

**THE EFFECT OF FOREIGN COUNTRY INDEXES, MACROECONOMICS, AND
COMMODITIES ON THE INDONESIAN STOCK EXCHANGE**

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Abstract. *The purpose of this paper is to study the effect of the foreign country indexes, macroeconomics, and world commodity prices on the Composite Stock Price Index (IHSG) in Indonesia. The foreign indexes are the US Dow Jones (DJI), the Singapore Straits Time Index (STI), the Japanese Nikkei (N225), and the Hong Kong Hang Seng Index (HSI). The macroeconomics factors are the currency exchange rate (USDIDR) and inflation rate (INFLATION). The commodities are crude oil prices (OIL) and world gold prices (GOLD). The estimation model is a multiple linear regression analysis. The results show that USDIDR has a significant negative effect, while STI has a significant positive effect.*

Abstrak. Tujuan dari makalah ini adalah untuk mempelajari pengaruh indeks luar negeri, makroekonomi, dan harga komoditas dunia terhadap Indeks Harga Saham Gabungan (IHSG) di Indonesia. Indeks asing tersebut adalah Dow Jones (DJI) AS, Indeks Waktu Selat Singapura (STI), Nikkei Jepang (N225), dan Indeks Hang Seng Hong Kong (HSI). Faktor makroekonomi adalah nilai tukar mata uang (USDIDR) dan tingkat inflasi (INFLASI). Komoditas tersebut adalah harga minyak mentah (MINYAK) dan harga emas dunia (GOLD). Model estimasi yang digunakan adalah analisis regresi linier berganda. Hasil penelitian menunjukkan bahwa USDIDR berpengaruh negatif signifikan, sedangkan IMS berpengaruh positif signifikan.

INTRODUCTION

The capital market in Indonesia has grown up so well (Prabowo, 2021). There are lots of money market instruments nowadays. With the booming of technologies, more people can join the money market for investment. From students in high school to big investors, access to the money market is widely available. Technology advancement accelerates investment in the market (Okezone, 2018).

Foreign country indexes are known to have effects on each other. According to a study done by Eun and Shim (1989), European and Asian-Pacific markets responded to a shock in U. S. innovations (Eun & Shim, 1989). Pinem (2019) supported this statement by saying that the economy of countries was interconnected because the economy of developed countries greatly affected the economy of emerging countries (Pinem, 2019).

Macroeconomics factors are related to performance, structure, and global economic behavior. The analytical instrument often uses macroeconomics to construct policies related to economic growth, employment rates, inflation, and countries' balance sheets. The implementation of macroeconomics can affect the business and financial condition of a country (NISP, 2021; Utami, 2022).

The Russian – Ukraine war in Ukraine caused commodity prices to become pricey. The war caused oil prices to rise by over 30% and natural gas prices to rise by more than 60%. Russia and Ukraine are the main sources of main commodity markets. Expensive and unstable commodity prices will cause major threats to the global economy (Igan et al., 2022). This study includes some commodity prices to understand the effects on IHSG.

The Indonesian Composite Index (IHSG) is the main indicator of the capital market in Indonesia (Pinem, 2019). IHSG can be used to get a brief picture of the global market conditions in Indonesia, whether the market is in good or bad condition. Reading the current condition trend of IHSG is very important to understand the economic condition of Indonesia (Lifepal, 2020, 2021; Wardana, 2022). IHSG is believed as the main marker of market movements, meaning IHSG can give the overall condition of Indonesia's capital market (Yusuf, 2022)

This study tries to study the effect of the foreign country indexes, macroeconomics, and world commodity prices on the Composite Stock Price Index (IHSG) in Indonesia. The foreign indexes are the US Dow Jones (DJI), the Singapore Straits Time Index (STI), the Japanese Nikkei (N225), and the Hong Kong Hang Seng Index (HSI). The macroeconomics factors are the currency exchange rate (USDIDR) and inflation rate (INFLATION). The commodities are crude oil prices (OIL) and world gold prices (GOLD).

