

UDC 332

## THE INFLUENCE OF COVID-19 PANDEMIC AND ASEAN FOREIGN STOCK INDEXES ON INDONESIAN STOCK EXCHANGE

Tri Kunawangsih\*, Rahmadiyah Thomas, Siti Nurhaliza Kharisma

Applied Undergraduate Study Program, University of Trisakti, Jakarta, Indonesia

\*E-mail: [trikunawangsih@trisakti.ac.id](mailto:trikunawangsih@trisakti.ac.id)

### ABSTRACT

This research aimed to analyze the effect of the global and Indonesian Covid-19 pandemic, macro fundamentals (exchange rates and interest rates), and ASEAN foreign stock indices on the IDX Composite. This research used multiple regression methods and daily data from March 2020 to January 2021. The research results showed that the Covid-19 pandemic (Indonesia and global) had a positive yet insignificant influence on the IDX Composite. The exchange rate variable had a significant positive influence on the IDX Composite. The interest rate had a positive yet insignificant influence on the IDX composite. Malaysia and Philippines stock indexes had a significant positive influence on the IDX composite. The Singapore, Thailand, and Vietnam stock indexes had a positive insignificant influence on the IDX composite.

### KEY WORDS

Covid-19 Pandemic, IDX Composite, Foreign Stock Index.

The world currently suffers from a global pandemic (Covid-19), including Indonesia. The pandemic caused global panic due to the increased mortality rate. Covid-19 causes respiratory problems and ultimately causes a high mortality rate. Various countries have implemented a series of policies to tackle the problem. The Indonesian government regulates community activities and promotes health protocols. It also applies Large Scale Social Restrictions and Restrictions on Community Activities (*Pemberlakuan Pembatasan Kegiatan Masyarakat – PPKM*).

The Covid-19 pandemic is a major health issue. It has a tremendous impact on the economic sector—Large Scale Social Restrictions and Restrictions on Community Activities limited community activities. The community performs office activities at home or works from home (WFH). WFH is intended to suppress the Covid-19 spread. Educational institution (kindergarten to university levels) conduct their activity from home. In addition, private companies also implement similar policies.

Based on World Health Organization (WHO) data, DKI Jakarta has the highest Covid-19 cases, followed by East Java, Central Java, and West Java have. Due to the high population level, Java Island has the highest Covid-19 cases. Table 1 shows the Indonesian Covid-19 positive case data.

Table 1 – Indonesian Covid-19 Positive Case Data as of September 15, 2020

No	Province	Case	Recovered	Mortality
1	Aceh	3032	701	104
2	Jogjakarta	1895	1370	53
3	DKI Jakarta	56175	43226	1450
4	Jambi	331	233	7
5	West Java	14938	8106	305
6	Central Java	18111	11508	1165
7	East Java	38809	31243	2832
8	West Kalimantan	784	655	7
9	Riau Archipelago	1438	862	50
10	West Nusa Tenggara	2981	2353	174

Source: WHO, Public Health Emergency Operating Center (PHEOC), September 2020.

The Covid-19 pandemic has influenced various economic sectors, such as the Indonesian Stock Market (IDX). IDX has a crucial role in the Indonesian economy. The Composite Stock Price Index (CSPI) may be used to measure the economic level. Indonesian community has formed an understanding and invested in IDX. Furthermore, the Indonesian community formed IDX portfolios to maintain and improve their quality of life.

International Monetary Fund (IMF) and World Bank confirm that the pandemic has triggered a global economic recession. Various economists believe Covid-19 caused a similar or worse impact than the Great Depression of 1920 -1930. Bank Indonesia and the Indonesian Minister of Finance have predicted that Covid-19 may decline economic growth.

Indonesia had the most Covid-19 cases in ASEAN in July 2020. The Philippines, Singapore, Malaysia, and Thailand had a high rate of Covid-19 cases. Vietnam, Cambodia, and Laos had 0 mortality rate of Covid-19. Table 2 shows the ASEAN Covid-19 positive case data.

Table 2 – ASEAN Covid-19 Positive Case Data in July 2020

No	Country	Total Case	New Case	Mortality
1	Indonesia	80.094	1.522	3.797
2	Philippine	58.850	1392	1.614
3	Singapore	46.878	249	27
4	Malaysia	8.734	5	122
5	Thailand	3.232	5	58
6	Vietnam	373	0	0
7	Myanmar	337	1	6
8	Cambodia	165	0	0
9	Brunei	141	0	3
10	Laos	19	0	0
	ASEAN	198.823	3174	5.627

Source: WHO.

The declining level of production and consumption dramatically affects the capital market. The capital market is an institution that bridges investors and issuers. Issuers may expand their business, and investors obtain returns in the form of dividends and capital gains. The capital market fluctuations can be observed through stock prices fluctuations and Composite Stock Price Index (CSPI). CSPI value may measure the composite stock performance of the company/issuer listed in IDX.

