

# “Russia’s invasion of Ukraine: The reaction of Islamic stocks in the energy sector of Indonesia”

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# RUSSIA'S INVASION OF UKRAINE: THE REACTION OF ISLAMIC STOCKS IN THE ENERGY SECTOR OF INDONESIA

## **Abstract**

The volatility of rising oil prices has certainly made the market more out of control. Market participants are very sensitive to various information and to global issues such as Russia's invasion of Ukraine. This study aims to review the reaction of the Indonesian Islamic stock market in the energy sector before and after Russia's invasion of Ukraine. The variables used are stock returns, abnormal returns, and trading volume activity. The sample of this study is represented by Indonesian sharia stocks in the energy sector using a purposive sampling method. The research period was from February 4, 2022 to March 18, 2022. The research method used was the Event Study Method (ESM) and paired sample different tests with the Microsoft Excel program and SPSS version 26. The results of the study show that there is a significant difference in the average stock returns in the periods of 3, 7, and 14 days before and after Russia's invasion of Ukraine. There are also differences in abnormal returns for the 3-day and 14-day observation periods, while for the 7-day observation period, there are no significant differences in abnormal returns. Besides, there is an average difference in volume activity during the periods of 3 days, 7 days, and 14 days before and after the Russian invasion of Ukraine. Indirectly, this information about Russia's invasion of Ukraine affected the performance of the capital market. This also shows that the semi-strong form of the efficient market hypothesis is proven in this study.

## **Keywords**

Russia, Ukraine, stock returns, average abnormal returns, trading volume activity, ISSI, energy sector

## **JEL Classification**

G11, G12, F21, P18

## **INTRODUCTION**

International economic and political stability has triggered the global economic crisis as a whole. After the global economy was shaken by the COVID-19 pandemic, which had an impact on all countries, it is now exacerbated by the outbreak of the conflict between Russia and Ukraine on February 24, 2022 (Nerlinger & Utz, 2022). This condition is a "perfect storm" for developing countries that are still struggling to recover their economies (Canuto, 2020). Many believe that the Russian invasion was due to Russian concerns about Ukraine's aspirations for integration into the North Atlantic Treaty Organization (NATO). So that Russia has received economic sanctions in the form of a boycott of trade and bilateral relations with Russia, control of the financial system through a ban on SWIFT remittances from Russia, a ban on exports of high-tech goods to Russia, restrictions on energy trade, a ban on Russia's primary and secondary debt transactions and industrial sanctions; Russian extractives on the special provision of financial messaging services (Astrov et al., 2022). Then the United States openly, through President Joe Biden, announced an oil and gas embargo on Russia.

All events can affect economic conditions (Febriandika & Rahayu, 2021). Likewise, the volatility of rising oil prices certainly made the market more out of control. Market participants are very sensitive to various information, so both positive and negative information greatly affect market conditions (Li et al., 2022) and market participants in making investment decisions (Narayan, 2019). In addition, this is due to military conflicts, which increase the uncertainty of investors about the future profitability of companies, which leads to fluctuations in share prices (Yousaf et al., 2022).

It is believed that the oil and gas embargo sanctions against Russia will punish the global economy, which is currently unstable, so it will affect other countries in the world. Such as the shock of the availability of oil troops globally, which will raise the potential for an increase in oil prices on the global market (Khudaykulova et al., 2022). The impact of Russia's invasion of Ukraine was responded to in general and corrected market behavior positively and negatively (Boungou & Yatié, 2022). This is the case with information on the weakening of the Jakarta Composite Index (IHSG) and the rupiah in the Indonesian capital market (Pantas et al., 2019). The energy sector is one of the sectors that plays an active role in the stock market in Indonesia, both conventional and sharia stocks.

In general, the Islamic capital market is not much different from the conventional capital market (Anindyastri et al., 2022). However, conceptually the Islamic capital market in trading shares must be by sharia and free from elements of usury (Aldiena & al-Hakim, 2019). The Indonesian Sharia Stock Index (ISSI) was created to provide answers to the public who want to know the performance of all Islamic stocks to make it easier for capital market players to measure the performance of Islamic stocks (Alam et al., 2020). With the information that Russia's invasion of Ukraine will certainly provoke a reaction from investors towards the investments, they invest in Islamic stocks. The market reaction to this information can be seen in the level of profit, which is measured using returns as the value of price changes or using abnormal returns and the level of stock liquidity.