LITERATURE REVIEW

Foreign Country Indexes Effect on IHSG

The United States is a very developed country. It has the highest GDP in the world (International Monetary Fund, 2022). The total of Indonesia's imports from the US was around USD 11.31 billion in 2021 (Economics, 2022b). Imbayani (2015), Oktavia and Handayani (2018), Pinem (2019), Setiawan and Mulyani (2020), and Nurwulandari et al. (2021) studied the effect of

DJI on IHSG. Most of them used multiple linear regression as the estimation method, except Nurwulandari et al. (2021) used ARCH/GARCH as the estimation model. All prior study results showed that DJI had a significant positive effect on IHSG (Imbayani, 2015; Nurwulandari et al., 2021; Oktavia & Handayani, 2018; Pinem, 2019; Setiawan & Mulyani, 2020). Therefore, the first hypothesis is:

H₁: DJI has a positive effect on IHSG

Singapore and Indonesia have many bilateral agreements, such as ASEAN and strong economic cooperation. The amount of bilateral trade was around \$59 billion in 2019, and Singapore has been one of the top foreign investors in Indonesia since 2014 (Ministry of Investment, 2017, p. 5; M. of F. A. Singapore, 2020). Singapore is a high-income country with GDP growth amongst the highest in the world (The World Bank, 2019). Imbayani (2015) and Pinem (2019) studied the effect of STI on IHSG using multiple regression analysis. All prior study results showed that STI had a significant positive effect on IHSG (Imbayani, 2015; Pinem, 2019). Therefore, the second hypothesis is:

H₂: STI has a positive effect on IHSG

Japan is a strong economic country in Asia. Japan and Indonesia have shared some bilateral programs. Indonesia has been an active importer from Japan from time to time. In 2021, Indonesia's import value was \$14.64 billion (Economics Trading, 2022a). The results of Imbayani's (2015) and Pinem's (2019) prior studies showed that N225 had significant negative effects on IHSG (Imbayani, 2015; Pinem, 2019), while Aditya et al. (2018) showed the opposite result (Aditya et al., 2018). On the other hand, Setiawan and Mulyani (2020) showed that N225 did not affect IHSG (Setiawan & Mulyani, 2020). All of them used multiple linear regression as the estimation model so the variations in results might be caused by the difference in variables picked by the authors. Therefore, the third hypothesis is:

H₃: N225 has a positive effect on IHSG

Indonesia is Hong Kong's 25th biggest trading partner. The total trade value between the two countries in 2020 was \$4.1 billion, a decrease of 20.7% compared to 2019. There was a decrease of -4.8% in the average annual growth of bilateral trade between Indonesia and Hong Kong from 2016 to 2020. In 2020, the total exports from Hong Kong to Indonesia decreased by 18.1%, while the total imports from Indonesia also decreased by 23.9%. The number of tourists from Indonesia to Hong Kong also experienced a decrease of 12% compared to 2018 (Hong Kong Economic & Trade Office, 2022b). The result of Imbayani (2015) study showed that HSI had a significant negative effect on IHSG (Imbayani, 2015), while Pinem (2019) and Setiawan and Mulyani (2020) showed the opposite results (Pinem, 2019; Setiawan & Mulyani, 2020). All of them used multiple linear regression as the estimation method. The variations in results might be caused by the differences in the period of study and variables. Therefore, the fourth hypothesis is:

H₄: HSI has a positive effect on IHSG

Macroeconomics Effect on IHSG

Recent Indonesia's import and export data for the last five years show that on average, Indonesia has higher import than export values. It implies that most likely USDIDR will affect IHSG (S&P CapitalIQ, 2022). The results of Imbayani (2015), Aditya et al. (2018), Pinem (2019),

and Nurwulandari (2021) prior studies showed that USDIDR had significant negative effects on IHSG (Aditya et al., 2018; Imbayani, 2015; Nurwulandari et al., 2021; Pinem, 2019). While, Rosalyn (2018), Oktavia and Handayani (2018), and Fahlevi (2019) studies showed the opposite (Fahlevi, 2019; Oktavia & Handayani, 2018; Rosalyn, 2018). Setiawan and Mulyani (2020) showed that USDIDR had no effect on IHSG (Setiawan & Mulyani, 2020). Only Nurwulandari (2021) used ARCH/GARCH as the estimation method, the others used multiple linear regression. The variations in results could be caused by the different variables picked by the authors. Therefore, the fifth hypothesis is:

H₅: USDIDR has a positive effect on IHSG

The war between Russian-Ukraine has caused global recessions. Many countries in Asia are experiencing high inflation rates because major resources such as oil, wheat, and gas are becoming scarce (Li, 2022). The results of Rosalyn's (2018), Pinem's (2019), Novianti and Perwati (2020), and Setiawan and Mulyani's (2020) studies showed that the inflation rate had significant negative effects on IHSG (Novianti & Perwati, 2020; Pinem, 2019; Rosalyn, 2018; Setiawan & Mulyani, 2020). While Aditya et al. (2018), Yunita and Robiyanto (2018), and Fahlevi (2019) showed that the inflation rate did not have any effect on IHSG (Aditya et al., 2018; Fahlevi, 2019; Yunita & Robiyanto, 2018). All studies were done using multiple regression analysis as the estimation method. The variations in results might be caused by the differences in period and variables of the studies. Therefore, the eighth hypothesis is:

H₆: Inflation rate has a positive effect on IHSG

Commodity Effect on IHSG

GOLD is commonly considered a safe-haven instrument during a crisis because it is uncorrelated with assets or portfolios during a financial crisis. GOLD does not have a risk of becoming worthless, unlike currencies or other assets (Sunshine Profits, 2022). During the early crisis of pandemic Covid-19, many investors moved their money to buy gold, which caused the gold price to rise high (Akhtaruzzaman et al., 2021). Both Aditya et al. (2018) and Nurwulandari (2021) studies showed that GOLD did not affect IHSG (Aditya et al., 2018; Nurwulandari et al., 2021). Even though they used different estimation methods, the results were still the same. This proxy is used to make sure if the result can be different with the use of recent data and variables. Therefore, the seventh hypothesis is:

H₇: GOLD has a significant positive effect on IHSG

Oil is needed in almost every aspect of modern society. Many activities worldwide depend on the oil demand. Most industries depend on crude oil to function. The Ukraine-Russia war has caused a shortage of oil supply, leading to the rise in oil price, which affects the cost of products and services. In the end, the living cost goes up (Amadeo, 2022). Indonesia has some oil reserves, unfortunately, Indonesia's oil reserves can only last for nine years more (Fadilah, 2022). Novianti and Perwati's (2020) study showed that OIL had a significant positive effect on IHSG (Novianti & Perwati, 2020). While Hersugondo and Laksana's (2020) study showed that OIL did not affect IHSG (Hersugondo & Laksana, 2020). Since the period and the estimation model were the same multiple linear regression, then the differences in the results might be caused by different variables used in the model. Therefore, the eighth hypothesis is:

H₈: OIL has a significant positive effect on IHSG**METHODOLOGY**

The data used in this study are time-series monthly data from 2010 to 2021. The foreign country indexes, GOLD, and OIL are taken from CapitalIQ. The Inflation and USDIDR data are taken from <http://bi.go.id>. The population of the study is the whole indexes, GOLD, OIL, inflation, and USDIDR data.

Research Model Construction

This study tries to capture the effect of foreign country indexes, macroeconomics, and world commodity prices. The estimation method is multiple regression analysis. Based on the hypotheses, the empirical model is:

Figure 1 Research Model Construction

$$R_IHSG_t = \alpha + \beta_1 R_DJI_t + \beta_2 R_STI_t + \beta_3 R_N225_t + \beta_4 R_HSI_t + \beta_5 \ln(USDIDR_t) + \beta_6 R_GOLD_t + \beta_7 R_OIL_t + \beta_8 R_Inflation_t + \varepsilon_t$$

where R_IHSG is the return of the Indonesian Composite Stock Price Index, R_DJI is the return of the Dow Jones Index, R_STI is the return of the Singapore Index, R_N225 is the return of the Nikkei Index, R_HSI is the return of the Hang Seng Index, $\ln(USDIDR)$ is the natural logarithm of USD to IDR currency exchange rate, R_GOLD is the return of world gold price, R_OIL is the return of world crude oil, $Inflation$ is the inflation rate, and ε is the error term.

RESULT

Most variables are winsorized at 99% to minimize the effect of outliers, except the USDIDR. This study uses a natural logarithm on the monthly USDIDR data to transform non-linear data into linear. Winsorization is a method to reduce the effect of outliers in the research data. It is done by assigning lower weights to outliers or changing the outliers with closer values in the dataset. Winsorization is chosen over trimming because using Winsorization there are no data removed (Stephanie, 2016). The alpha used in this study was 5%.

Descriptive Statistics Analysis

The descriptive statistic result shows that R_DJI , R_STI , R_N225 , R_HSI , R_GOLD , and R_OIL have a normal distribution. Only R_IHSG , $\ln(USDIDR)$, and $INFLATION$ do not have a normal distribution, which is expected to have a normal distribution once the normality test is done on the model.