CSPI measures the trend of stock price fluctuation. Investors use CSPI as the primary indicator to sell, hold, or buy stock. Therefore, CSPI is an indicator of a country's economic health (Sawidji, 2015)

External and internal factors influence CSPI. Internal factors such as economic growth, exchange rates, inflation, money supply, interest rates, and security stability influence investors' expectations and CSPI (Beer et al., 2008; Shoil et al., 2011; Rad, 2012; Hussain, 2014; Astutik et al., 2014; Belke and Beckmann, 2015; Luchtenberg and Vu, 2015; Dimic et al., 2016). External factors such as foreign stock index (Dow Jones, STI, KLSE, Nasdaq, etc.), foreign interest rate, and global oil price influence CSPI. The Covid-19 pandemic in Indonesia is one of the external factors influencing the IDX Composite. Zhao et al. (2004) showed that SARS reduced China's economic growth by 1-2%.

Formulation of the Research Problem:

1. What is the influence of the Indonesian Covid-19 pandemic on the IDX Composite?
2. What is the influence of the global Covid-19 pandemic on the IDX Composite?
3. What is the influence of the exchange rate on the IDX Composite?
4. What is the influence of the interest rate on the IDX Composite?
5. What is the influence of the foreign stock index on the IDX Composite?

Objective of the Research:

1. Analyze the influence of the Indonesian Covid-19 pandemic on the IDX Composite;
2. Analyze the influence of the global Covid-19 pandemic on the IDX Composite;
3. Analyze the influence of the exchange rate on the IDX Composite;

4. Analyze the influence of interest rate on the IDX Composite;
5. Analyze the influence of the foreign stock index on the IDX Composite.

## LITERATURE REVIEW

There are four economic actors on a macro basis: households, companies, government, and foreign sectors. According to the expenditure approach, households perform consumption activities, companies perform investment activities, the government performs government spending, and foreign sectors perform export and import activities. Increasing the expenditure activity will increase national revenue.

Literature on CSPI adheres to the investment theory. According to Yogiyanto, investment delays current consumption to be included in productive assets for a certain period. Investment is the placement of funds or a certain amount of capital made by investors to obtain profits in the future (Kanie, Bodie, and Markus, 2007). Sharpe et al. (1993) stated investment was sacrificing owned assets to obtain more enormous assets in the future. According to Jones (2004), an investment can be defined as committed funds to one or more future assets.

### IDX Composite

The IDX Composite is a description of the stock performance of all issuers listed on the IDX. The IDX Composite acts as an indicator of stock market movements and a benchmark for portfolio movements. The IDX Composite measures the issuers' level of profit. At a macro level, the IDX Composite determines the economic growth of a country.

In addition to IDX Composite, Indonesia possesses several stock indices such as Kompas 100 Stock Index, LQ 45 Stock Index, sectoral stock indices, individual index, Syariah index, Main Board Index, and Development Board Index. ASEAN stock indices are Strait Times Index Singapore, FTSE Malaysia, ST of Thai Index, Hanoi Stock Index, and PSEI Philippines.

### Covid-19 Pandemic

A pandemic is an epidemic that spreads to different countries and continents. The Covid-19 pandemic is currently the biggest health problem in the world. Therefore, the WHO has declared that Covid-19 is an international emergency.

### Arbitrage Pricing Theory

Ross (1976) developed Arbitrage Pricing Theory (APT), a multifactor asset pricing model based on the idea that an asset's return can be predicted using the linear relationship between the asset's expected return and several macroeconomic variables that capture systematic risk. Based on the APT model, Chen et al. (1986) proved that macroeconomic variables influenced stock return.

### Macroeconomics Fundamental

The macroeconomic fundamentals of a country are an environment that significantly affects company performance. The ability of investors to predict the economic conditions of a country encourages profitable investment decisions. Therefore, investors must understand and pay attention to macroeconomic fundamentals. The macroeconomic variables are Gross Domestic Product (GDP) or Gross National Product (GNP), inflation, unemployment, net exports, etc. This research used two macroeconomic variables, namely exchange rates and interest rates.

### Exchange Rate

The exchange rate refers to the exchange rate of one foreign currency to another. Due to a transparent economy, a country's exchange rate fluctuation affects the economic activities of said country and partner countries.

### Interest Rate

The study of investment is related to the theory of interest rates. In theory, interest rates have a negative effect on investment. High interest rates increase investment costs. Therefore, high interest rates decrease investment.

### Foreign Stock Index

Several influential foreign stock indices on the world economy are the Dow Jones, the Shanghai Stock Exchange Composite Index, and the Straits Times Index. The Dow Jones Industrial Average is the oldest stock market index in the United States. The Shanghai Stock Exchange Composite Index is a stock exchange in China. Investors refer to the Shanghai Stock Exchange Composite Index before investing. The Strait Times index is an index on the Singapore Stock market. The Strait Times index monitors the daily changes of the 30 largest companies in the Singapore stock market.

### Research Framework

This study analyzed the influence of global and Indonesian Covid-19 pandemic, macroeconomic fundamentals (exchange rate and interest rate), and foreign stock index on IDX Composites from March 2020 to January 2021. Figure 1 shows the research framework of this research.

