but research results from Marjohan (2015), Sari Oktavia and Wiwik Handayani (2018), Dahlia Br. Pinem (2019), and Risky Nueraeni and Jihad Lukis Panjawa (2021) state that DJIA influences JKSE.

Effect of NASDAQ on Jakarta Composite Index (JKSE)

The NASDAQ 100 is a stock market index consisting of the 100 largest non-financial companies listed on the NASDAQ. Companies in this index are selected based on their market capitalization, with certain rules determining the influence of the largest component. The NASDAQ 100 Index has no financial companies and includes several companies formed outside the United States. These two factors set the NASDAQ 100 Index apart from other indices in America such as the Dow Jones Industrial Average, and the S&P 500 Index. The linkage between the Indonesian capital market and foreign capital markets began after investors were allowed to participate in the buying and selling of shares listed on the IDX. Even though the role of local investors is also increasing, there are habits and local investors to follow the strategy of foreign investors or at least local investors who use the behavior of foreign investors as a reference. So, when foreign investors sell shares, local investors who follow foreign investors will also sell their shares, and as a result, the index will experience pressure and decrease (Cahyono, 2000). Based on research conducted by Muhamad Yunanto and Henny Medyawati (2021) stated that the NASDAQ had a negative effect on the JKSE. However, research conducted by Hasibuan in 2009 stated that the NASDAQ affected the JKSE.

Effect of Shanghai Composite (SSEC) on Jakarta Composite Index (JKSE)

Shanghai Stock Exchange is the largest stock exchange in China. Foreign investors invest in stock exchanges all over the world so that the world's stock exchanges have global links. The occurrence and dynamics of stock prices between one stock exchange and other exchanges are mutually influential, especially with exchanges from adjacent countries, for example, the market crash that occurred on the Singapore stock exchange will result in a crash on the Chinese, Hong Kong, Japanese and Indonesian stock exchanges. Vice versa (Mansur, 2005). If SSEC goes up, JKSE will also go up. Based on the results of research conducted by Mie Mie (2017) states that SSEC does not affect JKSE. However, research conducted by Novia Nour Halisa and Selvi Annisa (2021) stated that SSEC had a positive effect on JKSE. Research conducted by Marjohan in 2015 stated that SSEC affected JKSE.

Effect of Nikkei 225 on Jakarta Composite Index (JKSE)

Nikkei 225 Index is an average price index of 225 leading stocks listed on the Tokyo Stock Exchange. Until now Nikkei is the best indicator that shows price movements that occur so it can be said that Nikkei represents the overall performance of the Tokyo Stock Exchange. Foreign investors invest in stock exchanges all over the world so that the world's stock exchanges have global links. The occurrence and dynamics of stock prices between one stock exchange and other exchanges are mutually influential, especially with exchanges from adjacent countries, for example, the market crash that occurred on the Singapore stock exchange will result in a crash on the Chinese, Hong Kong, Japanese and Indonesian stock exchanges. Vice versa (Mansur, 2005). If Nikkei goes up, then JKSE will go up too. Based on research conducted by Muhamad Yunanto and Henny Medyawati (2021) stated that N225 had a positive effect on JKSE, however, the results of research conducted by Risky Nuraeni and Jihad Lukis Panjawa (2021), and Wondabio (2006) stated that there was a negative influence between N225 and JKSE. Research conducted by Hasibuan (2009), Marjohan (2015), Dahlia Br. Pinem (2019) states that N225 affects JKSE. Meanwhile, research conducted by Mie Mie in 2017 showed that N225 did not affect JKSE.