Table 1 Descriptive Statistics Analysis

	R_IH SG	R_DJ I	R_ST I	R_N22 5	R_HS I	ln(USDI DR)	R_G OLD	R_OI L	INFLA TION
Mean	0.007 573	0.009 941	0.001 857	0.0083 68	0.002 458	0.003206	0.004 427	0.005 630	0.04312 5
Median	0.011 800	0.012 100	0.005 400	0.0126 00	0.006 800	0.001300	0.001 900	0.015 100	0.03880 0
Maximum	0.097 312	0.111 325	0.102 451	0.1201 75	0.129 142	0.149800	0.132 113	0.294 093	0.08622 6
Minimum	- 0.095 525	- 0.103 369	- 0.101 042	- 0.1060 91	- 0.122 003	- 0.074000	- 0.114 332	- 0.242 761	0.01329 3
Std. Dev.	0.039 888	0.038 746	0.038 290	0.0497 91	0.050 589	0.025059	0.046 447	0.093 763	0.01915 6
Skewness	- 0.505 078	- 0.295 303	- 0.302 204	- 0.3584 18	- 0.242 338	- 1.202997	0.140 058	- 0.027 215	0.50231 9
Kurtosis	3.069 404	3.648 379	3.297 119	2.9389 92	3.073 583	11.20585	3.155 112	3.693 236	2.45588 3
Jarque- Bera	6.108 685	4.583 215	2.702 634	3.0838 91	1.431 933	435.7015	0.610 875	2.881 088	7.77778 3
Probabili ty	0.047 154	0.101 104	0.258 899	0.2139 64	0.488 720	0.000000	0.736 801	0.236 799	0.02046 8
Sum	1.082 987	1.421 556	0.265 509	1.1965 84	0.351 539	0.458500	0.633 081	0.805 132	6.16681 9
Sum Sq. Dev.	0.225 925	0.213 177	0.208 188	0.3520 45	0.363 411	0.089170	0.306 335	1.248 406	0.05210 7
Observat ions	143	143	143	143	143	143	143	143	143

The R_OIL has the highest standard deviation. Supported with high the highest maximum return value and lowest minimum return value, R_OIL shows that oil price is quite volatile. The fluctuation of the highest and lowest value is quite high. The other variables have a similar standard deviation, indicating that the variables have similar volatility.

Empirical Result and Interpretation

The test of coefficient significance is done with a *significance level of 5%*. The purpose of the test is to get the significance level and coefficient of the variables.

Table 2 Empirical Result

Variable	Coefficien t	Std. Error	t- Statistic	Prob.
C	0.008368	0.00642	1.30185	0.1952
R_DJI_TRM2	0.168284	0.11263	1.49407	0.1375
R_STI_TRM2	0.263958	0.11791	2.23850	0.0268
R_N225_TRM2	0.034600	0.07592	0.45571	0.6493
R_HSI_TRM2	0.029014	0.08127	0.35699	0.7217
ln(USDIDR)	-0.543343	0.12452	4.36347	0.0000
R_GOLD_TRM2	0.083099	0.06181	1.34442	0.1811
R_OIL_TRM2	-0.035892	0.03310	1.08403	0.2803
INFLATION_TR M2	-0.040390	0.13690	0.29503	0.7684

The regressions results show that only variables R_STI_TRM2 and ln(USDIDR) are significant, with R_STI_TRM2 being significantly positive on IHSG and ln(USDIDR) being significantly negative on IHSG. The rest of the variables are not significant. The adjusted R² for this model is 0.4210 with the probability of the F statistic being 0.0000, which means that the model has quite good explanatory power.

Foreign Index Effect

R_DJI_TRM2 is not significant, then there is not enough statistical proof to support the H₁ that DJI has a significant positive effect on IHSG. Therefore, H₁ is rejected. The result is different than the studies done by Imbayani (2015), Oktavia and Handayani (2018), Pinem (2019), Setiawan and Mulyani (2020), and Nurwulandari et al. (2021). Since Dow Jones does not have any effect on IHSG, it can be seen that even though America is experiencing a 9.1% inflation rate, Indonesia can stand with a 4.35% inflation rate. China's economic supremacy can be another factor why the Dow Jones does not affect IHSG anymore (Bagshaw, 2021).

R_STI_TRM2 is positively significant, then there is enough statistical proof to support the H₂ that STI has a significant positive effect on IHSG. Therefore, H₂ is not rejected. The result agrees with the study done by Imbayani (2015) and Pinem (2019). This result indicates that

investors should watch over Singapore's economic condition. According to a statement by Singapore's Minister for Trade and Industry, Gan Kim Yong said that Indonesia and Singapore shared strong bilateral economic relations and opportunities. Gan said that Indonesia was a key market for Singapore businesses to venture abroad (Maritime Fairtrade, 2022a). Moreover, Indonesia and Singapore are members of ASEAN, meaning economic bilateral trading should be good. Further study is needed to prove the association of ASEAN countries' economies with Indonesia.

R_{N225_TRM2} is not significant, then there is not enough statistical proof to support the H_3 that N225 has a significant positive effect on IHSG. Therefore, H_3 is rejected. The result is different than studies done by Imbayani (2015) and Pinem (2019), which said that N225 had significant negative effects on IHSG. The result implies that Japan's economy does not affect IHSG. The result is also different from a study done by Aditya et al. (2018) that showed that N225 had a significant positive effect on IHSG. However, the result agrees with Setiawan and Mulyani's (2020) study. Even though Japan is a strong economic country in Asia, and Indonesia shares some bilateral trades with Japan, however, Japan's economy does not affect IHSG. Another possibility is Japan is not a member of ASEAN, which is why Japan's economy does not affect Indonesia.