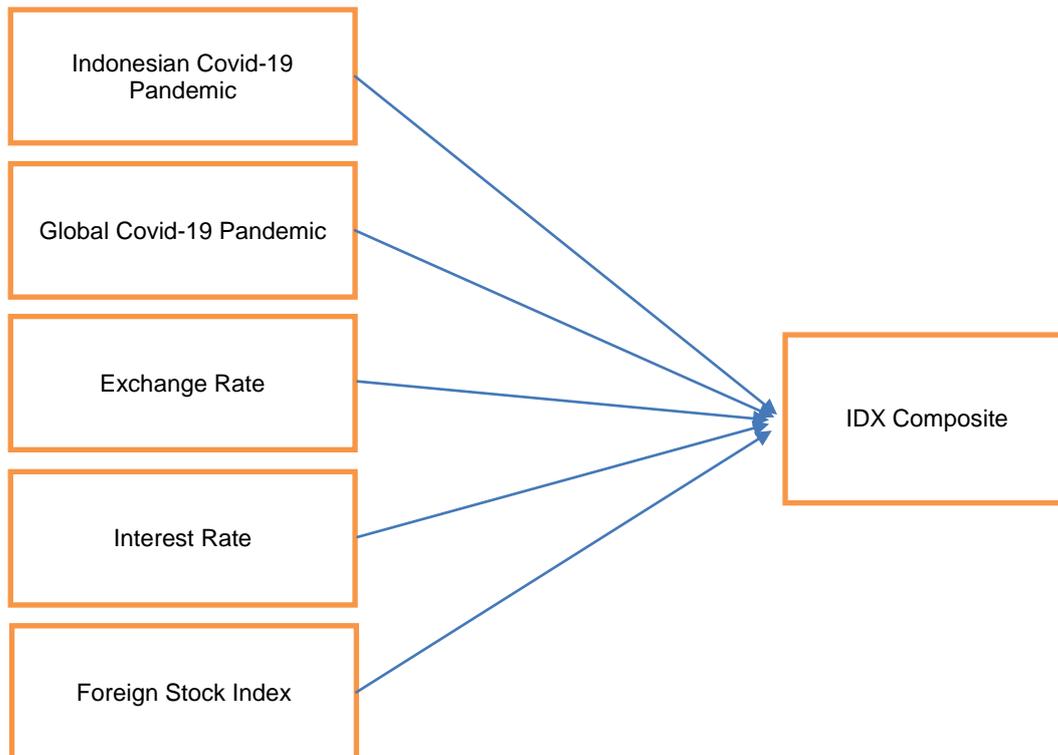


Figure 1 – Research Framework

### Hypothesis

Based on the review of related theories and previous empirical research, the research hypotheses are described as follows:

- H1: Indonesian Covid-19 pandemic influenced the IDX Composite;
- H2: Global Covid-19 pandemic influenced the IDX Composite;
- H3: Exchange rate influenced the IDX Composite;
- H4: Interest rate influenced the IDX Composite;
- H5: Foreign Stock Index influenced the IDX Composite.

## METHODS OF RESEARCH

This research aimed to analyze the influence of the global and Indonesian Covid-19 pandemic, macroeconomic fundamentals (exchange rate and interest rate), and foreign stock index on the IDX Composite. This research used two types of variables, namely dependent variable and independent variable.

The following Table 3 describes the operational definition of the research variable:

Table 3 – Operational Definition of Research Variable

No	Variable	Variable Definition	Data Source
1.	IDX Composite and ASEAN Capital Market Index	Stock market performance indicators in Indonesia and several ASEAN countries	IDX
2	COV_INA & COV_WORLD	The number of Indonesian people and the world's population affected by Covid-19	WHO and Ministry of Health
3.	Exchange Rate	The price of a country's foreign currency relative to another country's currency	Bank Indonesia
4	Interest Rate	The level of interest rate	Bank Indonesia

This research used secondary data from the Indonesia Capital Market Directory, the official site of Bank Indonesia ([www.bi.go.id](http://www.bi.go.id)), Statistics Indonesia, and WHO. This research also used daily data taken from the IDX Composite, Indonesian, and global Covid-19 cases. This research used the following model:

$$\text{IDX Composite} = a_0 + a_1 \text{COV\_INA} + a_2 \text{COV\_WORLD} + e_3 \text{EXCHANGERATE} + e_4 \text{INTERESRRATE} + e_5 \text{FTSE\_ML} + e_6 \text{STI\_SIN} + e_7 \text{PSEI\_PHI} + e_8 \text{UPCOM\_VIE} + \varepsilon_{it} \quad (1)$$

A data panel is a combination of cross-section data and time-series data. Panel data models produce efficient estimation results. There are several techniques used to estimate data panel (Nachrowi dan Usman,2006), namely Fixed Effect Model and Random Effect Model.

It is necessary to perform Chow Test, Hausman Test, and Lagrange Multiplier (LM) test to determine the best panel data model. The assessment determines the model used, such as common effect, fixed effect, and random effect.

Chow Test determines whether the appropriate model used is the common effect or fixed effect.

If the Chow Test results in a fixed model, then the researcher may use Hausman Test. Hausman Test determines whether the appropriate model used is fixed effect model or random-effect model.

If the Chow Test results in a fixed model and the Hausman Test results in a random effect model, then the researcher may use LM Test. LM Test determines whether the estimation may use a random effect model or not.