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## 1. LITERATURE REVIEW AND HYPOTHESES

Global conditions certainly have an extraordinary influence on world capital market conditions, as well as on Indonesia. According to the concept of an efficient market, available information plays an important role in identifying the true value of a stock, and any change in information immediately reflects the price of the stock (Singh et al., 2021). Stock prices react quickly to new information. Therefore, it is very complex to identify patterns of movement because no pattern of stock movement has been found in the market (Singh et al., 2021). The information-based Efficient Market Hypothesis is divided into three main forms, namely: First, weak form efficiency market, a condition in which prices reflect all historical information. Under these circumstances, investors cannot obtain profit levels above normal by using trading rules based on past price information. Second, market efficiency is semi-strong where at this level prices not only reflect past prices but al-

so all published information. In other words, investors cannot use public information to obtain above-normal profit levels. Third, market efficiency is a strong form, a situation where prices not only reflect all published information but also the information contained in the fundamental analysis of companies and the economy (Leković, 2018).

The war between Ukraine and Russia creates unstable market conditions. The war between the two countries hampered the global economy, especially in the supply of commodities, because Ukraine and Russia are the main suppliers of staple goods such as corn, wheat, titanium (Alam et al., 2022). Wang et al. (2022) examined geopolitical risk and systematic risk in commodity markets during the war in Ukraine and concluded that there were volatility in returns and abundant commodity volatility. Chatziantoniou et al. (2022) proved that there was a strong impact on the 2014 war, especially in the commodity oil and Canadian markets of the G7 transmitting strong volatility shocks. Yousaf et al. (2022), based on re-

gional analysis, state that the European and Asian regions were significantly affected by the events of the Ukrainian and Russian war. Bounou and Yatié (2022) concluded that tensions between Ukraine and Russia had a negative impact on the performance of world stock market indices.

Stock return is the result or profit obtained by shareholders, which can be enjoyed by investors from the investment they make. A positive return will encourage investors to invest in a company (Widagdo et al., 2020). Investors have to realize that, besides getting profits, they don't rule out losses. Gains or losses experienced by investors are strongly influenced by an investor's ability to analyze the state of stock prices (Xu, 2021). Stock returns are used to measure company performance by investors to invest in companies in the stock market (Wahyono et al., 2021). Stock returns are divided into realized returns and expected returns. Realized return, namely the return that has occurred, is calculated based on historical data and is used as a measure of company performance (Qu et al., 2019). The expected return is the return expected to be obtained by investors in the future (Egger & Zhu, 2021). In the case of Indonesia, the Islamic capital market is stated in a weak form because the movement of stock returns is not random. This means that the stock price formed in the Islamic capital market is still influenced by the previous stock price (Ali et al., 2018). Information becomes one of the indicators in the efficient market hypothesis. For example, information related to the trade war between the two economic giants, namely the United States and China in 2018, could affect trading volume activity on the Islamic capital market at that time (Siswara et al., 2021).

Abnormal returns can usually be used as a basis for testing market efficiency, and it can be said that an announcement containing information will provide benefits to the market. It is used as a measurement variable to determine the response to an announcement (Pandey & Kumari, 2021). Abnormal return is the difference between the actual return or return and the expected return (Alves & Silva, 2021). The form of the abnormal return can be divided into two, namely, positive abnormal return and negative abnormal return. Positive abnormal returns can occur when the

actual return has a larger difference than the expected return, and negative abnormal returns occur when the actual return has a smaller difference than the expected return (Vo et al., 2020). Actual return can be calculated from the daily stock price by comparing today's price minus yesterday's price and then comparing it to yesterday's price. Meanwhile, the expected return can be calculated based on the market-adjusted model (Oswal & Goel, 2021).

Stock trading volume is the number of shares traded on the capital market daily at a price agreed upon by both parties, namely the seller and the buyer (Zhou, 2022). The amount of trading volume can be seen from stock trading activities through indicators, namely liquidity, as measured by trading volume activity (De Souza et al., 2018). Trading volume activity is also an instrument that can be used to determine the reaction of the capital market to information that exists in an industry in the capital market. Permata dan Ghoni (2021) shows that there is a significant difference between the average trading volume activity before and after the implementation of the Presidential Election on the Indonesian capital market. Hadi (2020) shows there are significant differences in average trading volume activity (ATVA) before and after the United States vs China trade war on the JII index.

