
The Effect Of The Russia-Ukraine War On Stock Price Volatility Of State-Owned Companies In The Mining Sub-Sector On The Indonesia Stock Exchange

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Abstract: The purpose of this study is to find out the influence of world oil prices with world gold prices on stock price volatility in state-owned mining sub-sector companies on the Indonesia Stock Exchange. The data used is secondary data. The sampling technique is a census technique, so the number of samples used in the study is four companies. The data analysis method uses multiple linear regression analysis performed twice, the first to determine the influence of independent variables on dependent variables one month before the war, then the second analysis to determine the influence of independent variables on dependent variables one month of the first month of the war. After the analysis was done twice, then the results of the analysis were compared. Based on the results of the analysis conducted, it was obtained that: (1) During the month before the war, world oil prices did not have a significant effect on stock price volatility in state-owned mining sub-sector companies, while world gold prices had a significant effect. (2) During the month of the war, world oil prices had a significant effect on stock price volatility in state-owned mining sub-sector companies, while world gold prices had no effect.

Keywords : Oil, Gold, Stock Prices Volatility, State-Owned Companies, Indonesia Stock Exchange

INTRODUCTION

Stock investment is a new trend that is in great demand by the Indonesian people today. Dominated by young investors, they invest some of their wealth to trade on the stock exchange. Based on data from the Financial Services Authority (OJK) that in 2021 there will be a significant increase in the number of stock investors. Until July 30, 2021, the number of investors in the capital market increased by 50% to reach 5.82 million people from the end of 2020 as many as 3.88 million people. This increase in the number of investors is dominated by young investors aged 30 years and under. This is influenced by several underlying factors, including the mindset of young people today who are all digitalized, like fast-paced things, plus the pandemic condition that limits people from interacting directly.

Stock investment is one of the favorite investments in the capital market because stock investments provide more varied returns which encourage investors to further increase the amount of their investment. Thus investing in stocks directly plays an active role in helping the nation's economy.

The volatility of stock prices varies greatly, and the ups and downs of stock prices are influenced by several factors including micro and macro economic factors. Micro factors are factors related to the company's internal conditions, which means that these factors only affect the share

price of the issuer (company). For example, the company's financial condition can be seen from the company's financial ratios through the ratio of profitability, liquidity, solvency, and activity ratios. Meanwhile, macro factors are factors related to the company's external conditions, which affect stock prices on the Stock Exchange. These macro factors include domestic interest rates, currency exchange rates, domestic inflation rates, and global conditions in countries in the world.

This study discusses the influence of macro factors that affect the Stock Price Index (CSPI) on the Indonesia Stock Exchange, which is motivated by the current major event, namely the war between Russia and Ukraine. As we know, starting on February 24, 2022, the Russian state invaded Ukraine, and this had a multiplier effect on several other countries, one of which affected the soaring world oil price. The increase in oil prices will certainly have an impact on several other economic activities, including the volatility of stock prices in state-owned companies (BUMN) in the mining sub-sector on the Indonesia Stock Exchange. The selection of this mining sub-sector BUMN company is not without reason, but because oil and gold are commodities that become goods produced by mining companies. Then apart from that, in BUMN companies, the volatility of stock prices is more stable. The four companies are PT. Aneka Tambang Tbk (ANTM), PT. Perusahaan Gas Negara Tbk (PGAS), PT. Bukit Asam Tbk (PTBA), PT. Timah Tbk (TINS).

According to research [1] states that significant interactions between all markets. The authors found a negative relation between oil and stock prices but oil price is significantly and positively affected by gold and USD. Oil price is also affected by oil futures prices and by Chinese oil gross imports. Gold rate is concerned by changes in oil, USD and stock markets. The US dollar is negatively affected by stock market and significantly by oil and gold price. Indirect effects always exist which confirm the presence of global inter-dependencies and involve the financialization process of commodity markets. Then research from [2] states that gold and oil prices have a significant effect on the stock market. And than [3] state that World Oil Prices, World Gold Prices, Nikkei 225 Index and Dow Jones Index have a positive effect on IHSG.

