

Impact of Commodity Price and Exchange Rate on IHSG with Geopolitics as Moderation

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Abstract

This research aims to determine the influence of world gold prices, world oil prices, world coal prices, and exchange rates on the Indonesian composite stock index. The tests of the ponder are Indonesia's world oil prices, world gold prices, world coal prices, trade rate, geopolitical chance record, and composite stock prices for Indonesia, data from www.investing.com and www.policyuncertainty.com January 2020 to December 2023. The method used to analyze the data in this research is multiple regression analysis and residual tests for moderator variables. Through F test analysis it is known that simultaneously all variables X have a significant influence on the Indonesian Composite Stock Price Index at the 5% level. Based on these results, the research hypothesis is accepted. Furthermore, through t-test analysis (subtest), the variables of world gold prices, world oil prices, world coal prices, and exchange rates have a partially significant influence on the Indonesian Composite Stock Price Index at a confidence level of 100. It turns out to be 95% ($\alpha = 5\%$). It can be concluded that changes in these variables influence changes in the Indonesian composite stock index. In addition, geopolitical variables cannot moderate the relationship between all variables X and Y. This shows that geopolitical factors do not play a significant role in this context. The variation in the Indonesian Composite Stock Price Index of 88.0 can be explained by combining all variables X. The remaining 12.0% can be explained by other factors not included in the estimation model.

Keywords: *World Gold Prices, World Oil Prices, World Coal Prices, Exchange Rates, Geopolitical Risk Index*

INTRODUCTION

The capital market is a financial market that brings together holders and uses capital to make medium-term and long-term investments (Fitria Puteri Sholikah et al., 2022). The capital market plays a very vital role in a country's economic growth because the capital market carries out two roles, namely an economic role and a financial role. Investment is an important part of the economy because it is financial, economists realize that the position of investment is to improve people's lives, one way to get money is to invest in the financial sector, such as banks or the capital market. (Hamid et al., 2019). There are many ways for investors to invest their money, for example in the form of investing in gold. Gold investment is known as tangible asset investment. According to research (Choudhry et al., 2015) gold may not perform well as a sanctuary resource amid periods of budgetary emergency, due to the two-way interdependency between gold returns and stock returns as well as stock advertise instability in steady monetary conditions.

Accourding to research (Rahayu et al., 2022) (Basit, 2020) (Bakrie et al., 2022) (Fuadi, 2021), several things that often influence the movement of the composite stock price index include oil prices, gold prices, and also exchange rates. An increase in global oil prices will increase the value of mining company shares. Countries that sell oil and companies that operate in the mining sector will benefit from a surge in world oil prices because this can attract investor interest. However, companies outside the mining sector will face losses due to increased operational costs. (Istamar et al., 2019)

Apart from that, the exchange rate is an economic factor that must be taken into account when creating a stock index. The weakening of the Rupia exchange rate will cause an increase in

production costs using imported materials, thereby reducing profits. The decline in earnings reduces investor interest in investing in stocks, causing the stock price to fall (Nuzulia, 2015). The study (Isbanah, 2019) states that the exchange rate harms IHSG. When the rupiah falls, export costs rise, reducing profits, and investors become less interested in investing.

Incidents and potential conflicts in geographic terms can influence macroeconomic factors in several ways, such as loss of life, damage to capital assets, increased military spending, or greater caution (Caldara & Iacoviell, 2022).

Due to uncertainty in the Middle East, global crude oil prices rose sharply on Monday 10 September 2023. WTI crude opened 2.97% higher at \$85.25 per barrel and Brent crude opened 2.21% higher at \$86.45 per barrel. The military conflict in the Middle East has harmed oil prices and government bond yields. Meanwhile, the US employment report raises the stakes on inflation figures (Setiawati, 2023).

According to (Irfanullah & Iqbal, 2023) Armed conflict can cause instability in energy supplies, which directly affects oil prices. In addition, geopolitical uncertainty often causes a surge in demand for gold as a safe haven asset, pushing its price up significantly.

According to (Swings, 2012) Geopolitical turmoil can cause coal price fluctuations through disruptions to global supply chains. In addition, changes in global energy markets often affect the currency exchange rates of coal producing and importing countries, with impacts varying depending on their economic connectedness.