The coefficient of determination determines the variation of the dependent variable explained by the variation of the independent variable. Unexplained variations are variations from other independent variables that affect the dependent variable but are not included in the model. Gujarati (2010) stated that the R square value is between 0 and 1, which is described as follows.

F- statistic test determines whether at least one independent variable significantly influencing the dependent variable.

The T-statistic test determines the influence of each independent variable on the dependent variable (individual test). The t-test stages are described as follows:

- Determine the null hypothesis and alternative hypothesis ( $H_0$  and  $H_1$ )
  - $H_0$  :  $B_i = 0$   
the independent variable -i do not influence the dependent variable
  - $H_1$  : One minimum of  $\beta_i \neq 0$ ,  $i = 1, 2, \dots, K$   
The independent variable -i influences the dependent variable
- Determining the critical value or table value by using alpha 5%, producing the following t-table:

$$t_{\alpha, df (n-k)} \quad (2)$$

Where:

- $\alpha$  = The error rate (5%);
- $k$  = Total independent variable;
- $n$  = Total observation;
- $df$  = Degree of freedom.

- Determine f-statistic using the following formula:

$$t_{\text{stat}} = \frac{\beta_i}{SE[\beta_i]} \quad (3)$$

- Decision-making:

- If  $t_{\text{count}} > t_{\text{table}}$ , then  $H_0$  was rejected;
- If  $t_{\text{count}} < t_{\text{table}}$ , then  $H_0$  was accepted,

Or

- if p-value of  $t_{\text{statistics}} < 0,05$  then  $H_0$  was rejected;
- if p-value of  $F_{\text{statistics}} > 0,05$  then  $H_0$  was accepted.

## RESULTS AND DISCUSSION

A country's CSPI fluctuation determines the said country's capital market growth. CSPI is one of the main indicators determining whether a capital market grows (bullish) or declines (bearish). Information on stock price fluctuation greatly influence the decision-making process of investors. Stock price fluctuation influence whether the investors sell, buy or hold shares. CSPI indicates a country's economy. Table 4 presents the IDX Composite growth for ten years. In 2017 - 2019, IDX Composite reached 6.355,65. However, the Covid-19 pandemic caused a 5% decline.

Table 4 – IDX Composite Development in 2010 – 2020

Year	IDX Composite	Growth (%)
2010	3,703.51	-
2011	3,821.99	3.20
2012	4,316.69	12.94
2013	4,274.18	-0.98
2014	5,226.95	22.29
2015	4,593.01	-12.13
2016	5,296.71	15.32
2017	6,355.65	19.99
2018	6,194.50	-2.54
2019	6,299.54	1.70
2020	5,979.07	-5.09

Source: IDX.

The growth of the Indonesian capital market is influenced by foreign capital markets (ASEAN and global). Table 5 illustrates the growth of the value of stock transactions in the IDX, the Bursa Malaysia, the Thailand Stock Exchange (SET), the Philippines Stock Exchange (PSEi), the Singapore Stock Exchange (SGX), and the Hanoi Stock Exchange (HSX). SET had the highest transaction value in 2013-2019, followed by SGX and Bursa Malaysia. However, IDX had a higher transaction value compared to Bursa Malaysia in 2019. PSEi and HSX had the lowest transaction value.

Table 5 – Stock Transaction Value of ASEAN Countries

Stock Exchange	Transaction Value ( Million US\$)						
	2013	2014	2015	2016	2017	2018	2019
IDX	115.972	94.968	77.674	92.162	93.653	106.398	117.889
Bursa Malaysia	147.873	153.075	124.113	106.965	130.401	143.447	108.712
SET	376.024	314.190	285.755	330.367	328.325	389.324	367.106
PSEi	46.667	42.552	39.683	37.425	33.494	29.187	30.017
SGX	280.926	209.351	203.413	196.931	213.569	222.421	197.213
HSX	10.430	21.979	18.898	22.679	38.280	46.007	31.560

Source: IDX (2019).

Table 6 shows the relationship between the growth of transaction value and the growth of go public companies (issuer). Bursa Malaysia has the highest issuer in 2013-2019, followed by SGX, SET, and IDX. IDX must increase issuer and investor. Furthermore, IDX established the “*Yuk Nabung Saham*” program to educate Millennials and youth on capital market investment and invest in the capital market through share saving.

The economic growth of a country may improve due to the capital market's growth. A modern country possesses a dynamic and active capital market, exhibiting optimistic investor and issuer growth. Based on production theory, the output is a function of capital and workforce. The capital market provides capital input as a crucial part of the production.

Table 6 – Total Registered Companies in ASEAN Stock Exchange

Stock Exchange	Registered Companies						
	2013	2014	2015	2016	2017	2018	2019
BEI	483	506	521	537	566	619	624
Bursa Malaysia	910	905	902	903	904	912	915
SET	584	613	639	656	688	704	706
PSEi	257	263	265	265	267	267	267
SGX	776	775	769	757	750	741	742
HSX	301	305	307	320	344	373	375

Source: IDX.