World Oil Price is the spot price of the world oil market which is formed from the accumulation of supply and demand. In this study, the world oil price used is the West Texas Intermediate standard. World oil price data is taken from [4]. West Texas Intermediate (WTI), also known as Texas light sweet, is a type of crude oil that is used as a reference in determining oil prices. WTI is the underlying commodity of the New York Mercantile Exchange oil futures contract. The price of WTI is frequently mentioned in oil price news, in addition to the price of Brent crude from the North Sea.

The world gold price (Gold Fix) is the spot price formed from the accumulation of supply and demand in the London gold market. Why London? Because most of the world's gold trading transactions are carried out in London. This Gold Fix price is determined by the London Bullion Market Association (LBMA). This institution is tasked with defining gold and silver standards, determining good trading practices, and setting documentation standards, all of which play an important role in determining gold prices. Fixed gold prices are set in US Dollars, Euros, and British Pounds. This price is agreed upon almost all over the world. The world gold price data in this study were taken from [5].

Volatility is a change in the selling price and buying price of a stock. The volatility of stock prices is known as the market mood. The faster the change in the price of a stock, the higher

the volatility of the stock price, or in other words, the more fluctuating the price of a stock, the higher the volatility.

Based on the above background, this study aims to determine the effect of World Oil Prices, and World Gold Prices on Stock Price Volatility in state-owned companies in the mining sub-sector on the IDX at the time before the invasion occurred and when the invasion occurred.

METHOD

Research design

This type of research is quantitative research, and the type of data used is secondary data. The data is taken through the official websites of certain companies and institutions, which provide reliable information about the research variables. The data used is daily data from a month before the war between Russia and Ukraine, namely January 24, 2022 – to February 23, 2022, and data for a month during the war, namely from February 24, 2022 – to March 24, 2022. The analytical tool used in this research is Multiple Linear Regression. However, this analysis was carried out twice, namely using data before the war, and data when the war occurred. This is to find out the effect of world oil prices and gold prices on stock price volatility in state-owned mining companies before the war and during the war.

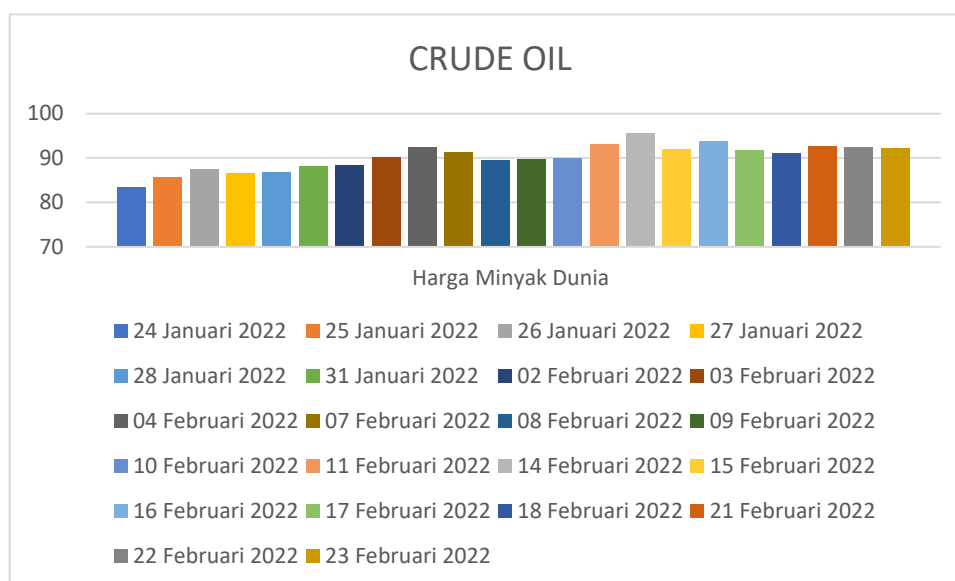
Population, Sample, Sampling

The number of samples in this study was 4 state-owned companies in the sub-sector mining on the Indonesia Stock Exchange. The sampling technique is a saturated sample (census), where the entire population is used as the research sample.