Effect of Australia All Ordinaries on Jakarta Composite Index (JKSE)

Australian All Ordinaries Index (AORD) is Australia's oldest stock index and is an all-common stock listed on the Australian Securities Exchange (ASX) in January 1980. The market capitalization of companies on the AORD is over 95% of the value of all listed shares on ASX. Foreign investors invest in stock exchanges all over the world so that the world's stock exchanges have global links. The occurrence and dynamics of stock prices between one stock exchange and other exchanges are mutually influential, especially with exchanges from adjacent countries, for example, the market crash that occurred on the Singapore stock exchange will result in a crash on the Chinese, Hong Kong, Japanese and Indonesian stock exchanges. Vice versa (Mansur, 2005). If AORD goes up, JKSE will also go up. When foreign investors release their shares, local investors also sell their shares, as a result, the index can fall sharply. If AORD goes down, then JKSE will also go down. And vice versa if AORD goes up, then JKSE will also go up. Research conducted by Mie Mie (2017) stated that AORD had a significant effect on JKSE.

Effect of FTSE on Jakarta Composite Index (JKSE)

FTSE is a stock index of 100 companies listed on the London Stock Exchange with the highest market capitalization. It is one of the most widely used stock indexes as the main indicator of market performance in the UK. Foreign indices invest all over the world so that the exchanges in the world have global links. The occurrence and dynamics of stock prices between one stock exchange and other exchanges influence each other. (Mansur, 2005). When foreign investors release their shares, local investors also sell their shares, as a result, the index can fall sharply. If the FTSE goes down, then the JKSE will also go down. Vice versa if FTSE goes up, then the JKSE will also go up. Research conducted by Mie Mie (2017) stated that FTSE did not affect JKSE. However, research conducted by Wondabio (2006), Dahlia Br. Pinem (2019), and Risky Nuraeni and Jihad Lukis Panjawa (2021) state that the FTSE affects JKSE.

Methods

Data collection technique

The population of this study was taken from the daily closing price of Jakarta Composite Index (JKSE), Dow Jones (DJIA), NASDAQ, Shanghai Composite (SSEC), Nikkei 225, Australian All Ordinaries (AORD), FTSE, and US Dollar Index during 2022. This research used a purposive sampling method to determine the sample. According to Sugiyono (2018), purposive sampling is a method of sampling that takes several factors into account. This method obtains data in a secondary form of daily closing price data Jakarta Composite Index (JKSE), Dow Jones (DJIA), NASDAQ, Shanghai Composite (SSEC), Nikkei 225, Australian All Ordinaries (AORD), FTSE, and US Dollar Index collected from id.investing.com during the observation period from January 4, 2022, to February 25, 2022. The final sample in this research is 312 data. The researcher took data from January and February because these periods were before and immediately after the Russian-Ukrainian war which occurred on February 24, so we can find differences between the two periods.

Dependent variable

The dependent variable is the variable that is affected or is the result, because of the independent variables (Sugiyono, 2018). The dependent variable used in this study is the Jakarta Composite Index (JKSE).

Independent variable

US Dollar Index

US Dollar Index is an index number that reflects and measures the strength of the US Dollar against 6 other major currencies in the world.

Dow Jones (DJIA)

Dow Jones (DJIA) index is an indicator of the movement of stocks listed on the stock exchange and is a combined index of all types of stocks listed on the stock exchange and a composite index of all types of stocks on the New York Stock Exchange.

NASDAQ

NASDAQ index is an indicator of the movement of stocks listed on the stock exchange and is a composite index of most of the technology stocks on the NASDAQ Exchange.

Shanghai Composite (SSEC)

Shanghai Composite (SSEC) index is an indicator of the price of shares listed on the stock exchange and is a composite index of all types of shares listed on the Shangai Stock Exchange. It is also the largest stock exchange in Shanghai (Samsul, 2006).

Nikkei 225

Nikkei 225 index is an indicator of the movement of stock prices listed on the stock exchange and is a composite index of 225 types of stocks listed on the Tokyo Stock Exchange.

Australia All Ordinaries (AORD)

Australia All Ordinaries (AORD) index is an indicator of the movement of stock prices listed on the stock exchange and is a composite index of all types of stocks on the Australian Stock Exchange.