R_{HSI_TRM2} is not significant, then there is not enough statistical proof to support the H_4 that HSI has a significant positive effect on IHSG. Therefore, H_4 is rejected. All prior studies done by Imbayani (2015), Pinem (2019), and Setiawan and Mulyani (2020) showed HSI affected IHSG, though the results varied between significant positive and negative. The result of this study shows a different result from all prior studies. The difference in results could be due to different variables and periods of the studies. The result complies with a decrease of -4.8% in the average annual growth of bilateral trade between Indonesia and Hong Kong from 2016 to 2020. Maybe this is why HSI does not affect IHSG.

Macroeconomics Effect

$\ln(\text{USDIDR})$ is negatively significant, then there is enough statistical proof to support the H_5 that USDIDR has a significant negative effect on IHSG. Therefore, H_5 is rejected. The result agrees with the studies done by Imbayani (2015), Aditya et al. (2018), Pinem (2019), and Nurwulandari (2021), while the result shows the opposite with studies done by Rosalyn (2018), Oktavia and Handayani (2018), and Fahlevi (2019). On the other hand, the result is also different from a study done by Setiawan and Mulyani (2020), which said that USDIDR did not affect IHSG. Normally, any rise in USDIDR will cause IHSG to fall. The reason is roughly for the last five years, Indonesia has had bigger import values than export has. The following are graphical Indonesia's import and export data for the last five years. The implication is countries with higher import than export values will be most likely negatively affected by the currency exchange rate to USD (S&P CapitalIQ, 2022).

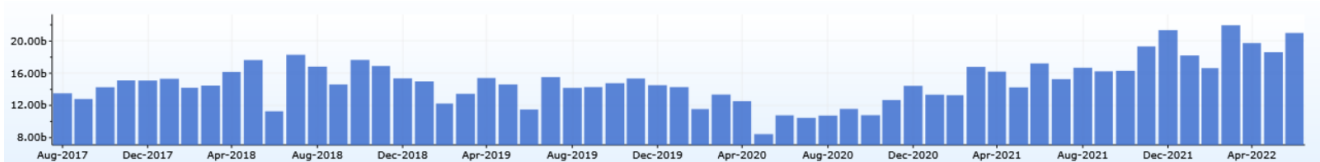


Figure 2 Indonesia Five Years Import

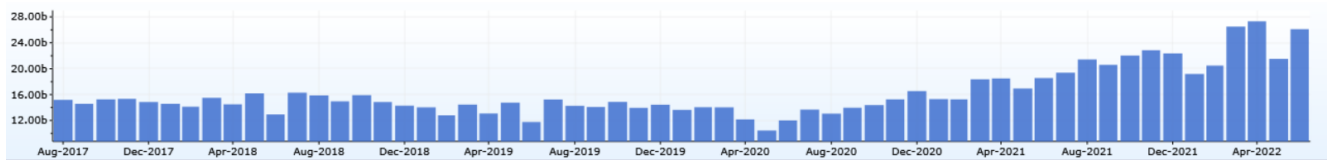


Figure 3 Indonesia Five Years Export

R_INFLATION_TRM2 is not significant, then there is not enough statistical proof to support the H_8 that INFLATION has a significant positive effect on IHSG. Therefore, H_8 is rejected. The result agrees with studies done by Aditya et al. (2018), Yunita and Robiyanto (2018), and Fahlevi (2019), while it disagrees with studies done by Rosalyn (2018), Pinem (2019), Novianti and Perwati (2020), and Setiawan and Mulyani's (2020). Even though many Asian countries are facing recessions with a high inflation rate, Indonesia can hold its inflation rate well (Li, 2022). The result implies that as long as Indonesia can control the inflation rate well, the economy is good. By maintaining the number of money supplies in society and economic growth, the inflation rate should be good enough (Liputan6.com, 2015).

Commodity Effect

R_GOLD_TRM2 is not significant, then there is not enough statistical proof to support the H_6 that GOLD has a significant positive effect on IHSG. Therefore, H_6 is rejected. The result of this study agrees with studies done by Aditya et al. (2018) and Nurwulandari (2021). One possible reason is that during the period of research stocks give better profits than gold (Aditya et al., 2018). Another reason is people in Indonesia mostly buy gold for consumption, not for investment (Nurwulandari et al., 2021). Even though GOLD is commonly considered a safe-haven instrument during a crisis, the result says that GOLD does not affect IHSG. One reason is GOLD is uncorrelated with assets or portfolios during a financial crisis (Sunshine Profits, 2022). During the early crisis of the pandemic Covid-19, many investors moved their money to buy gold, which caused the gold price to rise high. However, in the next phase of the pandemic GOLD lost its safe-haven role (Akhtaruzzaman et al., 2021), meaning investors moved their money back from GOLD into other instruments.