Table 7 – Stock Capitalization Value in ASEAN Countries

Stock Exchange	Market Capitalization (Million US\$)						
	2013	2014	2015	2016	2017	2018	2019
BEI	346.674	422.127	353.271	433.822	520.687	482.980	531.106
Bursa Malaysia	500.387	459.004	382.977	363.150	455.772	398.019	409.041
SET	354.367	430.427	348.798	437.314	548.795	500.741	545.520
PSE	217.320	261.841	238.820	239.882	290.401	258.156	277.707
SGX	744.413	752.831	639.956	649.456	787.255	687.257	716.290
HSX	40.061	46.067	51.877	67.080	116.657	124.345	128.489

Source: IDX.

Table 6 and Table 7 show the higher number of go public companies increase stock capitalization. SGX had the highest stock capitalization in 2013-2019, followed by SET and IDX. Market capitalization is the multiplication of total shares outstanding and shares price. Therefore, the stock prices fluctuation greatly influences the value of stock market capitalization. IDX exhibited growth in 2013-2017 and declined in 2018. However, IDX

managed to recover and grow in 2019. Bursa Malaysia exhibited a decline in 2013-2016. However, the following years showed unstable fluctuations. In general, the ASEAN stock market shows fluctuations in stock capitalization value.

This research used the IDX Composite as the dependent variable. Furthermore, this research used global and Indonesian Covid-19, exchange rate, interest rate, and foreign stock index as the independent variable. Table 8 shows that the lowest IDX Composite value was 3937.3, and the highest IDX Composite value was 6435.21. The average value of the IDX Composite was 5237.35. The lowest Indonesian Covid-19 case was 55, and the highest Indonesian Covid-19 case was 11557. The lowest global Covid-19 case was 11.207, and the highest global Covid-19 case was 817794. The lowest exchange rate was 13,880, and the highest exchange rate was 16,575. The lowest interest rate was 3.75%, and the highest interest rate was 5%.

Table 8 – Statistics Descriptions

Variable	Mean	Median	Maximum	Minimum	Std. Dev.
IHSG	5137.35	5069.72	6435.21	3937.63	528.40
COV_INA	2941.06	2202.00	11557.00	55.00	2607.71
COV_WORLD	288642.5	237487.0	817794.0	11207.00	201487.8
KURS	14650.77	14620.00	16575.00	13880.00	607.4952
SKBUNGA	4.17	4.00	5.00	3.75	0.35
FTSE_ML	1514.49	1519.37	1681.41	1219.72	95.89
STI_SIN	2.66	2.61	3.04	2.24	0.16
PSEI_PHI	6188.28	6031.52	7304.79	4623.42	617.84
UPCOM_VIE	59.94	57.57	78.64	47.57	7.41
SET_THA	1318.88	1326.34	1547.31	1024.46	105.23

During Covid-19 Pandemic, the IDX Composite fluctuates. However, the IDX Composite tends to have a positive value. The IDX Composite dropped under 4000, but the value gradually increased over time. The IDX Composite value shows that not all sectors suffered from the Covid-19 pandemic. Several sectors benefit from Covid-19, such as pharmacy, health, telecommunication, food, and beverage. However, there are declining sectors such as tourism, transportation, hotel, and Micro, Small, and Medium Enterprises.

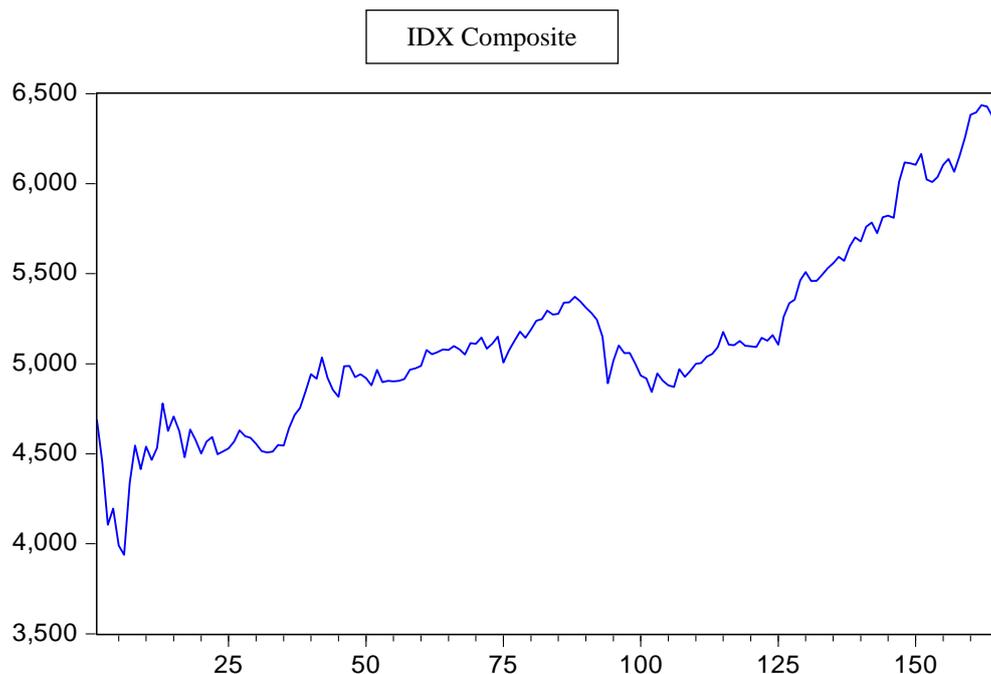


Figure 2 – IDX Composite Growth

During the research period, the Covid-19 cases in Indonesia gradually increase. Therefore, the Government established various policies to deter Covid-19 spread. The policies were Large Scale Social Restrictions and Restrictions on Community Activities at the level I to IV. The government hoped that the policy would encourage the community to adhere to health protocols and reduce total Covid-19 cases.

