ANALYSIS OF DIFFERENCE IN STOCK PRICE, MARKET CAPITALIZATION, AND TRADING VOLUME ACTIVITY BEFORE AND DURING COVID-19

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ABSTRACT

The aim for this study is to find whether if there is a difference of stock price, market capitalization, and trading volume before and during COVID-19 pandemic on agriculture and mining sector. The data used for this research is taken from January 1st until April 30th 2020. The sampling technique used on this study was purposive sampling and processed using SPSS 25. The result shows that there are a difference between stock price before and during COVID-19, market capitalization before and during COVID-19, and trading volume before and during COVID-19 on both agriculture and mining sector.

Keywords: Stock Price, Market Capitalization, Trading Volume, COVID-19

1. INTRODUCTION

Stock is the most loved financial instrument on the capital market. Stock is a piece of paper which explains that the owner of the paper is someone who owns a part of a certain company that issued the stock [1-2]. In Indonesia, stock is actively traded in the Indonesian Stock Exchange. A company will issue a share in order to receive funds for its activity. Meanwhile, investors will buy stocks in order to receive stock return.

Stock price is a price that is made from selling and buying activity that occurs in the capital market [3]. A share price might go up and down following its supply and demand. While supply and demand are influenced by some factors, for example macroeconomic, microeconomic, firm performance, social and politics [4]. When there is a high demand for a stock, the price will rise, but when the demand is low, the price will fall. In the Covid-19 pandemic, there can be seen a lot of decremental in the stock price. This might happen because investor loses interest due to decremental in firm income or a rise in firm expenses. When there are a lot of investors that lose interest, this will cause a drop in demand causing the price to go even lower.

Market capitalization is a value of a firm that is listed on a stock exchange. An investor may use market capitalization in order to help themselves find a firm with lower risk to invest their money. A firm with a huge market capitalization indicates that the firm has a lower risk compared to a firm with a lower market capitalization [5]. During the Covid-19 pandemic, there can be seen a lot of decremental in stock price, thus causing the market capitalization of a firm to plunge. This happens because market capitalization is gained by multiplying stock price and outstanding share.

Trading volume activity is defined as a measurement of how big or small a transaction of a stock traded in Stock Exchange. An enormous trading volume indicates a huge buying and selling activities, while small trading volume indicates that there is not much buying and

selling activity happening on the stock exchange. Trading volume itself may be affected by various reasons such as inflation or deflation of currency, interest, regulation, and some events like the Covid-19 pandemic. The presence of the Covid-19 may be a negative sentiment for investors. A bad sentiment may push investors to sell the stock they own or prevent them from buying.

Covid-19 is a disease caused by a virus which identified for the first time in Wuhan on December 2019. The first case of Covid-19 in Indonesia is detected on 2 March 2020 which bring a negative impact on the Indonesian economy which can be seen in many sectors such as the agriculture and the mining sector.

The agriculture sector is a sector that is focused on food and raw materials. The agriculture sector is divided into a few sub-sectors which produce a certain product. Overall, almost all sub-sectors produce goods that are commonly used in the society such as rice, tea, corn, egg, and meat. Even though some of the goods that are produced are considered vital products, the share price, market capitalization, and trading volume from agriculture companies can be seen swaying. This may happen because there might be some disturbance occurring in the company that disturb the production and distribution.

The mining sector is a sector consists of searching, extracting, and processing minerals from earth. Mining sectors do procure some products that are commonly used on society, for example: fuel for vehicle, gas for cooking, silver and gold for jewellery, etc. During Covid-19 pandemic the production, distribution, and demand for such products can be see decreasing. This may happen because firms use less energy, the same goes for citizens where some of them no longer need as much fuel as they used to be since most of them are working from home, they also become more conservative about their spending. For some people, they have to change their priority. These actions might cause a drop in firm income which will reduce investor's interest to buy their stock. Thus, lowering price, market capitalization, and trading volume activity.

Similar research regarding this topic have been done [4-8]

This research is meant to find (1) if there is a difference between stock price before and during Covid-19 in agriculture sector. (2) if there is a difference between stock price before and during Covid-19 in mining sector. (3) if there is a difference between market capitalization before and during Covid-19 in agriculture sector. (4) if there is a difference between market capitalization before and during Covid-19 in mining sector. (5) if there is a difference between trading volume activity before and during Covid-19 in agriculture sector. (6) if there is a difference between trading volume activity before and during Covid-19 in mining sector.