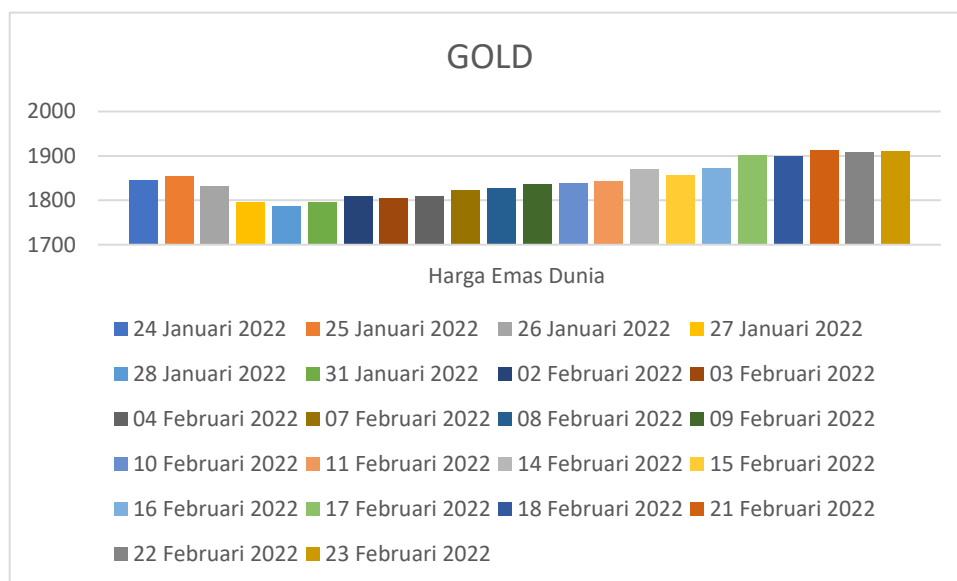
RESULTS AND DISCUSSION

1. Analysis of one month before the Russian invasion of Ukraine, which is between January 24, 2022 – to February 23, 2022.

Based on the results of extracting information through the official websites of companies and institutions related to research variables, the following data were obtained:



The period of one month before the Russian invasion of Ukraine, namely from January 24, 2022 – to February 23, 2022, shows that world oil prices are in the price range of \$83.31 per barrel - to \$95.46 per barrel.



The period of one month before the Russian invasion of Ukraine, from January 24, 2022 – to February 23, 2022, it shows that world gold prices are in the price range of \$1786.6 per ounce (oz) – to \$1912.05 per ounce (oz).

Then the volatility of stock prices in the four state-owned mining companies, namely PT. Aneka Tambang Tbk (ANTM), PT. Perusahaan Gas Negara Tbk (PGAS), PT. Bukit Asam Tbk (PTBA), PT. Timah Tbk (TINS) one month before the Russian invasion of Ukraine obtained the average range, namely:

Date	AVERAGE of four state-owned mining companies
24 Januari 2022	2008,75
25 Januari 2022	1815
26 Januari 2022	1876,25
27 Januari 2022	1843,75
28 Januari 2022	1852,5
31 Januari 2022	1845
02 Februari 2022	1836,25
03 Februari 2022	1860
04 Februari 2022	1837,5
07 Februari 2022	1853,75
08 Februari 2022	1858,75
09 Februari 2022	1861,25
10 Februari 2022	1878,75
11 Februari 2022	1871,25
14 Februari 2022	1900
15 Februari 2022	1896,25

16 Februari 2022	1901,25
17 Februari 2022	1913,75
18 Februari 2022	1980
21 Februari 2022	2010
22 Februari 2022	1995
23 Februari 2022	2021,25

The data above is then analyzed and obtained the following data:

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.					
	B	Std. Error	Beta							
1	(Constant)	-309,148	401,990							
	Crude Oil	-4,866	3,347	-,225	-	,451				
	Gold	1,432	,247	,899	5,808	,000				

