Jurnal Ilmu Sosial dan Pendidikan (JISIP)
Vol. 8 No. 2 Maret 2024
e-ISSN : 2656-6753, p-ISSN: 2598-9944
DOI: *10.58258/jisip.v7i1.6694/http://ejournal.mandalanursa.org/index.php/JISIP/index*

Comparative Analysis of Stock Performance before and after Auto Rejection Determination Asymmetric in Companies Listed on the IDX

Friska Anarisma Sianturi[1], Abdillah, Ahmad Pauji[2]
Program Studi Akuntansi, Fakultas Ekonomi dan Bisnis, Universitas Pertiwi

Article Info
Article history:
Received : 30 January 2024
Published : 01 March 2024

Keywords:
Stock Performance, Asymmetric Auto Rejection

Abstract
The asymmetric auto rejection policy has an impact on stock performance, namely influencing investors' perceptions of the security and quality of order execution. Comparing stock performance before and after establishing asymmetric auto rejection can provide benefits for market players, namely evaluating effectiveness in improving market integrity and protecting investors. The aim of this research is to analyze the comparison of stock performance before and after the establishment of asymmetric auto rejection in companies listed on the IDX. The method used in this research is quantitative by collecting data in the form of historical stock data before and after the asymmetric auto rejection policy. The data analysis in this research used statistical tests with the help of SPSS version 26, namely paired t-test samples. The results of this research show that there is no significant difference between stock performance before the asymmetric auto rejection policy was implemented and stock performance after the asymmetric auto rejection policy was implemented. This is because the average value is only different by 0.033. Apart from that, the significance value is 0.975. This means that if it is greater than 0.05, H0 is accepted and H1 is rejected.

Info Artikel
Article history:
Diterima : 30 Januari 2024
Publis : 01 Maret 2024

Abstrak
Kebijakan Auto rejection asimetris memberikan dampak pada kinerja saham yakni mempengaruhi persepsi investor terhadap keamanan dan kualitas eksekusi pesanan. Adanya perbandingan kinerja saham sebelum dan setelah penetapan auto rejection asimetris dapat memberikan manfaat bagi pelaku pasar yakni mengevaluasi efektivitas dalam meningkatkan integritas pasar dan melindungi investor. Tujuan penelitian ini yaitu untuk menganalisis perbandingan kinerja saham sebelum dan setelah penetapan auto *rejection* asimetris pada perusahaan yang terdaftar di BEI. Metode yang digunakan dalam penelitian ini yaitu kuantitatif dengan pengumpulan data berupa data historis saham sebelum dan setelah kebijakan auto rejection asimetris. Adapun analisis data dalam penelitian ini menggunakan uji statistik dengan bantuan SPSS versi 26 yakni sampel paired t-test. Hasil penelitian ini menunjukan bahwa tidak terdapat perbedaan yang signifikan antara kinerja saham sebelum penetapan auto rejection asimetris dengan kinerja saham setelah penetapan kebijakan auto rejection asimetris. Hal ini dikarenakan rata-rata nilanya hanya berbeda 0,033. Selain itu nilai signifkansinya 0,975. Artinya lebih besar dari 0,05 maka H0 diterima dan H1 ditolak.

Corresponding Author:
Friska Anarisma Sianturi
Universitas Pertiwi
Email :anarismasianturi@gmail.com

1. INTRODUCTION

Indonesia is a developing country that needs a lot of capital to increase its economic development. Economic growth is a development in economic activities that causes goods and services produced in society to increase from one period to another. A growing economy tends to create an environment that supports company growth. Companies that do well in good economic conditions can see increased profits and performance, which is reflected in the value of their shares.

Positive economic development can increase investor confidence. Investors tend to be more optimistic and willing to invest in stocks when the economy grows, creating upward pressure on stock prices. So it can be said that stock performance tends to follow the business cycle. When the economy enters a growth phase, stocks generally perform well.

Conversely, in a recession, stock performance can weaken. This means that a developing economy can attract foreign investment. This could provide an additional boost to stock performance due to increased interest from foreign investors.

Stock performance can be closely related to the Composite Stock Price Index (IHSG) on the Indonesian stock market. JCI movements often reflect general market conditions. If the performance of leading companies listed on the IHSG is good, then the IHSG tends to rise, and vice versa. This means that stock performance and IHSG (Composite Stock Price Index) have a close relationship, and IHSG is often used as an indicator of the performance of the Indonesian stock market as a whole.