Related Work

Efficient Market Hypothesis

Efficient market hypothesis is a theory invented by Fama [10]. Efficient market hypothesis stated that no one will be able to gain abnormal return in any form of market [10]. There are three types of efficient market. 1) Weak-form efficient (market. A weak-form efficient market is a type of market where it's price is based on historical price. 2) Semi-strong efficient market. A semi-strong efficient market is a type of market which price is made from both

historical price and relevant information that is made public. 3) Strong efficient market. A strong efficient market is a type of market which price is made from historical price, relevant information, and private information that only a selected number of people should have known [11].

Our Contribution

This paper presents some differences on the research object and time frame proposed in Zaky et al. [8]. The objective of this research is to obtain information about the difference in stock price, market capitalization, and trading volume before and pandemic Covid -19 especially agriculture and mining companies from January 1st until April 30th, 2020.

The purpose of the research is to provide information for investors regarding stock prices, market capitalization and trading volume during the covid 19 pandemic. This is done so that investors can make the right investment decisions so that investors do not get big losses.

Paper Structure

The rest of the paper is organized as follows. Section 2 introduces the preliminaries used in this paper, which are the operational variables, hypothesis development, and methodology. Section 3 presents a normality test and a hypothesis test using Wilcoxon Signed Rank Test. Lastly, section 4 concludes the research while suggesting ideas for future research.

2. BACKGROUND

Operational Variables

There are a few variables used in this research, which are stock price, market capitalization, trading volume activity, and Covid-19.

Stock Price. Stock price is a price for a certain stock. In this research, the stock price used is daily closing price which is taken from yahoo finance.

Market Capitalization. Market capitalization is a value from a firm [11]. In this research, market capitalization is gained by multiplying daily closing price and outstanding share. Daily closing price can be gained from yahoo finance and outstanding share can be gained from www.idx.co.id.

Trading Volume Activity. Trading volume activity is a measurement of how much a certain stock is traded in a stock exchange. Trading volume activity can be gained from yahoo finance.

Covid-19. Covid-19 is a virus that infects the respiratory system. In this research, Covid-19 is used to separate two timelines. First, before Covid-19 period which started at 1 January 2020 until before first case of Covid-19 in Indonesia which is 2 March 2020. Secondly, after Covid-19 period which is from 2 March 2020 until 30 April 2020.

Hypothesis Development

Covid-19 pandemic will disturb a country's economy which is shown on a country's stock market. In agriculture sector, Covid-19 cause a disturbance in production and distribution

system. Covid-19 make those who are infected unable to work. For those who are uninfected and able to work, they have to make sure they keep their distance from one to another in order to supress the risk of Covid-19 spreading. These will cause the production rate to decline since there are fewer workers and space available. Those things will cause the firm income to decline, which will cause investors to be less interested and cause lower demand for the stock. A lower demand will lower stock price according to the supply and demand principle.

H_1: There is a significant difference in the stock price of agriculture companies before and during COVID-19 pandemic.

In mining sector, Covid-19 can be seen to disturb production, distribution, and some project. A disturbance in these three points can be considered as a negative information which will cause investors to be less interested and causing lower demand for the stock. A lower demand will lower stock price according to supply and demand principle.

H_2: There is a significant difference in the stock price of mining companies before and during COVID-19 pandemic.

During Covid-19, there can be seen many disturbances in production and distribution which lowers the demand for a stock. A low demand that lowers the price, will also lower market capitalization because market capitalization is gained by multiplying stock price and outstanding share.

H_3: There is a significant difference in the market capitalization of agriculture companies before and during COVID-19 pandemic.

In mining sectors, Covid-19 serves as negative signal. The presence of the Covid-19 has delayed mining projects and caused some mine to be closed temporarily. Such negative information will make investors to be less interested which will cause the demand for the stock to decline. A decline in demand will cause the price to go lower. A lower price will also cause a lower market capitalization because market capitalization is gained by multiplying stock price and outstanding share.

H_4: There is a significant difference in the market capitalization of mining companies before and during COVID-19 pandemic.

In agriculture sector, when Covid-19 becomes a negative influence, investors would start to sell their stocks in order to avoid further loss. But, at the same time, there are less to none people who would like to buy the stock. Hence, there will not be a transaction happening. Since there is no transactions happening, the trading volume will go lower and lower.