FTSE

FTSE index is an indicator of the movement of stock prices listed on the stock exchange and is a combined index of all types of stocks listed on the UK Stock Exchange.

Analysis Method

The research will process the research sample data starting with doing descriptive statistical analysis which will calculate and restate the data in a new form by showing the maximum, minimum, average, and standard deviation values. After that, the data will be processed using the classical assumption test to find out how feasible the regression

model that has been built is for use. The classic assumption test includes the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. This research will also test the correlation to know the level of relationship closeness between the dependent variable and independent variable. To achieve the objectives of the research conducted, the research hypothesis was tested. The significance is shown between the independent variable and the dependent variable related to the existing hypothesis will be shown through the partial parameter significance test (t-test), simultaneous parameter significance test (F-test), and coefficient of determination test (R). The following is the regression equation that will be tested in this research:

$$Y1 = a + b1X1 + b2X2 + b3X3 + b4X4 + b5X5 + b6X6 + b7X7 + e$$

Description:
Y = Jakarta Composite Index (JKSE)
a = Constant
X1 = USD Index
X2 = Dow Jones (DJIA)
X3 = NASDAQ
X4 = Shanghai Composite (SSEC)
X5 = Nikkei 225
X6 = Australia All Ordinaries (AORD)
X7 = FTSE

Results

This research obtained the results of the tests that were carried out through the established research method, which include:

Descriptive statistical analysis

Table1. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
JKSE	39	6568.17	6920.06	6725.6423	100.78945
USD	39	94.78	97.27	95.9652	.60315
DJIA	39	33132.25	36799.65	35050.1579	917.26913
NASDAQ	39	13509.43	16279.73	14799.2682	684.00628
SSEC	39	3361.44	3632.33	3484.1038	78.20702
N225	39	25970.82	29332.16	27524.8890	802.87000
AORD	39	7114.50	7926.80	7528.4667	199.43086
FTSE	39	7207.01	7672.40	7519.7282	89.14516
Valid N (listwise)	39				

Based on Table 1, it can be seen that the 39-research data are declared valid to be examined and all the variables indicate good results because the average value obtained exceeds the standard deviation value which indicates a deviation from the variable data is smaller than the average value.

JKSE index had a minimum value of 6,568.17 which occurred on 25 January 2022 and a maximum value of 6,920.06 which occurred on 23 February 2022. The average value is 6,725.64 with a standard deviation of 100.79. JKSE indicates good results because the average value obtained exceeds the standard deviation value which indicates that the deviation of the variable data is smaller than the average value.

USD Index has a minimum value of 94.78 which occurred on January 13, 2022, and a maximum value of 97.27 which occurred on January 28, 2022. The average value is 95.97 with a standard deviation of 0.603. USD index indicates good results because the average value obtained exceeds the standard deviation value which indicates the deviation of the data variable is smaller than the average value.

NASDAQ index has a minimum value of 13,509.43 which occurred on February 23, 2022, and a maximum value of 16,279.73 which occurred on February 4, 2022. The average value is 35,050.16 with a standard deviation of 684,006. The NASDAQ index indicates good results because the average value obtained exceeds the standard deviation value which indicates the deviation of the data variable is smaller than the average value.

NASDAQ index has a minimum value of 13,509.43 which occurred on February 23, 2022, and a maximum value of 16,279.73 which occurred on February 4, 2022. The average value is 35,050.16 with a standard deviation of 684,006. The NASDAQ index indicates good results because the average value obtained exceeds the standard deviation value which indicates the deviation of the data variable is smaller than the average value.

SSEC index has a minimum value of 3,361.44 which occurred on January 28, 2022, and a maximum value of 3,632.33 which occurred on January 4, 2022. The average value is equal to a standard deviation of 3,484.104. The SSEC index indicates good results because the average value obtained exceeds the standard deviation value which indicates the deviation of the data variable is smaller than the average value.