This research will include four main variables that will be analyzed, namely the prices of oil, gold, coal, and exchange rates. By highlighting the impact of armed conflict on key assets, this research emphasizes the importance of understanding and being prepared to face economic uncertainty that may arise due to an unstable geopolitical situation.

With the background that has been mentioned, researchers are very enthusiastic about conducting a study entitled: "The Impact of Commodity Prices and Exchange Rates on IHSG with Geopolitics as Moderation". This research aims to examine the impact of world gold prices, world oil prices, world coal prices, and exchange rates on the IHSG b taking into account geopolitical factors as moderating variables. Several studies show that these variables have an impact on stock price fluctuations. In this research, the time range used is between 2020 and 2023.

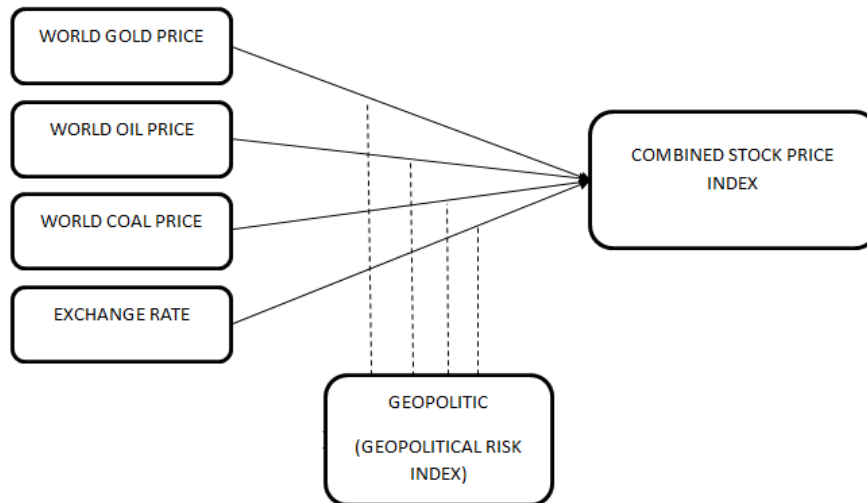
RESEARCH METHODS

The populaces in this investigation are world oil cost, world gold cost, world coal Cost, Trade Rates, Geopolitical Chance List, and Composite Stock Cost Record. A test may be a portion or agent of the populace that's the subject of a think about. The tests of the ponder are Indonesia's world oil cost, world gold cost, world coal cost, trade rate, geopolitical chance record, and composite stock cost for Indonesia from January 2020 to December 2023.

The information collection strategy utilized in this consideration is documentation obtained from www.investing.com and www.policyuncertainty.com. The information utilized within the inquiry comes from auxiliary sources. It comprises data concerning world oil costs, world gold costs, world coal costs, trade rates, geopolitical chance file, and composite stock cost file in Indonesia. This information covers the period from January 2020 to December 2023. According to (Bougie & Sekaran, 2019) the use of documentary data is very important in quantitative research because it makes it possible to obtain data that has been verified and can be trusted from recognized sources.

The method used to analyze the data in this research is multiple regression analysis and residual tests for moderator variables. This method helps predict changes in a dependent variable

when associated with two or more independent variables (Cheung et al., 2021). The investigative data was prepared utilizing the SPSS (Factual Bundle For Social Science) program. Different relapse examination points to foresee how a subordinate variable will alter when it is connected to two or more autonomous factors. To test the impact of directing factors, the remaining test strategy is utilized. Utilize numerous relapse conditions within the begin-with show and perform remaining tests within the moment demonstrated. To test the effect of moderating variables, the residual test method is used. This involves using a multiple regression equation in the first model, followed by a residual test in the second model to examine the influence of the moderating variables (Memon et al., 2019).



Conceptual Framework

RESULT AND DISCUSSION

Partial Test (T Test)

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	14.469	10.358		1.397	.170
	World Gold Price	-.019	.006	-.165	-3.243	.002
	World Oil Price	.005	.000	.849	16.998	.000
	World Coal Price	.002	.000	.234	4.735	.000
	Exchange Rate	.303	.057	.264	5.349	.000

a. Dependent Variable: IHSG

For the World Gold Price variable, the t-count esteem was -3.243, t-table was 1.681 with a centrality esteem of 0.002. Hence the speculation is rejected since the likelihood esteem is more noteworthy than the esteem $\alpha 0.05$ ($0.002 < 0 > t\text{-table } (-3.243 > -1.681)$). This implies that the World Gold Price variable encompasses a (critical) impact on the Composite Stock Price Record variable in Indonesia.