R_OIL_TRM2 is not significant, then there is not enough statistical proof to support the H_7 that OIL has a significant positive effect on IHSG. Therefore, H_7 is rejected. The result of this study does not agree with a study done by Novianti and Perwati (2020), but the result agrees with Hersugondo and Laksana's (2020) study. The Russia-Ukraine war has caused a global shortage of resources, especially oil. The result implies that as long as Indonesia can manage the gasoline and solar subsidy, the economy will still be good. Unfortunately, Indonesia's oil reserves can only last for nine years more (Fadilah, 2022).

CONCLUSION AND SUGGESTION

This study tries to study the effect of the foreign country indexes, macroeconomics, and world commodity prices on the Composite Stock Price Index (IHSG) in Indonesia. The foreign indexes are the US Dow Jones (DJI), the Singapore Straits Time Index (STI), the Japanese Nikkei (N225),

and the Hong Kong Hang Seng Index (HSI). The macroeconomics factors are the currency exchange rate (USDIDR) and inflation rate (INFLATION). The commodities are crude oil prices (OIL) and world gold prices (GOLD).

Amongst all factors, only Singapore Straits Times Index and USD to IDR currency exchange rate affect IHSG. This result indicates that investors should watch over Singapore's economic condition. According to a statement by Singapore's Minister for Trade and Industry, Gan Kim Yong said that Indonesia and Singapore shared strong bilateral economic relations and opportunities. Gan said that Indonesia was a key market for Singapore businesses to venture abroad (Maritime Fairtrade, 2022a). Moreover, Indonesia and Singapore are members of ASEAN, meaning economic bilateral trading should be good.

Normally, any rise in USDIDR will cause IHSG to fall. The reason is roughly for the last five years, Indonesia has had bigger import values than export has. Comparing Indonesia's import and export data for the last five years, it can be realized on average Indonesia has higher import than export values. The implication is countries with higher import than export values will be most likely negatively affected by the currency exchange rate to USD.

For further study, it is suggested to study the association of ASEAN's countries' economies and China's on Indonesia's economy. ASEAN's countries often do bilateral trades with each other, while China is the emerging power economy country in Asia. By understanding the association between them, it is expected to understand IHSG better.

REFERENCES

- Aditya, A., Sinaga, B. M., & Maulana, T. A. (2018). Pengaruh Indeks Bursa Luar Negeri, Indikator Makroekonomi dan Krisis Ekonomi Global Terhadap Indeks Harga Saham Gabungan di Indonesia. *Jurnal Aplikasi Bisnis Dan Manajemen (JABM)*, 4(2), 284–284. <https://doi.org/10.17358/jabm.4.2.284>
- Akhtaruzzaman, M., Boubaker, S., Lucey, B. M., & Sensoy, A. (2021). Is gold a hedge or a safe-haven asset in the COVID–19 crisis? *Economic Modelling*, 102, 105588. <https://doi.org/10.1016/j.econmod.2021.105588>
- Akinwande, O., Dikko, H. G., & Agboola, S. (2015). Variance Inflation Factor: As a Condition for the Inclusion of Suppressor Variable(s) in Regression Analysis. *Open Journal of Statistics*, 05, 754–767. <https://doi.org/10.4236/ojs.2015.57075>
- Alas, R., Übius, U., Lorents, P., & Matsak, E. (2017). Corporate Social Responsibility In European And Asian Countries. *Jurnal Manajemen Bisnis Dan Inovasi (JMBI) UNSRAT Vol. 4 No. 1*
- Amadeo, K. (2022, June 6). *What is Crude Oil?* The Balance. <https://www.thebalance.com/crude-oil-prices-trends-and-impact-on-the-economy-and-you-3305738>