The prerequisites that must be met in deciding to accept or reject the alternative hypothesis in the paired sample t-test are as follows: (1) If  $t \text{ count} < t \text{ table} \text{ (prob sign)} > 0.05$ , the hypothesis is rejected, (2) If  $t \text{ count} > t \text{ table} \text{ (prob sign)} < 0.05$ , then the hypothesis is accepted. The hypothesis formed in the event study of Russia's invasion of Ukraine is as follows:

$H_1$ : *There is a difference in stock returns in the Islamic capital market before and after Russia's invasion of Ukraine.*

$H_2$ : *There is a difference in abnormal returns in the Islamic capital market before and after Russia's invasion of Ukraine.*

$H_3$ : *There is a difference in trading volume activity in the Islamic capital market before and after Russia's invasion of Ukraine.*

## 2. METHODS

This study uses a quantitative approach with secondary data. The observation period for this study starts from February 4, 2022 to March 18, 2022. The determination of the research period is seen from before and after Russia's invasion of Ukraine, while the invasion event occurred on February 24, 2022, because seeing changes from day to day, so there is a division of the period in this study. The following is the division of the research period: 1)  $t_{-3}$  is 3 days before the invasion, and  $t_{+3}$  is 3 days after the invasion; 2)  $t_{-7}$  is 7 days before the invasion, and  $t_{+7}$  is 7 days after the invasion; 3)  $t_{-14}$  is 14 days before the invasion, and  $t_{+14}$  is 14 days after the invasion.

This study uses three variables such as return, abnormal return, and trading volume activity. These data were obtained from IDX website sources and <https://www.finance-yahoo.com> to obtain data on the Indonesian Sharia Stock Index (ISSI). The population used in this study is the energy sector companies listed on the Indonesian Sharia Stock Index (ISSI). The samples were taken using the purposive sampling method.

The analysis technique used in this study, namely the Event study method (ESM), was used to see how quickly the Islamic capital market in Indonesia reacted to the information on Russia's invasion of Ukraine. As for testing the event study hypothesis of the impact of investment and whether there are differences in stock returns, abnormal returns, and trading volume activity on information on Russia's invasion of Ukraine using a two-sample average difference test (paired sample t-test), the statistical tool used is the program Microsoft excel and SPSS

version 26. The main requirement in this test is that the data must be normally distributed. If there is data that is not normally distributed, then first transform the data in the form of Ln (Natural Log). Ln data that is normally distributed can perform parametric testing, namely the paired sample t-test. If the data is still not normally distributed, then a non-parametric test is used, namely the Wilcoxon sign rank test.

## 3. RESULTS AND DISCUSSION

This event study aims to determine the market reaction on the shares of energy sector companies registered at ISSI to Russia's invasion of Ukraine for a period of 3 days, 7 days, and 14 days before and after the incident. The normality test was carried out on the data using the One-Sample Kolmogorov-Smirnov Test for average returns, average abnormal returns, and average trading volume activity in the 14-day, 7-day, and 3-day periods before and after Russia's invasion of Ukraine. The basis for deciding on the Kolmogorov-Smirnov test is that the null hypothesis ( $H_0$ ) is rejected if the probability  $<0.05$  means that the data is not normally distributed, whereas if the probability value is  $>0.05$ , then the data is normally distributed.

Table 1 shows the value of Sig. The period of 14 days, 7 days, and 3 days before and after Russia's invasion of Ukraine showed most of the asymp. Sig (2-tailed) is smaller than 0.05. So it can be concluded that the average return data is not normally distributed. Data that is not normally distributed will be tested using the Wilcoxon Signed Ranks Test.

**Table 1.** Normality test stock return

Source: Own calculations.