N225 index has a minimum value of 25,970.82 which occurred on February 24, 2022, and a maximum value of 29,332.16 which occurred on January 5, 2022. The average value is 27,524.89 with a standard deviation of 802.87. The N225 index indicates good results because the average value obtained exceeds the standard deviation value which indicates the deviation of the variable data is smaller than the average value.

AORD index has a minimum value of 7,114.50 which occurs on January 27, 2022, and a maximum value of 7,926.80 which occurs on January 4, 2022. The average value is 7,528.47 with a standard deviation of 199.43. The AORD index indicates good results because the average value obtained exceeds the standard deviation value which indicates the deviation of the data variable is smaller than the average value.

FTSE Index has a minimum value of 7,207.01 which occurred on February 24, 2022, and a maximum value of 7,672.40 which occurred on February 10,2022. The average value is 7519,723 with a standard deviation of 89.15. The FTSE index indicates good results because the average value obtained exceeds the standard deviation value which indicates the deviation of the variable data is smaller than the average value.

Classical assumption test

The classical assumption test is a prerequisite for multiple regression analysis before carrying out hypothesis testing which includes; the normality test, multicollinearity test, heteroscedasticity test, and autocorrelation test. After testing the classical assumptions on all variables, it turns out only the normality test is fulfilled. To overcome multicollinearity problems, the researcher transforms the data into the First Difference Delta form and removes the values extreme (outliers) that interfere with the research data so that the number of observation samples is reduced to only 38 samples.

Normality test

Table 2. Normality Test

		Unstandardized Residual
N		38
Normal Parameters[a,b]	Mean	0.0000000
	Std. Deviation	39.65605714
Most Extreme Differences	Absolute	0.101
	Positive	0.101
	Negative	-0.079
Test Statistic		0.101
Asymp. Sig. (2-tailed)		0.200

Based on the test results in table 2, it can be seen that the significance value is 0.200, which is above 0.05, so it can be concluded that the data has passed the normality test after transformation.

Multicollinearity test

Table 3. Multicollinearity Test

		Collinearity Statistics	
Model		Tolerance	VIF
1	(Constant)		
	USD	0.217	4.608
	DJIA	0.635	1.574
	NASDAQ	0.416	2.406
	SSEC	0.421	2.377
	N225	0.595	1.680
	AORD	0.877	1.141
	FTSE	0.182	5.488

Based on the test results in table 3, it can be seen that all variables have tolerance values above 0.1 and VIF values below 10, so it can be concluded that there is no multicollinearity problem in the data in the regression model.

Heteroscedasticity test

Table 4. Heteroscedasticity Test

Model		t	Sig.
1	(Constant)	1.138	.264
	USD	-.143	.887
	DJIA	.081	.936
	NASDAQ	1.567	.128
	SSEC	.586	.562
	N225	-.005	.996
	AORD	1.538	.135
	FTSE	-1.182	.247

Based on Table 4, it can be seen that all variables have significant values above 0.05, so it can be concluded that there is no heteroscedasticity problem in the data in the regression model.

Autocorrelation test

Table 5. Autocorrelation Test

	Unstandardized Residual
Test Value[a]	-0.81152
Cases < Test Value	19
Cases >= Test Value	19
Total Cases	38
Number of Runs	23
Z	0.822
Asymp. Sig. (2-tailed)	0.411

Based on table 5, it can be seen that the significant value obtained is 0.411, which is greater than 0.05, so it can be concluded that there is no autocorrelation problem in the data in the regression model.