The IHSG reflects the overall performance of the Indonesian stock market, providing an overview of how the market is performing. Individual stock performance can be influenced by the overall trend reflected in the IHSG. So the JCI is often considered an indicator of overall economic conditions. Good economic conditions can have a positive impact on company performance. However, in reality the JCI continues to decline after previously experiencing a bullish trend at the end of December 2019. On March 2 - 8 2020 there was a decline of 10.75%, the JCI even touched 3,937.63 on March 24 2020, which was the lowest figure in one year. final[1].

JCI observations for investors are the main indicator for understanding the direction of the stock market as a whole. Therefore, changes in the JCI can create a sentiment effect in the market. If the implementation of asymmetric auto rejection positively affects market stability, it can also create a positive impact on the JCI. This shows that this mechanism is able to create healthy trading conditions.

The asymmetric auto rejection policy has an impact on stock performance, namely influencing investors' perceptions of the security and quality of order execution. Asymmetric auto rejection is a mechanism that can identify and reject orders that are considered to have the potential to harm market stability. Prior to the implementation of asymmetric auto rejection there may have been variations in order execution and possibly higher risks related to imbalances in the market. After implementing this policy, this asymmetric auto rejection effect is able to create a more controlled trading environment and prevent the potential for significant errors. This means that if asymmetric auto rejection is implemented effectively, it can reduce the risk of errors, create a stable trading environment, and give investors' confidence and support more consistent stock performance.

Comparing stock performance before and after establishing asymmetric auto rejection can provide benefits for market players, namely evaluating whether this step is effective in improving market integrity and protecting investors. Therefore, comparing stock performance before and after implementing auto rejection has an important role in evaluating the impact of these changes. This means that with a better understanding of the impact of asymmetric auto rejection, investors can make decisions and adapt strategies to suit market conditions.

Based on this background, the researcher is interested in carrying out his findings entitled "Comparative Analysis of Stock Performance Before and After the Determination of Asymmetric Auto Rejection in Companies Listed on the IDX" in order to contribute to academic literature and provide practical information about the extent of differences in stock performance before and after determination of asymmetric auto rejection.

2. RESEARCH METHOD

Research design is the most important step in providing direction to the research problem. Research design is also the guidelines and steps that researchers will follow to conduct research [2]. Therefore, research design plays an important role in the process of

scientific inquiry, as it offers a systematic structure for the organization, implementation and evaluation of research investigations. The term research design refers to a comprehensive research plan and framework that guides the researcher in the process of collecting and analyzing data to investigate a specific research hypothesis [3].

The design used in this research is quantitative research. Quantitative research is research that is inferential in nature in the sense of drawing conclusions based on the results of statistical hypothesis testing using empirical data from data collection through measurement.[4]. There are also those who state that quantitative research methods are methodologies based on data from measurements of existing research variables[5]. Good design planning will improve the quality of quantitative research results. With convincing quality, explanations of research results can only be related to the factors in the research[6].

Data collection is defined as a process or activity carried out by researchers to reveal or capture various phenomena, information or conditions of research subjects in accordance with the research focus. In simple terms, data collection can be interpreted as a researcher's activity in an effort to collect the amount of field data needed to answer research questions[7]. Data collection techniques are methods or approaches used to collect information or data needed in a study.

The data collection used in this research is historical stock data before and after the asymmetric auto rejection policy. Historical stock data provides the basis for analyzing stock performance, identifying trends, and making predictions about future market behavior. Analysis of historical stock data can help investors, financial analysts, and researchers to make more informed investment decisions and understanding of stock market dynamics. Apart from that, it also uses documentation studies, namely the company's annual financial reports and other documents related to the research.

Sampling technique is something that is very necessary in research, because it is used to determine the units of the population that will be used as samples[8]. The sampling technique in this research used a purposive sampling technique. The purposive sampling technique is an approach to sampling that is carried out deliberately and based on certain considerations. In line with this, there are also those who say that purposive sampling is a sampling technique with certain considerations[9]. This consideration aims to obtain samples that have the characteristics or characteristics that are used or needed for research[10]. So it has the advantage of getting in-depth information. The samples taken from this research were the cosmetics and household goods subsectors listed on the IDX. The operationalization of the variables in this research is as follows:

Table 1. Variable Operationalization

Variable	Definition	Dimensions	Measurement
Stock performance	a measurement of achievements achieved by the management of company shares and can reflect the health condition of the company	Stock returns[11]	ROA
Asymmetric auto rejection	The rejection limit of a trading system in which the stock's maximum increase limit (upper limit) and maximum decrease limit (lower limit) are not the same	Policy setting time[12]	Policy assignment status

Data analysis techniques are the methods used by researchers to investigate, process and interpret data in the context of research. The aim of this is to gain a better understanding

of the patterns, relationships or characteristics contained in the data. The data analysis in this research used statistical tests with the help of SPSS version 26, namely the sample paired t-test. The paired sample t test is a test used for two paired samples, but given different treatment[13].