The IDR exchange rate was IDR 14,000.- per US\$. The IDR exchange rate experienced depreciation at the beginning of the pandemic. However, the IDR exchange rate stabilized in said value over time. Covid-19 limited national and international activities. Therefore, some industries suffered from Covid-19 pandemics, such as aviation, hotel, and tourism industry. Furthermore, the export and import industry suffered from Covid-19. In short, Covid-19 had a significant influence on the global economy.

The work from home policy asks employees to use several platforms such as zoom, google meet, Webex, etc. Therefore, the information technology industry experienced growth during the Covid-19 pandemic. In addition, the health and pharmacy industry experienced growth during the Covid-19 pandemic.

Table 9 – IDX Composite Model Hypothesis Test

Variable	Coefficient	p-value	Description
COV_INA	0.005429	0.5261	Unsupported
COV_WORLD	0.000119	0.1826	Unsupported
KURS	0.099494	0.0000	Supported
SKBUNGA	47.86443	0.1176	Unsupported
FTSE_ML	0.891861	0.0000	Supported
STI_SIN	45.41761	0.7339	Unsupported
PSEI_PHI	0.110846	0.0059	Supported
UPCOM_VIE	5.667769	0.1207	Unsupported
SET_THA	0.24288	0.2269	Unsupported

Source: *Processed data.*

Total global and Indonesian Covid-19 cases had an insignificant positive influence on the IDX Composite. The empirical study of Chaudhary, Bakhshi, and Gupta on the influence of Covid-19 on Indian Stock Market performance used two composite indexes: BSE 500 and BSE Sensex. The study used eight Bombay Stock Exchange (BSE) indices such as Auto, Bankex, Consumer Durables, Capital Goods, Fast Moving Consumer Goods, Health Care, Information Technology, and Realities. In addition, the research compared BSE composite index and three global indices such as S&P 500, Nikkei 225, and FTSE 100.

The research used daily data from January 2019 to May 2020. The research used GLS regression to determine the influence of Covid-19 on various volatility measures, namely the standard deviation, skewness, and kurtosis of all indices. The index measurement result showed lower average daily returns than specific negative returns in the crisis period compared to the pre-crisis period. Furthermore, there were increased deviation standards of all indices, negative skewness, and a very high kurtosis value. There was an increased correlation value between indexes during the crisis period. Indian stock exchange illustrated a similar deviation standard as the global market. However, the Indian stock exchange had a higher negative slope and higher positive return kurtosis. Therefore, the Indian stock exchange had a more fluctuating market.

Qamruzzaman, Karim, and Jahan (2021) conducted research in Bangladesh on December 14, 2020. The research determined the relationship between the stock market, remittance, and the Covid-19 pandemic. The research evaluated the influence of Covid-19 and remittance on stock market behavior. The research used Autoregressive Distributed Lagged (ARDL) and the Toda-Yamamoto causality test to estimate the magnitude and direction of the relationship. ARDL estimation showed that Covid-19 new cases negatively influenced the stock market in the long term and short term. Remittance had long term positive influence on the stock market. Then, the causality test showed a unidirectional relationship between Covid-19 and stock market behavior. The research result aligned with

the initial hypothesis, which explained the causal relationship between remittance inflows and the Bangladesh stock market. The research application aids policymakers in formulating policies and use remittance for productive investment. Furthermore, the research finding expanded the understanding of remittance's role in the economic sector despite the ongoing pandemic.

This research used exchange rate and interest rate as the macro variable. The exchange rate and interest rate had a positive influence on the IDX Composite. However, the exchange rate had X influence on the IDX composite. Hosseini, Ahmad, and Lai (2011) analyzed the influence of macro variables on Chinese and Indian stock price indices from January 1999 to January 2009. The research model used Vector Error Correction Model. The research result showed that the Chinese stock market (crude oil price, money supply, and inflation rate) had long term positive influence on the stock price index. However, production growth had a negative influence on the stock price index. On the other hand, crude oil price and money supply had long term positive influence on the Indian stock market. Industrial production and inflation rate had a negative influence on the stock price index.

Boonyanam (2014) studied Pakistan using a multiple regression model. The researcher studied the influence of macroeconomics variables on the stock price. The research result showed that Gross Domestic Product (GDP) and the exchange rate positively influenced the stock price. The consumer price index had a negative influence on the stock price. Export value, money supply, foreign investment, and crude oil price did not significantly influence the stock price.