H_5: There is a significant difference in the trading volume activity of agriculture companies before and during COVID-19 pandemic

In mining sectors, Covid-19 have delayed such important project, while also delayed production and lowered firm's income. These conditions will make investors to have less interest in the stock and predict a lower price in the future. Because of the prediction, investors may sell their stock in order to avoid loss. But, no one would buy the stock since they also predict that the price might go lower in the future. Since there are sellers but no buyer, there will be no transaction happening and the trading volume will decline.

H_6: There is a significant difference in the trading volume activity of mining companies before and during COVID-19 pandemic.

Methodology

The data used in this research are taken from yahoo finance and www.idx.co.id. The data are processed using SPSS 25. The population used in this research are firms listed in agriculture sector and mining sector from 1 January 2020 until 30 April 2020, which is divided into two period. 1) period before Covid-19 from 1 January 2020 until 1 March 2020. 2) Period during Covid-19 from 2 March 2020 until 30 April 2020. Kolmogorov Smirnov normality test is used for the classic assumption and Wilcoxon Signed Rank Test is used for hypothesis test.

Table 1, shows the proxy and scale of variables used in this research. The dependent variables used in this research are stock price, trading volume activity, and market capitalization, while the independent variable is Covid-19**.**

Table 1 Agriculture Sector's Normality Test

No	Variables	Proxy	Scale
1	Stock Price	Closing Price	Ratio
2	Trading Volume	Total Volume	Ratio
3	Market Capitalization	Closing Price x Outstanding Shares	Ratio
4	COVID-19	-	-

3. RESULTS

Table 2 Agriculture Sector's Normality Test

	Kolmogorov-Smirnov		
	Statistics	df	Sig.
Stock Price before COVID-19	.339	840	0.000
Stock Price During COVID-19	.309	840	0.000
Market Capitalization Before COVID-19	.213	840	0.000
Market Capitalization During COVID-19	.187	840	0.000
Trading Volume Activity Before COVID-19	.379	840	0.000
Trading Volume Activity During COVID-19	.351	840	0.000

Table 3 Mining Sector's Normality Test

	Kolmogorov-Smirnov		
	Statistics	df	Sig.
Stock Price before COVID-19	0.319	1.680	0.000
Stock Price During COVID-19	0.340	1.680	0.000
Market Capitalization Before COVID-19	0.258	1.680	0.000
Market Capitalization During COVID-19	0.276	1.680	0,000
Trading Volume Activity Before COVID-19	0.365	1.680	0,000
Trading Volume Activity During COVID-19	0.333	1.680	0,000

Normality Test

A Normality test is a test that is used in order to know whether the data used in the research is distributed normally or not [12]. In this research, the normality test used is the Kolmogorov Smirnov normality test, which is a test used for a large number of samples.

From Table 2 and Table 3, there can be seen that the significance of all variables in both sectors are smaller than 5% (0.000 < 0.05) for all variables which indicate that the data is not distributed normally. Therefore, the hypothesis test used will be Wilcoxon Signed Rank Test, because the data is not distributed normally.

Wilcoxon Signed Rank Test

Wilcoxon Signed Rank Test is a test that is used to find if there is a significant difference between two groups that are not distributed normally [12].

Table 4 Agriculture Sector's Wilcoxon Signed Rank Test

		N	Mean Rank	Sum of Ranks
Stock Price before COVID-19 Stock Price During COVID-19	Negative Ranks	639[a]	370.71	236,881.5
	Positive Ranks	77[b]	257.20	19,804.5
	Ties	124[c]		
	Total	840		
Market Capitalization Before COVID-19	Negative Ranks	639[d]	370.06	236,466.5
Market Capitalization During COVID-19	Positive Ranks	77[e]	262.59	20,219.5
	Ties	124[f]		
	Total	840		
Trading Volume Activity Before COVID-19	Negative Ranks	414[g]	412.15	170,632
Trading Volume Activity During COVID-19	Positive Ranks	372[h]	372.74	
	Ties	54[i]		
	Total	840		

a. Stock Price During COVID-19 < Stock Price Before COVID-19; b. Stock Price During COVID-19 > Stock Price Before COVID-19; c. Stock Price During COVID-19 = Stock Price Before COVID-19; d. Market Capitalization During COVID-19 < Market Capitalization Before COVID-19; e. Market Capitalization During COVID-19 > Market Capitalization Before COVID-19; f. Market Capitalization During COVID-19 = Market Capitalization Before COVID-19; g. Trading Volume Activity During COVID-19 < Trading Volume Activity Before COVID-19; h. Trading Volume Activity During COVID-19 > Trading Volume Activity Before COVID-19; i. Trading Volume Activity During COVID-19 = Trading Volume Activity Before COVID-19

