

Abnormal Return, Trading Volume Activity, And Security Return Variability Before And During The Russian Invasion Of Ukraine On The Stock Performance Of PT Krakatau Steel (Persero) Tbk

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ABSTRACT

This research aims to determine whether there are differences in abnormal returns, trading volume activity, and security return variability before and during the Russian invasion of Ukraine on the share performance of PT Krakatau Steel (Persero) Tbk. This research is quantitative research with an event study approach. The research sample used was based on predetermined criteria using purposive sampling. The research results show that: (1) There is no difference in abnormal returns before and during the Russian invasion of Ukraine at PT Krakatau Steel (Persero) Tbk. (2) There is no difference in trading volume activity before and during the Russian invasion of Ukraine at PT Krakatau Steel (Persero) Tbk. (3) There is no difference in security return variability before and during the Russian invasion of Ukraine at PT Krakatau Steel (Persero) Tbk.

Keywords : abnormal return; Russian invasion of Ukraine; security return variability; trading volume activity

I. INTRODUCTION

The stock market is an activity that is one of the pillars of a country's economy, thus making it an important component in improving the economy, this is because it has a function as a means of business funding as well as a means of public investment in the stock market. The stock market always reacts to any event that has loading information for investors. The more important the stock market is for the country, the more sensitive the stock market reacts to events and events that occur in the country or events that occur globally. Along with the development of technology, information has become more accessible. All information circulating in the community, both written and unwritten, has a very important role for investors. This is because the information circulating is a consideration in making decisions to invest rationally.

For stock performance, quality information disclosure in terms of diversity, speed, frequency, correctness and accuracy is very important. Stock performance is influenced by various variables, both economic and non-economic related. Problems circulating in society such as environmental issues, human rights, political events, and riots that shake up politics and security are always a trigger in the movements that occur in the stock market which

ultimately trigger the rise and fall of stock prices.

The Russia-Ukraine conflict that has been going on is a conflict that occurred due to the breakup of the Soviet Union after World War II, Russia and Ukraine are part of the Soviet Union. After the ceasefire between the two countries, the conflict heated up again because Ukraine under the leadership of Volodymyr Zelensky has the intention to join the European Union (EU), the North Atlantic Treaty Organization (NATO) which is a north Atlantic defense pact or north Atlantic alliance, and stay away from the orbit of post-Soviet Russia. This makes Russia nervous because NATO bases are next to Russia's borders. Because of Ukraine's actions, the Russian President, Vladimir Putin announced a military operation to invade Ukraine on February 24, 2022 with the first attack launched on the Ukrainian city of Kyiv (CNN Indonesia).

The impact received by Russia from the invasion it has carried out Russia has received various criticisms and sanctions issued by various countries. Economic sanctions received by Russia from countries in the world. The sanctions given by the European Union to Russia are prohibiting the import of steel products from Russia

which are included in the import quota system. The impact also received by Ukraine as a result of the closure of the Black Sea route. After the Russian invasion of Ukrainian territory, domestic steel companies reduced product exports to a minimum due to the blockade of sea ports. Steelmakers were looking for ways to ship their products via rail infrastructure, with Ukrainian railroad companies making border crossings that ultimately could not cope. Moreover, this method of cargo delivery is unprofitable due to a twofold increase in costs. Problems with logistics superimposed on unfavorable market conditions made iron ore prices fall. As a result, Ukrainian mining and processing plants were forced to stop or reduce iron ore production completely (theconversation.com).

The aftermath of the lack of iron and steel supplies is a breath of fresh air for iron and steel sector companies in Indonesia to fill the void left by Russia and Ukraine. Based on data from the Central Statistics Agency (BPS) in 2019 Indonesia's iron and steel export volume was 5.73 million tons with an export value of US\$ 5.73 billion. In 2020 the export volume was 8.7 million tons with an export value of US\$ 10.86 billion. In 2021, there was a considerable increase with an export volume of 13.11 million tons with an

export value of US\$ 20.93 billion, this was driven by the success of national steel to take advantage of market opportunities affected by COVID-19. In 2022, the export volume of iron and steel was 14.88 million tons with an export value of US\$ 27.8 billion.

PT Krakatau Steel (Persero), Tbk is one of the iron and steel companies in Indonesia that is under the auspices of BUMN (State-Owned Enterprises). This company has debt that continues to grow every year. Before the invasion, PT Krakatau Steel (Persero) Tbk at the end of 2021 the company's debt reached US\$ 2 billion, of which US\$ 850 million was debt for abandoned investment projects.