Hsing (2011) examined the influence of macroeconomic variables on the Croatian stock market in Quarter III 1997 to Quarter 1 2010. Hsing used Exponential Generalized Autoregressive Conditional Heteroscedastic (EGARCH) model. The research result showed that GDP, money supply, the German Composite Index, and European Government obligation positively influenced the Croatian stock market. The Croatian stock market negatively influenced the government budget deficit to GDP ratio, domestic interest rate, currency exchange rate, and inflation rate.

Hsing (2013) used a similar variable on the Slovakian stock market. The research result was publicized in *Economics & Economy*, Vol. 1, No. 1 (March 2013), 7-16. Hsing used the EGARCH model (Nelson, 1991) to estimate the variance formula. Research results showed that real GDP and Germany/United States stock market index positively influenced the Slovakian stock market. Government debt-to-GDP ratio, the domestic real interest rate, the European Union inflation rate, and United States government obligation negatively influenced the Slovakian stock market. The stock market index showed a quadratic relationship with the nominal effective exchange rate (NEER). The stock price index had a positive (negative) relationship when NEER was less (higher) than the critical value of 108.04. Therefore, the authority should maintain economic growth, fiscal prudence, low real interest rate, low inflation rate, and effective nominal exchange rate to improve stock market performance.

Syriopulos studied the relationship between the equity market in the Balkan Region (Romania, Bulgaria, Croatia, Turkey, Cyprus, and Greece) and developed countries such as the United States and Germany. The relationship was a crucial issue and provided the indicators of the economic convergence process as a whole. Cointegration relationship had a crucial implication on portfolio management. Long term changes in Balkan equity market indicated that international investor has limited access to risk diversification potential and superior portfolio return. However, the international investor had the short-term opportunity in the Balkan market, especially the Romania and Turkey equity markets, which slightly reacted to external shock. Therefore, the international investor could exploit mispricing arbitrage opportunities based on an active portfolio management strategy. The Balkan market followed a similar and gradual growth path, allowing Balkan Market to integrate with the mature international market.

Gay and Robert D. (2016) research on the influence of macroeconomics variable to Brazil, Russia, India, and China (BRIC) stock market. The research aimed to determine the

relationship between BRIC countries' stock price index and macroeconomic variables (exchange rate and oil price). The research used ARIMA Box-Jenkins. The research result did not obtain a significant relationship between exchange rate and BRIC stock index (oil price). Domestic and international macroeconomics factors may have influenced stock market returns. In addition, the research result did not obtain a significant relationship between current and prior stock market returns. Therefore, the BRIC stock market had weak market efficiency.

Khalam Kaled's (2019) research was published in the Journal of World Business (2020) and Elsevier. The research result stated that transparent information changed the stock market. Furthermore, transparent information significantly improved the stock market in the past thirty years. The stock market is one of the crucial economic indicators. The research focused on the influence of macroeconomics variables on stock market return. The research used macroeconomic variables such as GDP, interest rate, inflation, exchange rate, Foreign Direct Investment. The research used multiple regression analysis and ARDL tests on the long-term and short-term coefficients. The research hypothesis was macroeconomic variables (GDP, interest rate, inflation, exchange rate, and Foreign Direct Investment) significantly influence Malaysian stock market return.

The research was based on empirical literature of policymakers, regulators, and the investment community. Furthermore, the research endeavored to explain Malaysian stock market performance. The research result showed significant influence on Malaysian stock market return, illustrated in long and short-run coefficients. Based on data analysis, the regulator needs to maintain a low interest rate to encourage economic activity. Furthermore, the regulator needs to maintain the external economic environment through a rule-based exchange rate policy. In addition, the regulator needs to avoid discretionary actions. Malaysian stock market, Macroeconomic variable, Multiple Regression, ARDL Test, Short and Long term. Developed countries, structured stock markets, and stable returns will attract foreign investors. The research result showed that GDP, Exchange Rate, Foreign Direct Investment has a long-term positive influence. On the other hand, Interest Rate and Inflation had a significant negative influence on the short-term coefficient. (Kalam, Khaled, 2020, Journal of World Business 55 (2020) 101076 Elsevier)

Pakistan researchers conducted similar research using Pakistan data. Imran Hunjra Ahmed et al. (2014) published their research in the International Journal of Economics and Empirical Research. Imran et al. explained that the macroeconomics variable is crucial for a country's economic changes. Each variable changes influence the economy in various ways. The research aimed to determine and analyze the influence of interest rate, GDP, and inflation rate on Pakistan stock price. The researcher used monthly data for eleven years (January 1, 2001, to December 31, 2011). The research used regression equation, causality test, and Granger cointegration to determine macroeconomics influence on the stock price. The measurement result showed no relationship between the dependent variable and independent variable in the short term. However, there was a strong relationship between the dependent variable and independent variable in the long term. Therefore, there was a significant relationship between macroeconomics variables and stock price in the long term.

## **CONCLUSION**

The Covid-19 pandemic is a global health issue that influenced community economic activity to stop spreading the disease. This research aimed to analyze the influence of the Covid-19 pandemic, macroeconomics fundamental (exchange rate, interest rate, ASEAN stock market indices) on the IDX Composite. The conclusion of the research is as follows:

1. Indonesian Covid-19 pandemic had an insignificant positive influence on IDX Composite;
2. Global Covid-19 pandemic had an insignificant positive influence on IDX Composite;
3. Exchange rate had a significant positive influence on IDX Composite;
4. Interest Rate had a positive insignificant influence on IDX Composite;

5. Malaysian and Philippine stock indices had a significant positive influence on IDX Composite. Singapore, Thailand, and Vietnam stock indices had an insignificant positive influence on IDX Composite.