Table 5 Agriculture Sector's Wilcoxon Test Statistics

	Stock Price before COVID-19 Stock Price During COVID-19	Market Capitalization Before COVID-19 Market Capitalization During COVID-19	Trading Volume Activity Before COVID-19 Trading Volume Activity During COVID-19
Z	-19.604[b]	-19.529[b]	-2.511[b]

Asymp. Sig (2-tailed)	0.000	0.000	0.012

Tabel 4 shows the difference happening between stock price, market capitalization, and trading volume activity before and during the Covid-19 pandemic in the agriculture sector. The results show that there are 639 stock prices that are decreasing, 77 stock prices that are increasing, 124 stock prices that do not change with the total data of 840.

On market capitalization variable there are 639 decreasing data, 77 increasing, and 124 remaining the same with the total number of data used is 840 data.

On trading volume activity variable there are 414 increasing data, 372 decreasing data, and 54 data that do not change with the total of 840 data.

Table 5 shows the hypothesis test for the agriculture sector. The result shows that the asymp. Sig for stock price is less than 5% which means there is a significant difference between stock price before and during Covid-19. The same result was also found by Zaky et al. [8], but a different result is gained by He et al [13]. The Covid-19 presence in a country may decrease customers' willingness to spend their money on stock since they need to change their priority due to Covid-19. This will result the demand for a certain stock will decrease, thus making the price of a share go down.

The result shows that the asymp. Sig for market capitalization is less than 5% which means there is a significant difference between market capitalization before and during Covid-19. A similar result was also founded by Kumar and Kumara [5]. Which on their research there was a significant difference in market capitalization before and after Covid-19. This may happen because Covid-19 presence is considered as a negative signal by investors, which led investors to think that the price of a share will go down in the future. This will push investors to hold their money and decide not to buy the share. Such action will lead to the share price of a firm to go down and at the same time market capitalization will also go down because market capitalization is gained by multiplying share price and outstanding share.

The result shows that the asymp. Sig for trading volume activity is less than 5% which means there is a significant difference between trading volume activity before and during Covid-19. This research has a similar research to Zaky et al. [8]. A decremental in trading volume might be caused by a negative sentiment of Covid-19 which led investors to sell their share in order to avoid further loses. At the same time no one or only a few people want to buy the stock. Which result there are not much transaction happening in the stock exchange.

Table 6 Mining Sector's Wilcoxon Signed Rank Test

		N	Mean Rank	Sum of Ranks
Stock Price before COVID-19 Stock Price During COVID-19	Negative Ranks	1,325[a]	751.37	995,559.5
	Positive Ranks	163[b]	688.69	112,256.5
	Ties	192[c]		
	Total	1,680		
Market Capitalization Before	Negative	1,325[d]	754.42	999,607

COVID-19	Ranks			
Market Capitalization During COVID-19	Positive Ranks	163[e]	663.86	108,209
	Ties	192[f]		
	Total	1.680		
Trading Volume Activity Before COVID-19	Negative Ranks	856[g]	780.25	667,894.5
Trading Volume Activity During COVID-19	Positive Ranks	721[h]	799.39	576,358.5
	Ties	103[i]		
	Total	1,680		

a. Stock Price During COVID-19 < Stock Price Before COVID-19; b. Stock Price During COVID-19 > Stock Price Before COVID-19; c. Stock Price During COVID-19 = Stock Price Before COVID-19; d. Market Capitalization During COVID-19 < Market Capitalization Before COVID-19; e. Market Capitalization During COVID-19 > Market Capitalization Before COVID-19; f. Market Capitalization During COVID-19 = Market Capitalization Before COVID-19; g. Trading Volume Activity During COVID-19 < Trading Volume Activity Before COVID-19; h. Trading Volume Activity During COVID-19 > Trading Volume Activity Before COVID-19; i. Trading Volume Activity During COVID-19 = Trading Volume Activity Before COVID-19

Table 7 Mining Sector's Wilcoxon Test Statistics

	Stock Price before COVID-19 Stock Price During COVID-19	Market Capitalization Before COVID-19 Market Capitalization During COVID-19	Trading Volume Activity Before COVID-19 Trading Volume Activity During COVID-19
Z	-26.641[b]	-26.885[b]	-2.53[b]
Asymp. Sig (2-tailed)	0.000	0.000	0.011

Tabel 6 shows the difference happening between stock price, market capitalization, and trading volume activity before and during the Covid-19 pandemic in the mining sector. The results show that there are 1,325 stock prices that are decreasing, 163 stock prices that are increasing, 192 stock prices that do not change with the total data of 1,680.