For the World Oil Price variable, the t-count esteem is 16.998 and the t-table was 1.681 with an importance esteem of 0.000. Hence the theory is acknowledged since the likelihood esteem is smaller than the esteem $\alpha 0.05$ ($0.000 < 0 > t\text{-table } (16.998 > 1.681)$). this implies that the World Oil Price variable includes a (critical) impact on the Composite Stock Price List variable in Indonesia.

For the World Coal Price variable, the t-count esteem was 4.735 and the t-table was 1.681 with a noteworthiness esteem of 0.001. In this way, the speculation is acknowledged, since the likelihood esteem is littler than the esteem $\alpha 0.05$ ($0.001 < 0 > t\text{-table } (4.735 > 1.681)$). This implies that the World Coal Cost variable incorporates a (critical) impact on the Composite Stock Price List variable in Indonesia.

For the Trade Rate variable, the t-count esteem was 5.349 and the t-table was 1.681 with a noteworthiness esteem of 0.000. Hence the speculation is acknowledged since the likelihood esteem is smaller than the esteem $\alpha 0.05$ ($0.000 < 0 > t\text{-table } (5.349 > 1.681)$). This means the Trade Rate variable includes a (critical) impact on the Composite Stock Price File variable in Indonesia.

Statistical Test (F Test)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8322.979	4	2080.745	100.641	.000 ^b
	Residual	889.021	43	20.675		
	Total	9212.000	47			

a. Dependent Variable: IHSG

b. Predictors: (Constant), Nilai Tukar, HargaEmasDunia, Harga Batu Bara Dunia, Harga Minyak Dunia

Based on the SPSS program yield result, an F-count esteem of 100.641 was obtained with an importance esteem of 0.000. In this way, the speculation is acknowledged since the F-count esteem $> F\text{-table } (100.641 > 3.24)$ and the critical esteem is smaller than the esteem $\alpha 0.05$ ($0.000 < 0.05$). This implies that all variable X, and the level of believe 95% ($\alpha = 5\%$).

Moderating Test Results (Residual Test)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.405	7.719		1.478	.146
	IHSG	.433	.274	.227	1.578	.122

a. Dependent Variable: ABRES

A variable is said to be directing in case the P-value (sig) < 0.05 $\alpha = 0.05$ ($0.122 > \alpha = 0.05$) and the positive coefficient esteem is 0.433. So it can be concluded that Geopolitics is

incapable of directing the relationship between the variable World Gold Price, World Oil Price, World Coal Price, and Trade Rates on the Composite Stock Price List.

The results of hypothesis testing are obtained as follows:

- 1) The research results showed that the World Gold Price variable had a significant effect on the Composite Stock Price Index. The results of this research are in line with the research hypothesis which states that World Gold Price influences the Composite Stock Price Index. According to (Ahmad, 2021), they revealed that with the increase in World Gold prices, investors have an alternative to create a better portfolio, because gold is an instrument that has minimal risk and is efficient to transact. The explanation about portfolios or allocating money not only to a few assets but to various assets with certain conditions. If the World Gold Price rises, investors can strategize the size of their risk-free assets in the form of gold to save the value of their portfolio without worrying about investing in the capital market. The results of this research are in line with (Ahmad, 2021), (Istamar et al., 2019), and (Suryanto, 2017) who state that the World Gold Price has a positive effect and is significant to the IHSG.
- 2) The investigation comes about appeared that the World Oil Price variable had a positive and noteworthy impact on the Composite Stock Cost File. The comes about of this inquiry is in line with the inquiry about speculation which states that World Oil Costs impact the Composite Stock Cost List. Each year, oil cost developments are continuously the highlight of world financial players. This cannot be isolated from the control of this product which can not as it were impact other vitality and mineral commodities but too as a reflection of a country's financial development. The tall request for unrefined oil appears that mechanical improvement in a nation is expanding since unrefined oil is generally utilized as the most vitality source for most businesses. During the perception period, oil demand increased, causing an increment in oil costs. Typically what drives the positive impact of oil costs on the JCI? Capital market speculators consider that rising vitality costs are a sign of expanding worldwide requests, which implies progressing worldwide financial recuperation after the emergency. On the other hand, falling vitality costs reflect the debilitating of worldwide financial recuperation. In line with the investigation (Musa et al., 2022) (Priyono, 2022) opposite investigation (Rohmawati et al., 2022) (Lubis et al., 2021) (Raza et al., 2016).
- 3) The research results showed that the World Coal Price variable had a positive and significant effect on the Composite Stock Price Index. This finding shows that when world coal prices rise, the IHSG also tends to rise. This indicates that companies related to the coal industry or sectors affected by world coal prices may experience improved performance, which is reflected in an increase in the value of their shares in the IHSG. For investors, knowledge about the relationship between world coal prices and IHSG can be valuable information in making investment decisions. If world coal prices are expected to rise, this could be a signal for investors to consider shares of coal mining companies or shares of other companies that might benefit from the increase in coal prices. In line with the research (Yasri & Anas, 2023) contrary to research (Kim & Kim, 2023)
- 4) The research results showed that the Exchange Rate variable had a positive and significant effect on the Composite Stock Price Index. These findings indicate that strengthening the domestic currency exchange rate has a positive impact on local stock market performance. This can be seen as an indication that investors have high confidence in the country's economy when the local currency strengthens, which is reflected in the increase in stock market value. Strengthening the exchange rate can increase the attractiveness of investment in the domestic stock market for foreign investors. A rise in the exchange rate makes investing in local stock markets more profitable for foreign investors, which may lead to

capital inflows in those stock markets. Strengthening the exchange rate can affect the country's exports and imports. A stronger currency can make domestic products more expensive for international markets, which can pressure the performance of companies that rely on exports. However, this could be offset by lower import costs for domestic companies, which could improve overall stock market performance. In line with the research (Murdifin & Mangkona, 2017) contrary to research (Hidayat & Sudjono, 2022).

The inquiry about comes about appeared that geopolitics was incapable of directing the impact of the World Gold Cost, World Oil Cost, World Coal Cost, and Trade Rate factors on the Indonesian Composite Stock Cost Record. The results of this inquiry are not in line with the inquiry about speculation which states that expansion can direct the impact of the factors of World Gold Costs, World Oil Costs, World Coal Costs, and Trade Rates on the Indonesian Composite Stock Cost File. These come about to show that, in this particular setting, geopolitical variables don't play a critical part in directing the relationship between product cost factors and trade rates with the IHSG. This can be caused by numerous variables, counting household political soundness which may diminish the effect of outside geopolitics. Another suggestion is that the Indonesian stock advertisements may have a degree of strength to certain geopolitical stuns. Although geopolitics can have a noteworthy effect on worldwide budgetary markets as an entirety, Indonesian stock advertisements may be more centered on inside and territorial variables. In line with the investigation (Zhou et al., 2024), opposite to inquiries about (Poluan & Koyongan, 2023), (Mitsas et al., 2022), geopolitics is persuasive.

CONCLUSION

Based on the research results on the impact of world gold prices, world oil prices, world coal prices, and exchange rates on Indonesia's composite stock index, the following conclusions can be drawn that all of variable X simultaneously have a significant impact on Indonesia's composite stock index at a significance level of 5%. Therefore, the research hypothesis is accepted. Based on the partial test (t-test), the variables "World Gold Price", "World Oil Price", "World Coal Price" and "Exchange Rate" are partially related to the Indonesian variable "Composite Stock Price Index". have a significant impact, the confidence level of the test is 95 base % ($\alpha = 5\%$). Geopolitical factors are incapable of directing the relationship between World Gold Costs, World Oil Costs, World Coal Costs, and Trade Rates on the Composite Stock Cost Record In Indonesia. The coefficient of assurance (R) is 0.880, which implies that the factors all variable X, combined offers in Indonesia produced 88.0% whereas the remaining 12.05 was clarified by new factors not included within the show estimation.