- Bagshaw, E. (2021, June 28). *Richest nation or richest people? Economic supremacy in the balance*. The Sydney Morning Herald. <https://www.smh.com.au/world/asia/richest-nation-or-richest-people-economic-supremacy-in-the-balance-20210621-p582rh.html>
- Brooks, C. (2019). *Introductory Econometrics for Finance* (4th ed.). Cambridge University Press. <https://doi.org/10.1017/9781108524872>
- Economics, T. (2022b, July 20). *Indonesia Imports from United States—2022 Data 2023 Forecast 1989-2021 Historical*. Indonesia Imports from United States. <https://tradingeconomics.com/indonesia/imports/united-states>
- Economics Trading. (2022a, July 20). *Indonesia Imports from Japan—2022 Data 2023 Forecast 1989-2021 Historical*. <https://tradingeconomics.com/indonesia/imports/japan>
- Eun, C. S., & Shim, S. (1989). International Transmission of Stock Market Movements. *The Journal of Financial and Quantitative Analysis*, 24(2), 241. <https://doi.org/10.2307/2330774>
- Fadilah, I. (2022, July 19). *Cadangan Minyak RI Tinggal 9 Tahun, Batu Bara 69 Tahun*. detikfinance. <https://finance.detik.com/energi/d-6186940/cadangan-minyak-ri-tinggal-9-tahun-batu-bara-69-tahun>
- Fahlevi, M. (2019). *The Influence of Exchange Rate, Interest Rate and Inflation on Stock Price of LQ45 Index in Indonesia*. 157–163. <https://doi.org/10.2991/icas-19.2019.34>
- Hersugondo, H., & Laksana, R. D. (2020). The Effect of Crude Oil Price and Macro Economic Variables on Aggregate Stock Index in Emerging Capital Markets Southeast Asia s. *International Journal of Environmental Science*, 05. <https://www.iaras.org/iaras/home/caijes/the-effect-of-crude-oil-price-and-macro-economic-variables-on-aggregate-stock-index-in-emerging-capital-markets-southeast-asia-s>
- Hong Kong Economic & Trade Office. (2022b, July 20). *Hong Kong—Indonesia*. Hong Kong Economic & Trade Office - Hong Kong - Indonesia. <https://www.hketojakarta.gov.hk/en/relationship/indonesia.html>
- Igan, D., Kohlscheen, E., Nodari, G., & Rees, D. (2022, May 18). Commodity market disruptions, growth and inflation. *Bank for International Settlements*, 54, 9.
- Imbayani, I. G. A. (2015). ANALISIS PENGARUH INDEKS DOW JONES, INDEKS STRAIT, TIMES INDEKS NIKKEI 225, INDEKS HANG SENG, DAN KURS RUPIAH TERHADAP INDEKS HARGA SAHAM GABUNGAN DI BURSA EFEK INDONESIA. *Jurnal Ilmu Manajemen Mahasaraswati (JUIMA)*, 5(1), 10.

- International Monetary Fund. (2022, July 19). *Report for Selected Countries and Subjects*. IMF. <https://www.imf.org/en/Publications/WEO/weo-database/2022/April/weo-report>
- Li, C. (2022, July 6). Recession Risk Climbs for Some Asian Economies, Survey Shows. *Bloomberg.Com*. <https://www.bloomberg.com/news/articles/2022-07-06/recession-risk-climbs-for-some-asian-economies-survey-shows>
- Lifepal. (2020, June 17). *IHSG Naik, Investor Tambah Pesat*. Lifepal Media. <https://lifepal.co.id/media/ihsg-naik-investor-tambah-pesat/>
- Lifepal. (2021, June 22). *Sebagai Indikator Penting Ekonomi, Apa Itu IHSG dan Apa Manfaatnya?* suara.com. <https://www.suara.com/partner/content/lifepal/2021/06/22/171325/sebagai-indikator-penting-ekonomi-apa-itu-ihsg-dan-apa-manfaatnya>
- Liputan6.com. (2015, April 5). *Ukraina Restrukturisasi Utang*. liputan6.com. <https://www.liputan6.com/bisnis/read/2207844/ukraina-restrukturisasi-utang>
- Maritime Fairtrade. (2022a, June 1). Singapore reaffirms strong bilateral economic ties with Indonesia. *Maritime Fairtrade*. <https://maritimefairtrade.org/singapore-reaffirms-strong-bilateral-economic-ties-with-indonesia/>
- Ministry of Investment. (2017). *Here are 5 Countries with Biggest Foreign Direct Investment in Indonesia*. BKPM. <https://www.investindonesia.go.id/en/article-investment/detail/here-are-5-countries-with-biggest-foreign-direct-investment-in-indonesia>
- NISP, R. O. (2021, February 10). *Ekonomi Makro: Pengertian, Tujuan, Kebijakan & Ruang Lingkup*. <https://www.ocbenisp.com/id/article/2022/01/27/apa-itu-ekonomi-makro>
- Novianti, W., & Perwati, A. (2020). *Inflation Effects and World Crude Oil Prices on Combined Stock Price Index (CSPI) in Indonesia Stock Exchange (IDX) of 2015–2018 Period*. 81–84. <https://doi.org/10.2991/aebmr.k.200108.020>
- Nurwulandari, A., Hasanudin, H., & Budi, A. J. S. (2021). Analysis of the Influence of Interest Rate, Exchange Value, World Gold Prices, Dow Jones Index, AEX Index, DAX Index, and Shanghai Index on LQ45 Index in Indonesia Stock Exchange 2012—2018. *JABE (Journal of Applied Business and Economic)*, 7(2), 135–147. <https://doi.org/10.30998/jabe.v7i2.7824>
- Okezone. (2018, September 1). *Era Digital Mempermudah Investasi di Pasar Modal: Okezone Economy*. <https://Economy.Okezone.Com/>. <https://economy.okezone.com/read/2018/08/31/278/1944007/era-digital-mempermudah-investasi-di-pasar-modal>