On market capitalization variable there are 1,325 decreasing data, 163 increasing, and 192 remaining the same with the total number of data used being 1,680 data.

On trading volume activity variable there are 856 increasing data, 721 decreasing data, and 103 data that do not change with the total of 1,680 data.

Table 7 shows the hypothesis test for the mining sector. The result shows that the asymp. Sig. for stock price is less than 5% which means there is a significant difference between stock price before and during Covid-19. The same result was also found by Christianti et al. [4]. The Covid-19 pandemic might cause a firm income to decrease since Covid-19 will make customers spend less money on some products because of a change of priorities. The presence of Covid-19 also makes a firm expense to go up because a firm has to make sure

that their employees are vaccinated, and have their work environment to be sterile. Covid-19 also decreases the production rate and disturbs the distribution of a product. Which all will lead to a decrease in firm net income. A decremental in net income will make investors have less desire to buy the stock which will make the demand for a share go down. When demand goes down, the price will also go down.

The result shows that the asymp. Sig for market capitalization is less than 5% which means there is a significant difference between market capitalization before and during Covid-19. A similar result was also founded by Wisniewska and Kuzma [7]. On their research, there was a significant difference in market capitalization before and after Covid-19. This may happen because Covid-19 presence is considered as a negative signal by investors. In mining sector, the presence of Covid-19 has caused multiple projects to be postponed. Such information led investors to think that the price of a share will go down in the future. This will push investors to hold their money and decide not to buy the share. Such action will lead to the share price of a firm to go down and at the same time market capitalization will also go down because market capitalization is gained by multiplying share price and outstanding share.

The result shows that the asymp. Sig for trading volume activity is less than 5% which means there is a significant difference between trading volume activity before and during Covid-19. This research has similar research to Tarigan et al [6], but a different result is founded by Dewi and Masituloh [14] A decremental in trading volume might be caused by negative impacts of Covid-19 to mining sector like a postpone on projects and decrease in income or rise in expenses which led investors to sell their share because of future share price prediction that does not look very convincing. At the same time, no one or only a few people want to buy the stock. Which result there is not many transactions happening in the stock exchange. Investors during a certain event, tends to take a negative decision [15].

4. CONCLUSION

The aim of this research is to find if there is a difference in stock price, market capitalization, and trading volume activity before and during Covid-19. Based on this research, it can be seen that differences in stock price, market capitalization and trading volume before and during the COVID-19 pandemic in agriculture and mining companies.

Pandemic Covid-19 is a poor sentiment for investors. They worried about future price movements and sold their shares. The company's stock price will decrease due to decreased demand and increased supply. Pandemic COVID-19 disrupts the economy in many countries and profits in many companies. It is a poor signal for investors and potential investors. Profit income will decrease and make investors sell their shares. If the share supply increases and share demand decreases, the share price decrease.

The existence of COVID-19 makes investors prefer to secure their funds which causes price declines. A share price decrease causes a decrease in market capitalization.

COVID-19 caused mining company production to decline. Its projects delay, and revenues declined. Investors want to secure their funds due to the prediction of prices. Investors sell their shares, and share prices decrease. A share price decrease makes market capitalization decreasing

The decrease in stock trading volume makes investors have been worried. They wanted to secure their funds. They are concerned about the decline in stock prices in the future. Investors sell their shares, but no potential investors buy them in the capital market. The trading volume can be a decline.

The limitation of the studies is the observation period. The study uses an eighty-two-day period. The types of industries in this research are agriculture and the mining industry. Further research uses the other industries sectors such as the basic-chemical industry, the property-real estate, the infrastructure, utilities, and transportation. Future research can also use an observation period of three months before and three months during the COVID pandemic.

This study measures stock prices using closing prices. Further research can use other variable measurements such as the average stock price, market capitalization, and average stock trading.