		One-Sample Kolmogorov-Smirnov Test					
		R_SBLM14	R_STLH14	R_SBLM7	R_STLH7	R_SBLM3	R_STLH3
N		38	38	38	38	38	38
Normal Parameters <sup>a,b</sup>	Mean	.02923207	.04639299	.04443951	.07533257	.08635816	.07537582
	Std. Deviation	.008929388	.014049208	.010955368	.022630083	.022100147	.026448328
Most Extreme Differences	Absolute	.096	.236	.195	.175	.252	.176
	Positive	.073	.137	.100	.113	.107	.112
	Negative	-.096	-.236	-.195	-.175	-.252	-.176
Test Statistic		.096	.236	.195	.175	.252	.176
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>	.000 <sup>c</sup>	.001 <sup>c</sup>	.005 <sup>c</sup>	.000 <sup>c</sup>	.004 <sup>c</sup>

**Table 2.** Abnormal return normality test

Source: Own calculations.

		One-Sample Kolmogorov–Smirnov Test					
		AR_SBLM14	AR_STLH14	AR_SBLM7	AR_STLH7	AR_SBLM3	AR_STLH3
N		38	38	38	38	38	38
Normal Parameters <sup>a,b</sup>	Mean	.04794018	.03701569	.06318013	.06308553	.09144160	.07292259
	Std. Deviation	.013254366	.012507472	.016530083	.021229397	.023343177	.025791947
Most Extreme Differences	Absolute	.168	.184	.234	.180	.282	.192
	Positive	.095	.104	.136	.095	.094	.102
	Negative	-.168	-.184	-.234	-.180	-.282	-.192
Test Statistic		.168	.184	.234	.180	.282	.192
Asymp. Sig. (2-tailed)		.008 <sup>c</sup>	.002 <sup>c</sup>	.000 <sup>c</sup>	.003 <sup>c</sup>	.000 <sup>c</sup>	.001 <sup>c</sup>

**Table 3.** Normality test of trading volume activity variables

Source: Own calculations.

		One-Sample Kolmogorov–Smirnov Test					
		TVA_SBLM14	TVA_STLH14	TVA_SBLM7	TVA_STLH7	TVA_SBLM3	TVA_STLH3
N		38	38	38	38	38	38
Normal Parameters <sup>a,b</sup>	Mean	-6.75704486	-6.41826179	-6.79485043	-6.21620075	-6.79944752	-6.28877464
	Std. Deviation	2.239572960	2.264663250	2.189801904	2.284290672	2.167671216	2.395585093
Most Extreme Differences	Absolute	.066	.104	.088	.095	.083	.126
	Positive	.058	.076	.047	.078	.044	.065
	Negative	-.066	-.104	-.088	-.095	-.083	-.126
Test Statistic		.066	.104	.088	.095	.083	.126
Asymp. Sig. (2-tailed)		.200 <sup>c,d</sup>	.200 <sup>c,d</sup>	.200 <sup>c,d</sup>	.200 <sup>c,d</sup>	.200 <sup>c,d</sup>	.130 <sup>c</sup>

Table 2 shows that the average abnormal return from the 14-day, 7-day, and 3-day periods is asymp. Sig (2-tailed) is less than 0.05. It can be concluded that the variable is not normally distributed, so the hypothesis test is performed for abnormal returns using the Wilcoxon Signed Ranks Test.

Table 3 shows that the asymp. Sig (2-tailed) on the average trading volume has a value greater than 0.05. So, it can be concluded that the variables on the average trading volume have been normally distributed. The hypothesis was tested on the average trading volume variable using the paired sample t-test. This test is carried out to compare two variables that are interconnected and are carried out if the data is normally distributed.

Event studies prove the theory of the efficient market classification in the form of market reaction sensitivity proxied by returns, abnormal returns, and trading volume activity of sharia stocks in the energy sector, which are incorporated in the Indonesian Sharia Stock Index (ISSI). If the significant probability value is less than 0.05, then there is a significant difference, and vice versa. If the significant probability value is greater than 0.05, then there is no significant difference.

**Table 4.** Stock return difference test results

Source: Own calculations.

Period	Significance	Conclusion
14 days	0.000 < 0.05	H1 accepted
7 days	0.000 < 0.05	H1 accepted
3 days	0.004 < 0.05	H1 accepted

The test results above show that there are differences in the average stock returns in energy sector companies listed in the Indonesian Sharia Stock Index (ISSI) before and after Russia's invasion of Ukraine. This is indicated by a significant level in 14 days of 0.000, in 7 days of 0.000, and 3 days before and after the invasion of 0.004. The significance value of the 14-day, 7-day, and 3-day periods has a significant level that is less than 0.05 ( $\alpha$  value). The results of this test indicate that the information on Russia's invasion of Ukraine was responded to by investors as an extraordinary event, thereby influencing stock returns.