REFERENCES

- Ahmad, F. (2021). Analisis Pengaruh Makroekonomi, Komoditas Dunia, dan Indeks Dunia terhadap Indeks Harga Saham Gabungan (IHSG) pada Periode 2014-2019. *Jurnal Ilmu Manajemen*, 9(1), 295. <https://doi.org/10.26740/jim.v9n1.p295-310>
- Bakrie, C. R., Delanova, M. O., Yani, Y. M., Magister, P., Internasional, H., & Ilmu, F. (2022). *PEREKONOMIAN NEGARA KAWASAN ASIA TENGGARA*. 6(1), 65–86.
- Basit, A. (2020). *Pengaruh Harga Emas Dan Minyak Dunia Terhadap Indeks Harga Saham Gabungan (IHSG) Periode 2016-2019*. 1(2), 95–110.
- Bougie, R., & Sekaran, U. (2019). *Research Methods For Business: A Skill Building Approach*.

- Wiley. <https://books.google.co.id/books?id=ikI6EAAAQBAJ>
- Caldara, D., & Iacoviell, M. (2022). Measuring Geopolitical Risk. In *American Economic Review* (Vol. 112, Issue 4). <https://doi.org/10.1257/aer.20191823>
- Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2021). Testing Moderation in Business and Psychological Studies with Latent Moderated Structural Equations. *Journal of Business and Psychology*, 36(6), 1009–1033. <https://doi.org/10.1007/s10869-020-09717-0>
- Choudhry, T., Hassan, S. S., & Shabi, S. (2015). Relationship between gold and stock markets during the global financial crisis: Evidence from nonlinear causality tests. *International Review of Financial Analysis*, 41, 247–256. <https://doi.org/10.1016/j.irfa.2015.03.011>
- Fitria Puteri Sholikah, Putri, W., & Rosalinda Maria Djangi. (2022). Peranan Pasar Modal Dalam Perekonomian Negara Indonesia. *ARBITRASE: Journal of Economics and Accounting*, 3(2), 341–345. <https://doi.org/10.47065/arbitrase.v3i2.496>
- Fuadi, F. (2021). *Bank Dan Lembaga Keuangan Non Bank (Teori dan Aplikasi)* (Abdul (ed.)). Penerbit Adab.
- Hamid, A., Mardhiah, A., & Midesia, S. (2019). Factors Influencing the Intention To Stock Investment Among Muslim Investors in Langsa. *Share: Jurnal Ekonomi Dan Keuangan Islam*, 8(2), 142. <https://doi.org/10.22373/share.v8i2.4679>
- Hidayat, R., & Sudjono, S. (2022). The Effect of World Gold Price, World Oil Price, USD/IDR Exchange Rate, and Inflation on the Joint Stock Price Index (JCI) On the Indonesia Stock Exchange (IDX). *Scholars Bulletin*, 8(8), 33–41. <https://doi.org/10.36348/sb.2022.v08i01.005>
- Irfanullah, & Iqbal, J. (2023). Commodity market dynamics: Who's behind booms and busts? *Borsa Istanbul Review*, 23(1), 55–75. <https://doi.org/10.1016/j.bir.2022.09.005>
- Isbanah, Y. (2019). 25167-29499-1-Pb (Sinta 3). *Analisis Pengaruh Faktor Internal Dan Faktor Eksternal Terhadap Pergerakan Indeks Harga Saham (IHSG) Di Bursa Efek Indonesia Periode 2012-2016*, 1, 113–123.
- Istamar, Sarfiah, S. N., & Rusmijati. (2019). Analisis Pengaruh Harga Minyak Dunia, Harga Emas, Dan Nilai Kurs Rupiah Terhadap Indeks Harga Saham Gabungan Di Bursa Efek Indonesia Tahun 1998-2018 Analysis of the Influence of World Oil Prices, Gold Prices, and Rupiah Exchange Rate of the Joint Stock Pr. *Journal Of Economic*, 1(4), 433–442.
- Kim, K., & Kim, J. (2023). Impact of International Mineral Price on Korea Composite Stock Price Index Market Capitalization. *Journal of the Korean Society of Mineral and Energy Resources Engineers*, 60(2), 88–98. <https://doi.org/10.32390/ksmer.2023.60.2.088>
- Lubis, S. W., Fany Alfarisi, M., & Adrianto, F. (2021). Enrichment: Journal of Management The Effect of Oil Prices, Gold and Exchanges on JCI During the Covid-19. *Enrichment: Journal of Management*, 12(1), 135–145. www.enrichment.iocspublisher.org
- Memon, M. A., Jun-Hwa, C., T. Ramayah, Hiram Ting, Francis, C., & Tat Huei, C. (2019). Moderation analysis: Issues and guidelines. *Journal of Applied Structural Equation Modeling*, 3(1), 2590–4221.
- Mitsas, S., Golitsis, P., & Khudoykulov, K. (2022). Investigating the impact of geopolitical risks on the commodity futures. *Cogent Economics and Finance*, 10(1). <https://doi.org/10.1080/23322039.2022.2049477>
- Murdifin, I., & Mangkona, S. A. (2017). Effect of Composite Stock Price Index, Exchange Rate and Interest Rate Share Price of Mining Companies Listed in Indonesia Stock Exchange. *IRA-International Journal of Management & Social Sciences (ISSN 2455-2267)*, 9(1), 27. <https://doi.org/10.21013/jmss.v9.v1.p4>
- Musa, D., Awolaja, O., Jerry, K., Okedina, I., Uduakobong, E. E., & Olayinka, I. (2022). Is the influence of oil prices changes on oil and gas stock prices in Nigeria symmetric or