Data analysis techniques using paired t-test are used when there are two sets of related or interdependent data, such as observations measured at two different times or under two different conditions. In the context of research comparing stock performance before and after asymmetric auto rejection, the paired t-test can be useful to test whether there are significant differences between two conditions or time periods.

The application of the paired t-test allows researchers to evaluate the significant impact of a policy or change on stock performance variables. In this case, namely stock performance before determining asymmetric auto rejection and stock performance after determining asymmetric auto rejection. The existence of a paired t-test sample test can help assess significant differences between the two conditions.

The sample paired t test is part of parametric statistics, so the main requirement is that the data must be normally distributed. Therefore, a normality test using Shapiro-Wilk is needed first before carrying out the paired sample t test. The Shapiro Wilk test is used to identify whether a random variable follows a normal distribution. This test is often applied in regression analysis to check the normality assumption. The Shapiro Wilks test is used to identify whether a random variable has a normal distribution or not[14]. If the data is not normally distributed, the research can use one of the non-parametric statistical tests, namely the Wilcoxon test[15].

3. RESEARCH RESULTS AND DISCUSSION

3.1 Research result

Table 2. Descriptive Research Results

Descriptive

			Statistics	Std. Error
ROA before	Mean		4.5444	1.35955
	95% Confidence Interval for Mean	Lower Bound	1.4093	
		Upper Bound	7.6796	
	5% Trimmed Mean		4.4549	
	Median		2,0000	
	Variance		16,635	
	Std. Deviation		4.07864	
	Minimum		.10	
	Maximum		10.60	
	Range		10.50	
	Interquartile Range		7.30	
	Skewness		,397	,717
	Kurtosis		-1,944	1,400
ROA after	Mean		4.5778	1.20609
	95% Confidence Interval for Mean	Lower Bound	1.7965	

	Upper Bound	7.3590	
	5% Trimmed Mean	4.5198	
	Median	4.7000	
	Variance	13,092	
	Std. Deviation	3.61828	
	Minimum	.30	
	Maximum	9.90	
	Range	9.60	
	Interquartile Range	7.25	
	Skewness	,227	,717
	Kurtosis	-1,640	1,400

The descriptive test above shows that the average ROA before determining asymmetric auto rejection is 4.5444. Meanwhile, ROA after determining asymmetric auto rejection is 4.5778. Based on this, it can be said that the ROA after determining auto rejection is higher than the ROA before determining asymmetric auto rejection.

Table 3. Normality Test

Tests of Normality

	Shapiro-Wilk		
	Statistics	df	Sig.
ROA before	,849	9	,072
ROA after	,916	9	,358

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Data normality testing in this study used Shapiro Wilk. Based on the data above, it can be seen that the data is normally distributed. This can be proven by a significance value of more than 0.05, namely ROA before determining asymmetric auto rejection, namely 0.072 and after asymmetric auto rejection, 0.358.

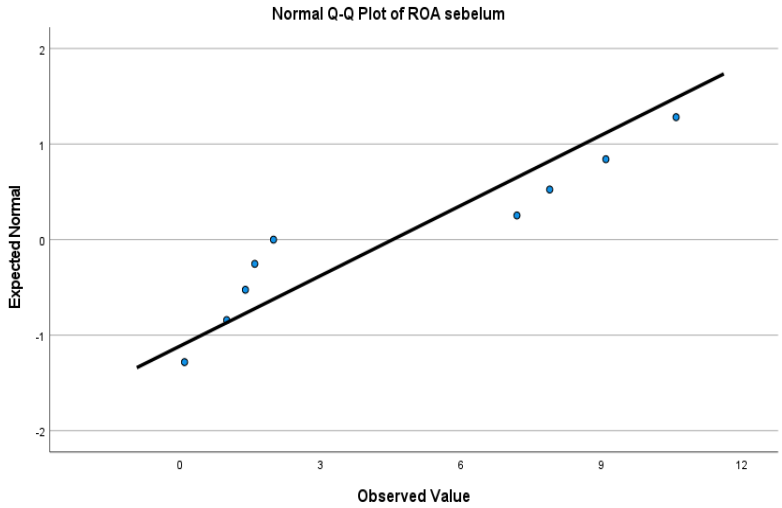

Figure 1. Normal QQ ROA Plot before Asymmetric Auto Rejection

The QQ ROA plot test before determining asymmetric auto rejection shows that the data is normally distributed. This can be seen based on the dots that spread close to the diagonal line. So it can be said that the normality assumption is met