In the last week of September 2021 until the event occurred, the share price of the company PT Krakatau Steel (Persero) Tbk was observed to change negatively. Various ways were taken to revive the company, one of which was by lobbying a company in South Korea through the Minister of BUMN, but this did not help the company to patch up its debt (kompas.com).

In addition to the negatively changing share price, the shares traded by the company also decreased significantly during the end of 2021. Efforts made to improve the company's stock performance are

In the event of an invasion by Russia against Ukraine, PT Krakatau Steel (Persero) Tbk benefited because of the closure of the Black Sea route and boycotts carried out by several countries that depend on Russian and Ukrainian iron and steel products, so that the opportunity to trade with the country was well utilized by the company PT Krakatau Steel (Persero) Tbk. In 2022 during the conflict, Indonesia managed to export to continental Europe for the first time, besides that PT Krakatau Steel (Persero) Tbk has opened new shares, namely Italy, Spain, Greece, Portugal, Germany Pakistan, Vietnam, Turkey and Egypt.

In signal theory, it talks about how stock prices and information are related. Stock price movements can be influenced by information containing geopolitical events. The market is considered efficient if it responds quickly to reach a new equilibrium price that fully reflects the available information. The Russian invasion of Ukraine certainly has an impact on PT Krakatau Steel (Persero) Tbk. To measure the presence or absence of stock performance reactions can be measured through the magnitude of the reaction during the event. The magnitude of the market reaction can be measured in two ways, namely the size of the reaction to the price of a

stock and the size of the reaction to the activity of shares traded due to this information. To measure the stock price response, you can use abnormal return (AR) and security return variability (SRV). Meanwhile, to measure the response of stock activity traded can use trading volume activity (TVA).

Abnormal return is used to assess whether there are abnormal returns on PT Krakatau Steel (Persero) Tbk shares due to the Russian invasion of Ukraine. Abnormal return can occur if there is a difference between actual return and expected return. Abnormal return can be said to be positive if the actual return is greater than the expected return. Vice versa, abnormal return is said to be negative if the actual return is smaller than the expected return. Based on research conducted by Laksono et al., (2023) market risk is one of the factors that have an influence on the level of stock returns. One of the market risks in question is the risk of changes in stock prices. If there is a price change during the event, there will be a difference in the expected return and actual return.

Security return variability shows whether an event can be said to be informative or not on stock returns. Based on before the Russian invasion of Ukraine occurred, there was a very large company debt so that

the company was threatened with bankruptcy. So the company made various efforts to save the company by cooperating, especially with one of them cooperating with companies in South Korea, but this was not enough for the company to escape the threat of bankruptcy. During the invasion, the company had the opportunity to export to various countries, especially European countries for the first time. This was a result of the boycott by various countries against Russia and the closure of European trade routes by Russia so that Ukraine could not trade with other countries. According to research conducted by Indriani & Mariana (2021), that the information content of an event can have an influence on the decisions of capital market players.

Meanwhile, trading volume activity is used to see market reactions through stock trading volume movements. When there is stock movement when an event occurs, the market reacts to an event. Before this event occurred with the existence of various projects and cooperation with other countries to save the company from the threat of bankruptcy which had made the company's stock performance decline. Meanwhile, during the event, the company's stock performance increased due to the boycott by other

countries, especially European countries, against Russia and the closure of European trade routes so that Ukraine could not trade with other countries, giving the company the opportunity to export to other countries, especially European countries for the first time. Because of this, the company gained more value to potential investors so that many investors bought the company's shares to target the profits generated. According to (Noor & Satyawan, 2014) stock prices that are lower than their fair value are worth buying, so this can be one of the reasons investors buy high amounts of shares.

In research conducted by (Laili et al., 2022) stated that there were no differences in abnormal returns, trading volume activity and security return variability in infrastructure, utilities, & transportation stocks before and during the COVID-19 event. Conversely, research conducted by (Yan & Qian, 2020) empirical results show that the emergence of COVID-19 has a significantly negative impact on abnormal returns.

Based on the situation that occurred at PT Krakatau Steel (Persero) Tbk. which has been mentioned in the previous paragraph, it makes researchers interested in conducting this research. In addition, there are various previous studies that

have various different opinions in the research they have conducted so that this adds to the researcher's interest in researching more deeply to learn more. The objectives of this study are: (1) there are differences in abnormal returns on the stock performance of PT Krakatau Steel (Persero) Tbk. before and during the Russian invasion of Ukraine. (2) there is a difference in trading volume activity on the stock performance of PT Krakatau Steel (Persero) Tbk. before and during the invasion of Russia Ukraine. (3) there is a difference in security return variability on the stock performance of PT Krakatau Steel (Persero) Tbk. before and during the invasion of Russia Ukraine. Therefore, this study entitled "Abnormal return, Trading volume activity, Security return variability before and during the Ukrainian Russian Invasion at PT Krakatau Steel (Persero) Tbk" with the assumption that the data used can reflect changes so that they can be analyzed in the research conducted.