- Oktavia, S., & Handayani, W. (2018). Effect of Rupiah Exchange Rate, GDP Growth, and Dow Jones Index on Composite Stock Price in Indonesia Stock Exchange. *Journal of Accounting and Strategic Finance*, 1(1), 23–32.
- Pinem, D. B. (2019). Analysis of Global Stock Exchange Index, Foreign Exchange Rate, Interest Rate and Inflation Rate Influences CSPI in Indonesia Stock Exchange (Period of January 2014 – 2015). *European Journal of Business and Management Research*, 4(6), Article 6. <https://doi.org/10.24018/ejbmr.2019.4.6.162>
- Prabowo, A. (2021, December 30). *Siaran Pers: Pasar Modal Indonesia Menguat Dorong Pemulihan Ekonomi*. <https://www.ojk.go.id/id/berita-dan-kegiatan/siaran-pers/Pages/Pasar-Modal-Indonesia-Menguat-Dorong-Pemulihan-Ekonomi.aspx>
- Rosalyn, A. M. (2018). The effect of rupiah exchange rate and inflation rate towards composite stock price index in Indonesia stock exchange. *Russian Journal of Agricultural and Socio-Economic Sciences*, 78(6), 53–58.
- Setiawan, K., & Mulyani, E. (2020). Pengaruh Perubahan Nilai Tukar Rupiah, Tingkat Inflasi, dan Indeks Bursa Internasional Terhadap Indeks Harga Saham Gabungan (IHSG) di Bursa Efek Indonesia (BEI). *Jurnal Ecogen*, 3(1), 7–18. <https://doi.org/10.24036/jmpe.v3i1.8482>
- Singapore, M. of F. A. (2020). *Ministry of Foreign Affairs Singapore—Indonesia*. <http://www.mfa.gov.sg/SINGAPORES-FOREIGN-POLICY/Countries-and-Regions/Southeast-Asia/Indonesia>
- S&P CapitalIQ. (2022, July 20). *Market Analysis > Macroeconomics Overview*. <https://www.capitaliq.com/CIQDotNet/MacroEconomics/Overview.aspx>
- Stephanie. (2016, May 17). *Winsorize: Definition, Examples in Easy Steps*. Statistics How To. <https://www.statisticshowto.com/winsorize/>
- Sunshine Profits. (2022, July 20). *Gold as Safe Haven—Protect Yourself | Sunshine Profits*. <https://www.sunshineprofits.com/gold-silver/dictionary/safe-haven/>
- The World Bank. (2019, April 9). *The World Bank in Singapore—Overview* [Text/HTML]. World Bank. <https://www.worldbank.org/en/country/singapore/overview>
- Tulung, J.E. (2017). Resource Availability and Firm’s International Strategy as Key Determinants Of Entry Mode Choice. *Jurnal Aplikasi Manajemen-Journal of Applied Management* 15.1. <http://jurnaljam.ub.ac.id/index.php/jam/article/view/916>
- Utami, F. A. (2022, January 27). *Apa Itu Makroekonomi?* Warta Ekonomi. <https://wartaekonomi.co.id/read327105/apa-itu-makroekonomi>

Wardana, R. (2022, February 10). *Apa Itu IHSG? Ini Pengertian, Cara Hitung, dan Index Saham Lainnya*. Lifepal Media. <https://lifepal.co.id/media/ihsg/>

Yunita, Y., & Robiyanto, R. (2018). The Influence of Inflation Rate, BI Rate, and Exchange Rate Changes to the Financial Sector Stock Price Index Return in the Indonesian Stock Market. *Jurnal Manajemen Dan Kewirausahaan*, 20(2), 80–86. <https://doi.org/10.9744/jmk.20.2.80-86>

Yusuf, M. Y. (2022, April 18). *Lima Fungsi IHSG untuk Investasi Saham*. <https://www.idxchannel.com/>. <https://www.idxchannel.com/milenomic/lima-fungsi-ihsg-untuk-investasi-saham>