a. Dependent Variable: Volatility

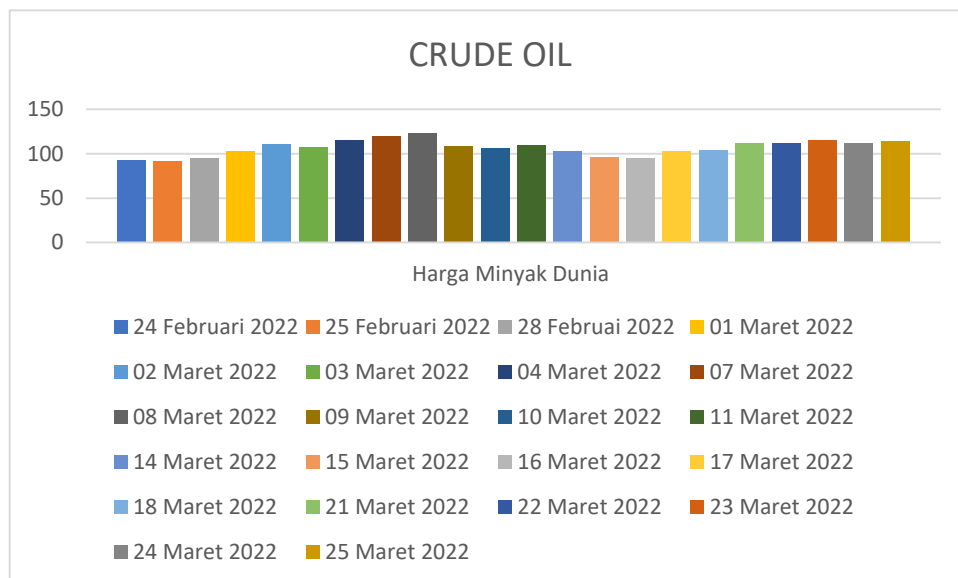
Based on the results of the analysis above, it shows that a month before the Russian invasion of Ukraine, namely in the period time between January 24, 2022 – to February 23, 2022, world oil prices did not significantly affect on stock price volatility in state-owned companies in the mining sub-sector, while world gold prices had a significant effect on volatility stock prices in state-owned companies in the mining sub-sector on the Indonesia Stock Exchange.

World oil prices did not significantly affect on stock price volatility in state-owned companies in the mining sub-sector in the one month before the invasion. This is because changes in WTI oil prices are not too fast in one month, and this is also reflected in changes in stock prices in state-owned companies in the mining sub-sector, the volatility is not too high. Global conditions are still not too panicked over the political conditions that occur so the buying and selling of WTI oil is also not too high.

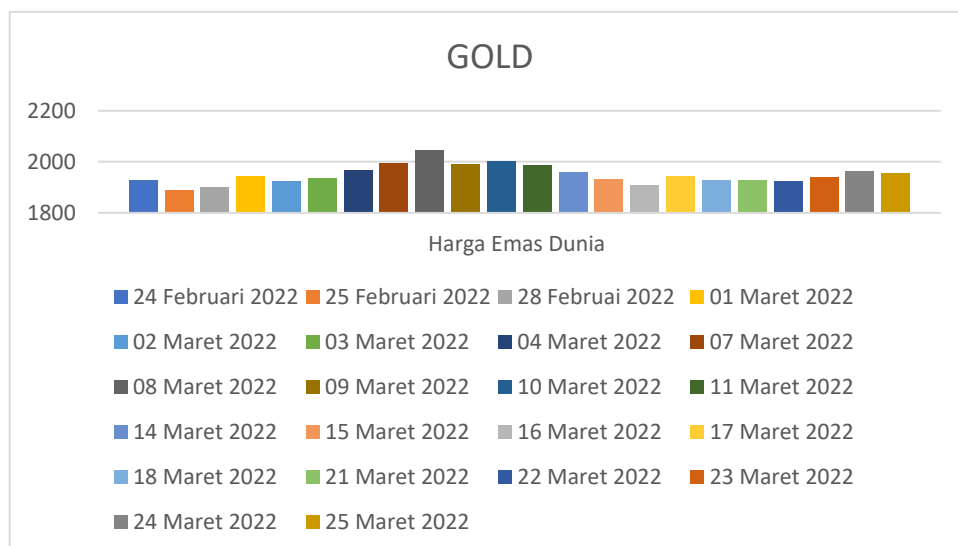
Meanwhile, the world gold price has a significant effect on stock prices volatility of state-owned companies in the mining sub-sector on the Indonesia Stock Exchange. Gold investment is considered the safest real investment for some investors. So that not a few investors secure their assets by investing in gold. When one month before the Russian invasion of Ukraine, the news in various media that the invasion would occur made gold investors panic about securing their assets. This panic caused the sale and purchase of gold transactions one month before the invasion was quite high. The high level of gold buying and selling transactions causes the supply and demand of gold to fluctuate, so that gold prices fluctuate rapidly, which automatically reflects the high volatility of gold prices. This condition is also correlated with the condition of the stock price, the higher the volatility of the gold price, the higher the volatility of the share price of the mining sub-

sector company. The results of the analysis strengthen this statement, which shows that the increase in gold prices that occurred one month before the invasion affected on stock prices volatility in state-owned companies in the mining sub-sector.