### Suggestion

Due to the ongoing Covid-19 pandemic, the government should establish a series of policies to stop the spread of Covid-19. Future research may increase the research period to obtain more data. Obtaining more data allows the researcher to obtain estimation results close to real conditions. Furthermore, future research may add macro variables such as GDP and inflation rate. In addition, it is necessary to focus on one sector of stock prices, such as the health sector and pharmacy industry. Therefore, future research may map the growing and declining sectors due to the pandemic.

### REFERENCES

1. Barro, R. J., Ursúa, J. F., & Weng J. (2020). The Coronavirus and the Great Influenza Pandemic. Lessons from the “Spanish Flu” for the Coronavirus’s Potential Effects on Mortality and Economic Activity, NBER working paper 26866.
2. Belke, A., & Beckmann, J. (2015). Monetary Policy And Stock Prices – Cross- Country Evidence From Cointegrated VAR Models. *Journal of Banking & Finance*, 254–265.
3. Bhargava, A. (2014). Firms Fundamentals, Macroeconomic Variables And Quarterly Stock Prices.
4. Boonyanam, N. (2014). Relationship of Stock Price and Monetary Variables of Asian Small Open Emerging Economy: Evidence from Thailand. *International Journal of Financial Research*, 5(1).
5. Dimic, N., Kiviahio, J., Piljak, V., & Aijo, J. (2016). Impact of Financial Market Uncertainty And Macroeconomic Factors On Stock–Bond Correlation In Emerging Markets. *Research in International Business and Finance*, 41–51.
6. Dewi, R., & Sugeng, W. (2012). Analisis Pengaruh Rasio Keuangan dan Makro Ekonomi Terhadap Harga Saham. *Diponegoro Journal of Management*.
7. Gay, R. D. Jr. (2016). Effect of Macroeconomic variables on Stock Market Returns for Four Emerging Economies: Brazil, Russia, India, And China. *International Business & Economic Research Journal*, 15(3).
8. Hosseini, et al. (2011). The Role of Macroeconomic Variables on Stock Market Index in China and India. *International Journal of Economics and Finance*, 3(6).
9. Hsing, Y. (2011). Impacts of Macroeconomic Variables on The Stock Market in Bulgaria and Policy Implications. *East-West. Journal of Economics and Business*, XIV(2).
10. Hsing, Y. (2013). Impact of macroeconomic variables on the stock market in Slovakia and policy implication. *Economics and Economy*, 1(1), 7-16.
11. Luchtenberg, K. F., & Vu, Q. V. (2015). The 2008 Financial Crisis: Stock Market Contagion And Its Determinants. *Research in International Business and Finance*, 178–203.
12. Oseni, I. O. N. (2011). Stock Market Volatility and Macroeconomic Variables Volatility in Nigeria: An Exponential GARCH Approach. *Journal of Economics and sustainable development*, 2 (10), 28-42.
13. Qamruzzaman, et al. (2011). COVID-19, Remittance Inflows, and the Stock Market: Empirical Evidence from Bangladesh. *Journal of Asian Finance, Economics and Business*, 8(5), 0265-0275.
14. Rad, A. A. (2011). Macroeconomics Variables and Stock Market: Evidence From Iran. *International Journal Of Economics and Finance Studies*, 3(1), 1-10.
15. Rashmi, C., et al. (2020). The performance of the Indian stock market during COVID-19. *Investment Management and Financial Innovations*, 17(3), 133-147.
16. Shoil, N., & Zakir, H. (2011). The Macroeconomic Variables And Stock Returns in Pakistan: The Case of KSE 100 Index. *International Research Journal of Finance And Economics*, 80, 66 – 74.

17. Sugeng, W., Hersgondo, R. D. L., & Rudy, R. (2017). Macroeconomic Fundamental and Stock Price Index in Southeast Asia Countries: A Comparative Study. *International Journal of Economics and Financial Issues*, 7(2), 182-187.
18. Syriopulos, T. (2011). Financial integration and portofolio investmens to emerging Balkan equity markets. *Journal of Multinational Financial Management*, 21, 40-54.
19. Sukamulja, S. (2017). *Pengantar Pemodelan Keuangan dan Analisis Pasar Modal*. Yogyakarta: Penerbit Andi.
20. Syed, M. H., Muzammal, I. S., Mohammad, A. J., & Amjad, H. (2014). Macroeconomic Factors do influencing Stock Price: A Case Study on Karachi Stock Exchange. *Journal of Economics and Sustainable Development*.
21. Tandelilin, E. (2010). *Portofolio dan Investasi, Teori dan Aplikasi*. Jakarta: Penerbit Kanisius (2010).
22. Widiatmodjo, S. (2015). *Pengetahuan Pasar Modal untuk Konteks Indonesia*. Jakarta: Penerbit PT Elex Media Komputindo, Kompas Gramedia.