Stock market conditions were dominated by worries due to the events of Russia's war on Ukraine. The war hurt the world economy, one of which was an energy crisis that caused Russia to receive embargo sanctions. As a result, the price of crude oil in the world has increased, indirectly sup-

pressing the country's growth, as well as that of Indonesia, which is directly proportional to the soaring fuel prices. However, seen from the positive side, the energy sector stock movement tends to increase amid soaring commodity prices reaching 2.23% as of February 24, 2022, according to Investor.id. In line with the results of the study by Supeni and Nurul Awwaliyah (2022), during the months of the war between Russia and Ukraine, world oil prices had a significant effect on share price volatility in state-owned mining sub-sector companies, while world gold prices had no effect. Investors can quickly obtain information related to stock market conditions because investors need this information to predict and analyze stocks that have opportunities that will benefit investors. In addition, investors also need to be careful about the information obtained because global political conditions can change and quickly change market conditions. With this momentum, investors can take advantage of this opportunity to benefit from rising stock prices in the energy sector but must continue to monitor world oil prices and global political conditions.

**Table 5.** Average abnormal return differential test results

Source: Own calculations.

Period	Significance	Conclusion
14 days	0.000 < 0.05	H2 accepted
7 days	0.982 > 0.05	H2 rejected
3 days	0.000 < 0.05	H2 accepted

The results of different tests show that the significance of the abnormal return in 7 days is 0.982, which is greater than 0.05. This means that there is no difference in the average abnormal return in 7 days when Russia's invasion of Ukraine occurred, where the market did not respond to information on the Russia's invasion of Ukraine during the period. This is possible because information about the invasion has been evenly distributed in the market. In line with the movement of the average abnormal return on H+7, which has decreased, Russia's invasion of Ukraine is considered information that is no longer able to provide economic value. Information has spread so that investors cannot carry out activities in the capital market in the hope of obtaining returns above normal in the 7-day study period. Russia's invasion of Ukraine made Russia get an oil em-

bargo from several countries supporting Ukraine. Indonesia has good bilateral relations with Russia, and Indonesia's foreign policy is free and active, so Russia still maintains trade relations with Indonesia (Huka & Kelen, 2022) Therefore, stock exchanges in Indonesia, especially in the energy sector, are still likely to be stable.

The observation period of 3 days and 14 days showed different reactions. There was a significant difference between before and after the event. The significant value in the period of 14 days and 3 days is 0.000, which is less than 0.05. The significant difference is due to the 3-day and 14-day periods being enough to make the market act. It can influence investors' preferences in making investment decisions regarding Russia's invasion of Ukraine, as indicated by the difference in the average abnormal return. Investors assume that Russia's invasion of Ukraine will increase returns significantly, which can cause abnormal returns. The changes in abnormal returns received by investors before and after the incident show that the market absorbs information very quickly. As can be seen in the period of 3 days before and after the invasion event, that there is a significant difference in abnormal returns. These results show that the market is in an efficient state. Market efficiency is formed on the basis of information that has been distributed evenly so that a security price is formed. The market will react to incoming information, then this information will make stock price movements on the stock exchange and toward a new equilibrium price.

Based on the research results of the period of 14 days and 3 days, H2 was accepted, while for the 7-day observation period, H2 was rejected. This is in line with Kusuma et al. (2022); this study tested the reaction of the LQ45 index showing that at the beginning of the war between Russia and Ukraine, most of the days around the event showed no significance for abnormal returns. Meanwhile, between before and after the occurrence of the two events, there is no difference in the average abnormal return. This is also in line with Huka and Kelen (2022) that there is no significant difference in the average abnormal return value for energy industry stocks on the Indonesian stock exchange obtained by investors over a period of 14 days, 7 days, or 3 days.

**Table 6.** Results of the test of differences in trading volume activity

Source: Own calculations.

Period	Significance	Conclusion
14 days	0.006 < 0.05	H3 accepted
7 days	0.000 < 0.05	H3 accepted
3 days	0.002 < 0.05	H3 accepted

The results of the different tests showed that there were significant differences in the average trading volume activity in the 14-day, 7-day, and 3-day periods before and after Russia's invasion of Ukraine. This is reflected in the significant value in the paired sample test on sig (2-tailed) with a period of 14 days of 0.006, in 7 days of 0.000, and 3 days before and after the event of 0.002. The three significance values indicate the significance value of the average trading volume is less than 0.05 ( $\alpha$  value).