2. Analysis of one month during the Russian invasion of Ukraine, which is between the time span of February 24, 2022 – to March 25, 2022.



The period of one month when the Russian invasion of Ukraine occurred, namely from February 24, 2022 – to March 25, 2022, shows that world oil prices are in the price range of \$91.59 per barrel – to \$115.68 per barrel.



The period of one month when the Russian invasion of Ukraine occurred, namely from February 24, 2022 – to March 25, 2022, shows that world gold prices are in the price range of \$1887.6 per ounce (oz) - to \$2043.3 per ounce (oz).

Then the stock prices volatility in the four state-owned mining companies, namely PT. Aneka Tambang Tbk (ANTM), PT. Perusahaan Gas Negara Tbk (PGAS), PT. Bukit Asam Tbk (PTBA), PT. Timah Tbk (TINS) during one month of the Russian invasion of Ukraine, obtained the average range, namely:

Date	AVERAGE of four state-owned mining companies
24 Februari 2022	2106,25
25 Februari 2022	2097,5
01 Maret 2022	2128,75
02 Maret 2022	2151,25
04 Maret 2022	2308,75
07 Maret 2022	2456,25
08 Maret 2022	2385
09 Maret 2022	2343,75
10 Maret 2022	2282,5
11 Maret 2022	2251,25
14 Maret 2022	2187,5
15 Maret 2022	2155
16 Maret 2022	2186,25
17 Maret 2022	2175
18 Maret 2022	2157,5
21 Maret 2022	2150
22 Maret 2022	2250
23 Maret 2022	2256,25
24 Maret 2022	2316,25
25 Maret 2022	2310

The data above is then analyzed and obtained the following results:

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		

	(Con- stant)	2903,97 4	1437,84 0		2,020	,058
1	Crude Oil	8,367	3,638	,633	2,300	,033
	Gold	-,814	,861	-,260	-,946	,356

a. Dependent Variable: Volatility

Based on the results of the analysis above, shows that a month during the Russian invasion of Ukraine took place, namely in the period time between February 24, 2022 – to March 25, 2022. World oil significantly affected stock price volatility on four state-owned companies in the mining sub-sector, while world gold prices did not significantly affect on stock price volatility in state-owned companies in the mining sub-sector on the Indonesia Stock Exchange. This is in contrast to the analysis using data one month before the Russian invasion of Ukraine, which shows that world oil prices did not significantly affect on stock price volatility and gold prices affect stock price volatility.

In one month Russia invaded Ukraine, and oil prices continued to climb. This increase was partly because the world's oil supply had decreased significantly due to the ban on the use of oil originating from Russia. The ban has had a profound impact on mining companies in Indonesia. Mining companies in Indonesia finally increase the number of oil exports abroad because the oil demand is so large. The increasing number of requests also affects on stock price volatility of mining companies, because the more demand for oil from Indonesia within a month of the invasion, and the stock price volatility are also high.

Meanwhile, the world gold price did not significantly affect on stock prices volatility in state-owned companies in the mining sub-sector on the Indonesia Stock Exchange, one month when the invasion occurred. Changes in gold prices are not too fast in that time frame. Gold investors are no longer panicked by global political conditions and they are prepared for these conditions so that stock price volatility is not too high.

CONCLUSION

Based on the analysis that has been done, it can be concluded that:

1. Before the Russian invasion of Ukraine, namely in the period from January 24, 2022 – to February 23, 2022, world oil prices did not significantly affect on stock prices volatility in state-owned companies in the mining sub-sector, while world gold prices had a significant effect on the volatility stock prices in state-owned mining subsector on the Indonesia Stock Exchange.
2. During one month of the Russian invasion of Ukraine, which is in the period time of February 24, 2022 – to March 25, 2022, world oil prices significantly affect on stock price volatility in state-owned companies in the mining sub-sector, while world gold prices do not significantly affect on stock prices volatility in state-owned companies in mining sub-sector on the Indonesia Stock Exchange

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