LITERATURE REVIEW

Signaling Theory

According to Hartono (2013) signal theory is a theory that suggests that if an event contains information that has an influence on the capital market, the capital market will react quickly when the event is received by the market.

Abnormal return

Abnormal return is used to test market efficiency where there is one or some that can get abnormal returns for a long time. Abnormal return is obtained from the difference between expected return and actual return (Jogiyanto, 2022). Abnormal return can be defined as the return obtained from investing in unusual conditions or events, which can change the value of the company and make investors react by increasing stock prices or vice versa.

Trading volume activity

Trading volume activity is an indicator that can be used to see the reaction of stock performance to information through stock trading activity parameters in the stock market (Hartono, 2013). Trading volume activity is used to see market reactions through stock trading volume movements. When there is stock movement when an event occurs, the market reacts to the event.

Security return variability

Security return variability is used to analyze whether the market as a whole considers that existing information is informative and leads to changes in the distribution of stock returns (Tiswiyanti and Asrini, 2015). An event can be said to be informative or not can be indicated by the security return variability in the event period.

Stock performance of Indonesia Krakatau Steel (Persero) Tbk Before the Russian Invasion of Ukraine

Indonesia Krakatau Steel (Persero) Tbk before the Russian invasion of Ukraine experienced severe problems, namely the

existence of debts of almost IDR 50 trillion at the end of 2021, so that the company was threatened with bankruptcy. One of the reasons for the threat of bankruptcy was the stalled investment project in 2008 amounting to US\$ 850 million. To anticipate the company from going bankrupt, the Minister of BUMN made various efforts, one of which was to attract the Indonesia Investment Authority (INA) to invest in the company. So it can be seen that at the beginning of February 2022 the share price of PT Krakatau Steel (Persero) Tbk experienced a positive change in value.

Performance of Indonesian Krakatau Steel (Persero) Tbk shares during the Russian invasion of Ukraine

After Russia announced an invasion of Ukraine which eventually led to various boycotts by various countries in Europe against Russia and the closure of the Black Sea route by Russia so that Ukraine could not export so that the world's supply of iron and steel was reduced. Indonesia, especially PT Krakatau Steel (Persero) Tbk benefited from this event, namely being able to export for the first time to Europe. In addition, there are also consumers from other countries who trade with PT Krakatau Steel (Persero) Tbk with a large value, so that the company can survive the threat of bankruptcy. This can be seen from the high number of shares traded during the invasion, especially after the Black Sea route was closed. In addition, the company's share price also soared quite high.

II. RESEARCH METHOD

The research conducted is a type of event study research. Event study is one methodology that is often used as an analytical tool in financial research, especially in research on the stock market. Based on the way the data obtained in this study, the type of data used is secondary data. The data used in this study were obtained from books, articles, websites/news portals, and stock performance that can be seen on the Indonesia Stock Exchange (IDX) website and Yahoo Finance website. The population used in this study is the stock performance of PT Krakatau Steel (Persero) Tbk in the research period, namely 5 days before the event and 5 days after the event (February 17 to March 7, 2022), with the event point on February 24, 2022. The technique used in sampling is purposive sampling which is a sample collection technique with certain considerations. The sample criteria used are the stock price, composite price index, number of shares traded, and the number of shares outstanding of PT Krakatau Steel (Persero) Tbk in the research period, namely 5 days before the event and 5 days after the event (February 17 to March 7, 2022).

The dependent variable (Y) in this study is the performance of PT Krakatau Steel (Persero) Tbk shares during the Russian invasion of Ukraine in the form of stock prices. While the independent variables (X) in this study are abnormal return, trading volume activity, and security return variability.

To find out the value of the variables used to conduct the analysis

it is necessary to carry out calculations so that research can be carried out. Therefore, the following formula can be used to determine the value of the research variables:

- a. To calculate the abnormal return, the formula used is:

$$U_{it} = R_{it} - E(R_{it})$$

Description:

U_{it} = Abnormal return of stock i on day t

R_{it} = Actual return of stock i on day t

$E(R_{it})$ = Expected return of stock i on day t

The way to find out the actual return is:

$$R_{it} = \frac{P_t - P_{t-1}}{P_{t-1}}$$

Description:

R_{it} = Actual return of stock i on day t

P_t = Stock price on day t

P_{t-1} = Stock price on day t-1

The way to find out the expected return is:

$$E(R_{it}) = R_{mt}$$

$$R_{mt} = \frac{IHSg_t - IHSg_{t-1}}{IHSg_{t-1}}$$

Description:

R_{mt} = Market index return on day t

$IHSg_t$ = Composite stock price index day t

$IHSg_{t-1}$ = Composite stock price index day t-1

- b. To find out the trading volume activity can be done by using the formula:

$$TVA_{it} = \frac{\sum \text{saham } i \text{ yang diperdagangkan di hari } t}{\sum \text{saham } i \text{ yang beredar di hari } t}$$

Description:

TVA_{it} = Trading volume activity

- c. To calculate the security return variability, it is necessary to know the abnormal return variance in the period outside the announcement. So to find the abnormal return

variance in the period outside the announcement, you need to use the following formula to find out:

$$V(U_{it}) = \frac{(U_{it} - \bar{X}U_{it})^2}{n}$$

Description:

$V(U_{it})$ = Variant abnormal return in the estimation period

U_{it} = Abnormal return of stock i on day t

$\bar{X}U_{it}$ = Average abnormal return of stock i at heart t

n = Number of days observed

After knowing the abnormal return variance in the period outside the announcement, you can calculate the security return variability using the formula:

$$SRV_{it} = \frac{U_{it}^2}{V(U_{it})}$$

Description:
 SRV_{it} = Security return variability
 U_{it} = Abnormal return of stock i on day t
 $V(U_{it})$ = Variant abnormal return in the estimation period

After collecting all the data needed to conduct research, the data will be analyzed to determine the final results of the objectives of this study. The method used in analyzing the data in this study is to use the help of a data processing program, namely SPSS version 23 in conducting this research. Furthermore, it is necessary to do a normality test. The normality test according to Ghozali (2016) is carried out to determine whether in a regression model, an independent variable and the dependent variable or both are normally distributed or not normally distributed. If a variable is not normally distributed, the statistical results will decrease. The techniques in conducting the normality test in this study are the Kolmogorov-Smirnov test and the Shapiro-Wilk test. In making a decision to determine whether the data is normally distributed or not, it can be seen from the significance value. If the significance value is > 0.05 then the data used can be said to be normally distributed. Conversely, if < 0.05 , the data used can be said to be not normally distributed.

Furthermore, to find out the results of the study, it is necessary to conduct a t-test. According to

Sudjiono (2010) t-test is one of the statistical tests used to test the truth or falsity of the hypothesis which states that two mean samples taken randomly from the same population have no significant difference. t-test is conducted to test the research hypothesis regarding the effect of each independent variable partially on the dependent variable. Decision making in the t test is by looking at the significance results after testing. The decision-making criteria are if the significance value obtained from the test results is less than 5% or 0.05 then the existing hypothesis is accepted. However, if the significance value obtained from the test results is more than 5% or 0.05, the existing hypothesis is rejected.

III. RESULTS AND DISCUSSION

Result

Based on the results of the normality test that has been carried out, the significance value of the abnormal return, trading volume activity, and security return variability both before the invasion and during the invasion occurs is above 0.05. So that the data used in the study is normally distributed. Then the existing data can be used to continue the research.

Table 1. normality test

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
AR Before (X1)	.215	5	.200	.968	5	.000
AR During (X1)	.267	5	.200	.913	5	.000
TVA Before (X2)	.225	5	.200	.920	5	.000
TVA During (X2)	.262	5	.200	.945	5	.000
SRV Before (X3)	.335	5	.068	.795	5	.000
SRV During (X3)	.241	5	.200	.877	5	.000
Stock Price Before (Y)	.243	5	.200	.894	5	.000
Stock Price During (Y)	.273	5	.200	.852	5	.000

Furthermore, to find out the result of the study, it is necessary to test the hypothesis. The method used in hypothesis testing is t test.

Table 2. t test before invasion

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
1 (Constant)	374.963	4.205		89.178	.000
AR Before (X1)	492.111	263.928	.963	1.865	.083
TVA Before (X2)	13322.994	9828.549	.406	1.356	.183
SRV Before (X3)	-11222.395	21360.551	-.283	-.525	.600

Based on the results of the t test that has been carried out on the variable before the invasion occurred. It can be seen that in the abnormal return, trading volume activity, and security return variability variables, the significance value found is above 0.05. Therefore, it can be concluded that in these three variables there is no influence on stock performance.

This also occurs in the results of the t test that has been carried out

on the variables during the invasion. It can be seen that in the abnormal return, trading volume activity, and security return variability variables, the significance value found is above 0.05. Therefore, it can be concluded that in these three variables there is no influence on stock performance.