Simple correlation test

Table 6. Simple Correlation Test

		USD	DJIA	NASDAQ	SSEC	N225	AORD	FTSE
JKSE	Pearson Correlation	0.187	0.052	0.453	0.368	0.345	0.437	-0.307
	Sig. (2-tailed)	0.261	0.758	0.004	0.023	0.034	0.006	0.061
	N	38	38	38	38	38	38	38

Based on table 6, it can be seen that the USD index, DJIA, and FTSE are not correlated to JKSE because the Sig. (2-tailed) is greater than 0.05. Meanwhile the Sig. (2-tailed) value of NASDAQ, SSEC, N225, and AORD is smaller than 0.05, which indicate that these variables are correlated to JKSE. NASDAQ's Pearson Correlation value is 0.453 so the correlation that occurs is moderate. SSEC's Pearson Correlation value is 0.368 so the correlation that occurs is weak. N225 has a Pearson Correlation value of 0.345 which makes the correlation weak. AORD has a Pearson Correlation value of 0.437 which makes the correlation moderate correlation.

Multiple correlation test

Table 7. Multiple Correlation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	0.596[a]	0.356	0.205	44.04025	0.356	2.366	7	30	0.047

Based on the results of simultaneous testing in table 7, the Sig.F Change value is 0.047 which is smaller than 0.05. This means that the USD index, DJIA, NASDAQ, SSEC, N225, AORD, and FTSE simultaneously correlated to the JKSE. It is known that the R value is 0.596, which means that the correlation that occurs is moderate.

Test of significance of partial parameters (t-test)

Table 8. Significance Testing of partial Parameters

Model		Unstandardized Coefficients		t	Sig.
		B	Std. Error		
1	(Constant)	8.465	7.441	1.138	0.264
	USD	-16.581	14.031	-1.182	0.247
	DJIA	-0.007	0.050	-0.143	0.887
	NASDAQ	0.004	0.054	0.081	0.936
	SSEC	0.454	0.290	1.567	0.128
	N225	0.017	0.030	0.586	0.562
	AORD	-0.001	0.127	-0.005	0.996
	FTSE	0.157	0.102	1.538	0.135

Based on Table 8, shows that there are no influential variables to JKSE. The significance value of the USD index, DJIA, NASDAQ, SSEC, N225, AORD, and FTSE variables is greater than 0.05 so it can be ascertained that these variables have no significant effect on JKSE.

Test of significance of simultaneous parameter test (F-test)

Table 9. Significance Testing of simultaneous Parameters

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	32123.896	7	4589.128	2.366	0.047
	Residual	58186.306	30	1939.544		
	Total	90310.202	37			

Based on the results of the F test in Table 9, the calculated F value of 2.366 is greater than the F table of 2.32 and the significant value is less than 0.05 (0.047). This means that the USD index, DJIA, NASDAQ, SSEC, N225, AORD, and FTSE simultaneously affected the JKSE.

Test coefficient of determination (R)

Table 10. Coefficient of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.596[a]	0.356	0.205	44.04025

Based on Table 10, it can be seen that the Adjusted R Square value obtained is 20.5%, this means that the ability of the USD Index, DJIA, NASDAQ, SSEC, N225, AORD, and FTSE in explaining JKSE is 20.5%, while the remaining 79.5% explained by variables not used in this study.

Discussion

The results of the hypothesis testing carried out show that partially the USD, DJIA, NASDAQ, SSEC, Nikkei 225, AORD, and FTSE indices do not affect the JKSE index. This is because, during the study period, there were no shares of American, Chinese, Japanese, Australian, and British issuers listed on the Indonesian Stock Exchange. Issuers listed on the Indonesia Stock Exchange are domestic issuers denominated in Rupiah, where the investment that occurs is purely local investment using the Rupiah currency. So that the JKSE formed is an index of the total market capitalization of all issuers divided by the total base value of all issuers listed on the Indonesia Stock Exchange, then multiplied by 100 as the base number. Simultaneously the USD, DJIA, NASDAQ, SSEC, Nikkei 225, AORD, and FTSE indices have an effect.