While this research is far beyond perfect, may this research be useful for readers. For company management, since this research found that there are differences in stock price, market capitalization, and trading volume activities before and during Covid-19, management are expected to understand that there are differences in stock price, market capitalization, and trading volume activities before and during Covid-19, therefore management are expected to be able to take an action to prevent stock price, market capitalization and trading volume activity from falling. For investors, may this research help investors to reach a conclusion in their investing activities, investors might want to invest their money in companies that have a high chance to keep their stock price and market capitalization as stable as possible or increasing, investors should also look at the trading volume activity to indicate if there exists a good demand for the stock to avoid losses. Lastly, for further research, may this research help future researchers in terms of providing references.

ACKNOWLEDGMENT

REFERENCES

[1] Antono, Z. M., Jaharadak, A. A., & Khatibi, A. A. (2019). Analysis of factors affecting stock prices in mining sector: Evidence from Indonesia Stock Exchange. Management Science Letters, 9(10), 1701–1710. https://doi.org/10.5267/j.msl.2019.5.018

[2] Azis, M., Mintarti, S., Nadir, M. (2015). Manajemen Investasi Fundamental, Teknikal, Perilaku Investor dan Return Saham. Yogyakarta: Grup Penerbitan CV BUDI UTAMA.

[3] Susilawati, C. D. K. (2012). Analisis Perbandingan Pengaruh Likuiditas , Solvabilitas , dan Profitabilitas Terhadap Harga Saham pada Perusahaan LQ 45. Jurnal Akuntansi, 4(2), 165–174.

[4] Christianti, V., Budhy Pratama, V., Rahayu, D., Nur Ilman, F., & Verdania Latif, D. (2021). Analysis of Differences in Share Prices Before and in Covid-19 Pandemic Era (Case Studies in The Sub-Sector of Telecommunications, Hotel And Tourism, Health,

BUMN Finance, and Transportation Listed on The Indonesia Stock Exchange). Turkish Journal of Computer and Mathematics Education (Vol. 12, Issue 11).

[5] Kumar, M. P., & Kumara, N. V. M. (2020). Market capitalization: Pre and post COVID-19 analysis. Materials Today: Proceedings, 37 (Part 2), 2553–2557. https://doi.org/10.1016/j.matpr.2020.08.493

[6] Tarigan, P., Christelia, S., Wangsih, Chintya, I., & Yohana. (2021). IMPACT OF THE COVID-19 PANDEMIC ON THE PRICE AND VOLUME OF STOCK TRANSACTIONS IN HOSPITALS IN INDONESIA. Jurnal Riset Ekonomi (Vol. 1, Issue 2).

[7] Wiśniewska, M., & Kuźma. (2020). IMPACT OF THE COVID-19 PANDEMIC ON THE MARKET VALUE OF COMPANIES FROM POLISH NEW CONNECT MARKET. Torun Business Review August, 10–19.

[8] Zaky, M., Utomo, S. D., Suhartono, E., Ali, S., & Ghulam, W. A. (2020). Stock market reaction to COVID-19: Evidence in customer goods sector with the implication for open innovation. Journal of Open Innovation: Technology, Market, and Complexity, 6(4), 1–13. https://doi.org/10.3390/joitmc6040099

[9] Spence, M. (1973). Job Market Signaling. The Quarterly Journal of Economic, 87(3), 355–374. https://doi.org/10.1055/s-2004-820924

[10] Fama, E. F. (1970). Efficient Capital Markets: A Review of Theory and Empirical Work. The Journal of Finance, 25(2), 383–417.

[11] Gumanti, T. A., & Utami, E. S. (2002). Bentuk Pasar Efisien dan Pengujiannya. Jurnal Akuntansi & Keuangan. 54-68

[12] Ghozali, Imam. 2016. Aplikasi Analisis Multivariete Dengan Program IBM SPSS 23 (Edisi 8). Cetakan ke VIII. Semarang : Badan Penerbit Universitas Diponegoro.

[13] He, P., Sun, Y., Zhang, Y., & Li, T. (2020). COVID–19's Impact on Stock Prices Across Different Sectors—An Event Study Based on the Chinese Stock Market. Emerging Markets Finance and Trade, 56(10), 2198–2212. https://doi.org/10.1080/1540496X.2020.1785865

[14]] Dewi, C. K., & Masituloh, R. (2020). JKSE AND TRADING ACTIVITIES BEFORE AFTER COVID-19 OUTBREAK. Research Journal of Accounting and Business Management.

[15] You, X., Jia, S., Dou, J., & Su, E. (2020). Is organizational slack honey or poison? Experimental research based on external investors' perception. Emerging Markets Review, 44(December 2019), 100698. https://doi.org/10.1016/j.ememar.2020.100698