Discussion

a) First hypothesis

Based on the results of the t test that has been carried out, it is stated that there is no effect of abnormal returns on the company's stock performance before the event and during the event. So that the hypothesis stating that there is an abnormal return effect on PT Krakatau Steel (Persero) Tbk before and during the Ukrainian Russian invasion is rejected.

Before the event occurred there was a possibility that the company would go bankrupt at the end of 2021. Despite the efforts of the Minister of SOEs to lobby foreign companies for cooperation and the company's efforts to take over subsidiaries to improve the company's performance, it only increased the share price briefly which then declined again purchase activity, although the stock price has increased and decreased for 5 days before experiencing ups and down before the event occurred.

This happened because of efforts to save the company from bankruptcy by cooperating with companies abroad. This can be attributed to the company going bankrupt at the end of the year. Despite the efforts of the Minister of SOEs to lobby foreign companies for cooperation and the company's efforts to take over subsidiaries to improve company performance, it was not enough to help increase the company's share price.

During the invasion, the movement of abnormal returns can be said to have no significant changes on the 5 days during the invasion event. Although there was an increase in abnormal return exactly 1 day after the invasion was announced to the public. But on the following day there was no significant change during the study period. This is inversely proportional to the company's stock price. During the invasion event, the company's stock price decreased on 5 days during the invasion, which was more precisely in early March 2022. The possibility of no change in abnormal returns on the company is the company's performance in managing company profits. It was previously known that the

company has a very large debt that can threaten the company towards bankruptcy. Based on research that has been conducted, it is known that the existence of cooperation with other countries and exporting to various countries in Europe does not guarantee abnormal profits. The number of investors who purchase company shares does not provide unexpected profits. The results revealed that the Russian invasion of Ukraine could not affect the company's abnormal return. So this contradicts the research conducted by (Bash, 2020) which states that an event will affect changes in abnormal returns.

b) Second hypothesis

Based on the results of the t test that has been carried out, it is stated that there is no effect of trading volume activity on the company's stock performance before the event and during the event. So that the hypothesis stating that there is trading volume activity effect on PT Krakatau Steel (Persero) Tbk before and during the Ukrainian Russian invasion is rejected.

Based on the movement of the number of shares traded before the invasion event, there was no significant movement until during the event. This shows that the

existence of cooperation with foreign parties cannot attract the attention of investors to buy company shares. Another factor that can also be one of the reasons for making the company's shares unattractive to investors is the continuous decline in shares at the end of 2021.

Based on the movement of the number of shares traded before the invasion event, there was no significant movement until during the event. This shows that the existence of cooperation with foreign parties cannot attract the attention of investors to buy company shares. Another factor that can also be one of the reasons for making the company's shares unattractive to investors is the continuous decline in shares at the end of 2021.

Based on the research results, it can be revealed that the number of sales of the company's shares shows that investors are not interested in the profits that will be generated by the company. The announcement that there will be several collaborations and exports abroad does not provide investor interest when the company's share price at that time can be said to be cheap. According to (Noor & Satyawan, 2014) stock prices that are lower than their fair value are worth buying, so this can be one

of the reasons investors buy high amounts of shares.

The results revealed that the Russian invasion of Ukraine had an influence on the company's trading volume activity. So that the signal theory used does not apply to research. This is not in line with research conducted by (Yunita & Priyambodo, 2023) which states that an event can affect trading volume activity.

c) Third hypothesis

Based on the results of the t test that has been carried out, it is stated that there is no effect of security return variability on the company's stock performance before the event and during the event. So that the hypothesis stating that there is an security return variability effect on PT Krakatau Steel (Persero) Tbk before and during the Ukrainian Russian invasion is rejected. It can be assessed that information about the event is not informative to the company's stock performance so that there are changes in stock returns. This can be seen by looking at the results of the calculation of abnormal return and trading volume activity. The security return variability did not change before the event was announced. So it can be said that before the invasion occurred, for investors

the company's shares were considered not to have the expected benefits. This also happened during the invasion. The possibility of information about this event is not informative, so it can be said that there is almost no profit in the period during the invasion.

IV. CONCLUSION

Based on the results of the research that has been done, it can be stated that there is no difference in abnormal return, trading volume activity and security return variability both before and during the invasion of Russia Ukraine on the performance of PT Krakatau Steel (Persero) Tbk

Based on the results of the research that has been done, it can show that events are not informative to stock performance for investors who expect profits. This is not in line with research conducted by (Ariyani & Pratama, 2022) which states that an event can affect security return variability

shares. The limitation during the research is the interruption of events during the research period. Suggestions that can be given for future research development are to conduct comprehensive research on an event under study.

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