Effect of the USD index on Jakarta Composite Index (JKSE)

Based on the results of the research conducted, the results show that the Dollar Index does not affect the JKSE. The Dollar Index is also uncorrelated with the JKSE. The results of this study contradicted Hasibuan's research in 2009 which stated that the dollar exchange rate affects JKSE. This is probably because the USD exchange rate can only affect issuers that have debt in Dollars, where a change in USD causes an increase in interest expenses, so profits also decrease. A decrease in profits will cause a change in the stock price. However, the companies listed on the Indonesia Stock Exchange usually transact using the Rupiah currency. This can be seen from the financial statements of companies listed on the Stock Exchange. In the financial statements, there tend to be more transactions using the rupiah. In this way, exchange rate changes do not affect the company's stock price. Therefore, the dollar index does not affect the JKSE.

Effect of Dow Jones (DJIA) on Jakarta Composite Index (JKSE)

Based on the results of the research conducted, it is known that DJIA does not affect JKSE. DJIA also does not correlate with JKSE. The results of this study are in accordance with research conducted by Mie Mie (2017) and Adi Mursalin, Dina Oktaviani, Aisyah, and Ery Niswan (2017) which stated that DJIA did not affect JKSE, but the results of this study were not in accordance with research conducted by Marjohan (2015), Sari Oktavia and Wiwik Handayani (2018), Dahlia Br. Pinem (2019), and Risky Nueraeni and Jihad Lukis Panjawa (2021) state that DJIA influences JKSE. This may be because there were no US-owned companies listed on the Indonesian Stock Exchange during the study period. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. The United States doesn't invest much in stocks. Usually, the United States invests in the form of real investment, for example in the field of industrial factory development in Indonesia. At this time the world is also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country which is experiencing rapid growth. So, investment from the United States to Indonesia also decreased. Therefore, the DJIA movement does not affect the JKSE.

Effect of NASDAQ on Jakarta Composite Index (JKSE)

Based on the results of the research conducted, it is known that the NASDAQ does not affect the JKSE. However, NASDAQ correlates with JKSE. The results of this study contradict research conducted by Muhamad Yunanto and Henny Medyawati (2021) and Hasibuan (2009) which state that the NASDAQ affects JKSE. This is possible since there were no US-owned companies listed on the Indonesia Stock Exchange during the study period. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. The United States doesn't invest much in stocks. Usually, the United States invests in the form of real investment, for example in the field of industrial factory development in Indonesia. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. At this time the world is also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country which is experiencing rapid growth. So, investment from the United States to Indonesia also decreased. Therefore, the DJIA movement does not affect the JKSE.

Effect of Shanghai Composite (SSEC) on Jakarta Composite Index (JKSE)

Based on the results of the research conducted, it is known that SSEC does not affect JKSE. However, SSEC is correlated with JKSE. The results of this study are in accordance with the results of research conducted by Mie Mie (2017) which stated that SSEC did not affect JKSE. However, the results of this study contradict the results of research conducted by Novia Nour Halisa and Selvi Annisa (2021), and Marjohan (2015) which state that SSEC affects JKSE. This may be because there were no Chinese companies that had issuers of shares on the Indonesian Stock Exchange during the study period. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. China does not invest in shares. China usually invests in the form of real investment, for example in the form of infrastructure development such as highways/toll roads. At this time the world is also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country which is experiencing rapid growth. So that investment from China to Indonesia also decreased. Therefore, the SSEC movement does not affect the JKSE.

Effect of Nikkei 225 on Jakarta Composite Index (JKSE)

Based on the results of the research conducted, it is known that N225 does not affect JKSE. However, N225 correlates with JKSE. The results of this study are in accordance with research conducted by Mie Mie in 2017 showing that N225 does not affect JKSE. However, the results of this study contradict the results of research conducted by Risky Nuraeni and Jihad Lukis Panjawa (2021), Wondabio (2006), Hasibuan (2009), Marjohan (2015), Dahlia Br. Pinem (2019), and Muhamad Yunanto and Henny Medyawati (2021) state that N225 affects JKSE. This might be because there were no Japanese companies that had issuers of shares on the Indonesian Stock Exchange during the study period. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. Japan does not invest in shares. However, Japan invests a lot in the form of real investment, for example in the field of infrastructure and factory development, and automotive. At this time the world is also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country which is experiencing rapid growth. So that investment from Japan to Indonesia also decreased. Therefore, the N225 movement does not affect the JKSE.