- asymmetric? *Cogent Economics and Finance*, 10(1).
<https://doi.org/10.1080/23322039.2022.2154311>
- Nuzulia, A. (2015). PENGARUH INDIKATOR MAKRO EKONOMI DAN FAKTOR GLOBAL TERHADAP INDEKS HARGA SAHAM GABUNGAN (IHSG). *Angewandte Chemie International Edition*, 6(11), 951–952., 5–24.
- Poluan, F. N., & Koyongian, G. Y. M. (2023). Hubungan harga minyak dunia dan indeks pasar Indonesia selama isu geopolitik. *Manajemen Bisnis Dan Keuangan Korporat*, 1(1), 9–15.
<https://doi.org/10.58784/mbkk.35>
- Priyono, A. A. (2022). The Influence of Covid-19 Daily Cases, World Oil Prices, World Gold Prices And Rupiah Exchange Rates. *Jurnal Manajemen Strategi Dan Aplikasi Bisnis*, 5(1), 1–16. <https://doi.org/10.36407/jmsab.v5i1.427>
- Rahayu, D. P., Putri, J., & Dewi, C. (2022). Pengaruh Harga Emas Dunia , Harga Minyak Dunia Dan Nilai Tukar Rupiah / Dolar Amerika Terhadap Indeks Harga Saham Gabungan. 3(1), 1–15.
- Raza, N., Jawad Hussain Shahzad, S., Tiwari, A. K., & Shahbaz, M. (2016). Asymmetric impact of gold, oil prices and their volatilities on stock prices of emerging markets. *Resources Policy*, 49, 290–301. <https://doi.org/https://doi.org/10.1016/j.resourpol.2016.06.011>
- Rohmawati, S., Munasirotul Mutmainnah, Fitria Asas, & Ulfatul Khasanah. (2022). Analysis Of The Effect Of The Rupiah Exchange, World Oil Price, World Gold Price On The Joint Stock Price Index In The Indonesia Stock Exchange. *International Journal of Science, Technology & Management*, 3(1), 153–166. <https://doi.org/10.46729/ijstm.v3i1.432>
- Setiawati, S. (2023). *Perang Hamas Vs Israel Bikin Harga Minyak Dunia Naik 5%*. CNBC Indonesia.
- Suryanto, S. (2017). Pengaruh Harga Minyak Dan Emas Terhadap Indeks Harga Saham Gabungan Di Bursa Efek Indonesia. *JURISMA : Jurnal Riset Bisnis & Manajemen*, 7(1), 1–13. <https://doi.org/10.34010/jurisma.v7i1.439>
- Swings, I. (2012). *C4.pdf. april*, 125–170.
- Yasri, G. F., & Anas, E. P. (2023). Impact of Global Energy Index and Crude Oil & Coal Price to Indonesia Stock Indices. *Eduvest - Journal of Universal Studies*, 3(7), 1375–1380. <https://doi.org/10.59188/eduvest.v3i7.848>
- Zhou, B., Huang, Y., Gao, K., & Luo, C. (2024). How geopolitical risk and economic policy uncertainty impact coal, natural gas, and oil rent? Evidence from China. *Resources Policy*, 88, 104393. <https://doi.org/https://doi.org/10.1016/j.resourpol.2023.104393>