The events of Russia's invasion of Ukraine put pressure on all stock exchanges in the world, including the stock market in Indonesia. Restrictions on energy resources result in spikes in energy prices, which also have an impact on high inflation in several countries (Basdekis et al., 2022). Russia is a major trading partner of most countries in the world. So the stock markets of countries linked to Russia will have a significant impact. This can be seen from the average stock trading activity, there is a significant comparison in the periods of 14 days, 7 days, and 3 days before and after the invasion. Stock trading volume activity after Russia's invasion of Ukraine experienced a bigger spike than before Russia's invasion of Ukraine. Large trading volume shows that investors like these shares so that these shares are traded quickly and will ultimately increase stock liquidity. This is in line with the high fuel prices that can provide benefits to investors.

According to Alam et al. (2022), the crisis of Russia's invasion of China has a very strong relationship between the commodities of oil, gas, platinum, and gold and trade on the stock market in the G7 and BRIC countries. Furthermore, Permata dan Ghoni (2021) state that there is a significant difference between the average trading volume activity before and after the implementation of the Presidential Election on the Indonesian capital market. This is due to several things, including after the presidential election, which took place safely and under control, indicating that stable political events can encourage investors to invest their funds in the capital market. Likewise, a study by Hadi (2020) shows there are significant differences in average trading volume activity (ATVA) before and after the United States vs China trade war on the JII index.

The results of this study are in line with Pulungan and Subiyanto (2021), who show that there is a significant difference between the average trading volume activity before and after the announcement of the first case of COVID-19 in pharmaceutical stocks. The announcement of the first positive case of the coronavirus gave reaction of investors. Investors believed that pharmaceutical companies were one of the big beneficiaries behind the COVID-19 case in Indonesia. The trading volume level of pharmaceutical stocks also increased, as seen in the average trading volume of pharmaceutical stocks before and after the announcement of the first positive case of COVID-19 in Indonesia. Likewise, according to Saragih et al. (2019), there are significant differences in average trading volume activity (ATVA) before and after the presidential election in 2009.

## CONCLUSION

This study aims to empirically examine the performance of the Islamic stock market in Indonesia during Russia's invasion of Ukraine. The shape of the market reaction is indicated by the performance of stock returns, abnormal returns, and trading volume activity in energy sector companies listed in ISSI shares (Indonesian Sharia Stock Index) before and after Russia's invasion of Ukraine, which took place on February 24, 2022. It can be concluded that: (1) there is a significant difference in the average stock return in the periods of 3, 7, and 14 days before and after Russia's invasion of Ukraine. The market responded positively towards Russia's invasion of Ukraine. This information can be of benefit to companies so that investors are also interested in investing in shares in the energy sector. (2) There is no difference in the average abnormal return during the 7 days when Russia's invasion of Ukraine took place

when the market did not react to information about Russia's invasion of Ukraine. In contrast, different responses were seen between the 3-day and 14-day observation periods, with significant differences before and after the event. The average difference indicates an abnormal return. The 3-day and 14-day periods are sufficient for the market to act and for investors' preferences when making investment decisions regarding Russia's invasion of Ukraine. (3) There is a significant difference in the average stock trading volume activity for those periods.

The events of Russia's invasion of Ukraine caused the trading activities of capital market participants to change. Stock trading volume activity after Russia's invasion of Ukraine increased higher than before Russia's invasion of Ukraine, investors must know the market's reaction to information to reach an equilibrium price so that investors are more objective in making decisions and not just referring to market anomalies. Future research is expected to expand this study by using other calculation methods such as the CAPM, Mean adjusted model, or Market model as a comparison. In addition, it is expected that other variables will be developed that may affect the return, average abnormal return and trading volume activity of a company's shares. The studies can serve as a reference for investors when investing in companies in the energy sector to make more efficient and accurate investment decisions.

## AUTHOR CONTRIBUTIONS

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Formal analysis: Nur Rizqi Febriandika, Rima Mila Wati, Mauizhotul Hasanah.

Funding acquisition: Nur Rizqi Febriandika.

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