Effect of Australia All Ordinaries (AORD) on Jakarta Composite Index (JKSE)

Based on the results of the research conducted, it is known that AORD does not affect JKSE. But AORD correlates with JKSE. The results of this study contradict Mie Mie's research in 2017 which stated that AORD affected JKSE. This may be because, during the study period, none of the Australian companies were listed on the Indonesian Stock Exchange. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. Australia does not invest in stocks. Usually, Australia invests in the form of real investment, for example in the manufacturing, infrastructure, tourism, and other industrial sectors. At this time the world is also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country which is experiencing rapid growth. So that investment from Australia to Indonesia also decreased. Therefore, the AORD movement does not affect JKSE.

Effect of FTSE on Jakarta Composite Index (JKSE)

Based on the results of the research conducted, it is known that FTSE does not affect JKSE. FTSE also does not correlate with JKSE. The results of this study are in line with the results of research conducted by Mie Mie (2017) which stated that FTSE did not affect JKSE. However, the results of this study are not in accordance with the results of research conducted by Wondabio (2006), Dahlia Br. Pinem (2019), and Risky Nuraeni and Jihad Lukis Panjawa (2021) state that the FTSE affects JKSE. This is probably because there are no shares of British issuers listed on the Indonesian Stock Exchange. Even though there are shares of Unilever which is a company from England, these shares belong to Unilever Indonesia which is a subsidiary of Unilever. So, it is not valid to say that Unilever Indonesia's shares are shares of British Issuers Companies listed on the Indonesia Stock Exchange are domestic companies whose currency is Rupiah, so the investment that occurs is purely local investment using Rupiah. The UK often invests in the form of real investment, for example in the chemical, mining, transportation, and other industries. At this time the world is

also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country which is experiencing rapid growth. So that investment from the UK to Indonesia also decreased. Therefore, the FTSE movement does not affect the JKSE.

Conclusion

The target of this research is to find out whether or not the Jakarta Composite Index (JKSE) is affected by the USD Index, Dow Jones, NASDAQ, SSEC, Nikkei 225, AORD, and FTSE. After the hypothesis was tested, it is concluded that partially the USD Index, Dow Jones, NASDAQ, SSEC, Nikkei 225, AORD, and FTSE have no significant effect on the JKSE Index. The USD Index, Dow Jones, NASDAQ, SSEC, Nikkei 225, AORD, and FTSE simultaneously influence the JKSE Index. This may be because, during the study period, there were no foreign companies listed on the Indonesian Stock Exchange. Companies listed on the Indonesia Stock Exchange are domestic companies denominated in Rupiah, so the investment that occurs is purely local investment using Rupiah. At this time the world is also in a period of economic recovery after previously declining due to the COVID-19 pandemic. This causes investors from other countries to prefer investing in their own country. So, investment from abroad to Indonesia also decreased.

The limitation of this study is that this study only uses the Foreign Composite Stock Price Index variable from countries with strong economies representing every continent in the world and only uses a single currency, US Dollar as the independent variable so that it does not reflect the influence of the condition of the world index as a whole on the JKSE Index and the period in this study is limited only 2 months. For further research, it is expected that the independent variable used from the country which has investment shares on the country's Stock Exchange is used as the dependent variable for research, also sample selection should not only be limited to the Composite Stock Price Index of countries with strong economies representing each continent in the world only but can use the Composite Stock Price Index of countries with weak economies or the countries that neighboring the country that is used as a dependent variable. Further research is also suggested to extend the observation period so that it can increase better data distribution.

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