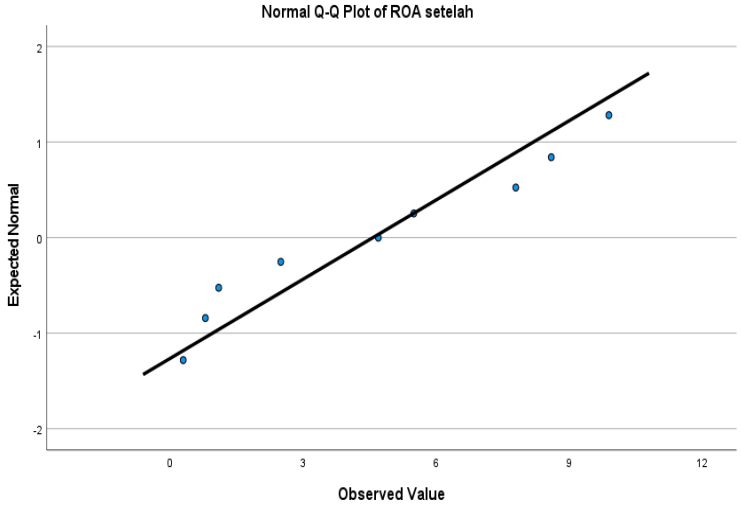

Figure 2. Normal QQ ROA Plot after Asymmetric Auto Rejection

The normality test using a QQ plot on ROA after determining asymmetric auto rejection shows that the data is normally distributed. This can be proven by the dots that approach the diagonal line. That is, it can be assumed that normality is met.

Table 4. Paired Samples Statistics Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ROA before	4.5444	9	4.07864	1.35955
	ROA after	4.5778	9	3.61828	1.20609

The results of paired samples statistics show that the average ROA before and after determining asymmetric auto rejection is 4.5444 and 4.5778. This shows that the average ROA after policy enactment is higher than the ROA before policy enactment. This means that there is a difference between ROA before and after the establishment of the auto rejection policy.

Table 5. Paired Samples Test

Paired Samples Test

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	Q	df	Sig. (2-tailed)
ROA before - ROA after	-,03333	3.06594	1.02198	-2.39002	2.32336	-,033	8	,975

Paired samples test shows that there is no significant difference between ROA before and after establishing asymmetric auto rejection. This is because the average value is only

different by 0.033. Apart from that, the significance value is 0.975. This means that if it is greater than 0.05, H0 is accepted and H1 is rejected

3.2 Discussion

Stock performance is the rate of return of a stock within a certain period of time. In this research, stock performance is measured based on ROA. This is supported by the opinion which states that ROA (return of assets) is a profitability ratio that is often used to measure company performance, which is calculated by dividing net profit over total assets.[16]. ROA is a ratio used to measure the ability of company management to gain profits by utilizing the total assets owned. ROA is used to measure management's ability to obtain overall profits (profit). The greater the ROA of a bank, the greater the level of profit achieved in terms of asset use[17].

The time period used in this research is before and after the establishment of the asymmetric auto rejection policy. Asymmetric auto rejection policy is a rule or mechanism implemented in the capital market to impose automatic restrictions on certain transactions, especially share sale transactions, if significant price fluctuations occur in a short period of time. This policy is designed to protect investors and maintain market stability by preventing irrational price fluctuations.

This research uses descriptive statistical tests which aim to describe or provide an overview of the object under study. The descriptive statistical test shows that the average ROA value after determining asymmetric auto rejection is higher when compared to ROA before determining asymmetric auto rejection. This is evidenced by the mean results in the descriptive statistics table for ROA before policy enactment, namely 4.5444 and 4.5778 for ROA after policy enactment. This means that descriptively there is a difference in the average ROA before and after determining asymmetric auto rejection.

As for the skewness and kurtosis values, they are measures of data differences. Skewness shows the size of the slope of the data normality graph, curosis shows the taper of the data normality graph. The normality of the data can be seen by comparing the statistical skewness value divided by the std error skewness or the statistical value kurtosis divided by the std error kurtosis. Based on ROA before policy determination, the statistical value of skewness versus std error skewness was found to be 0.5, while the statistical value of kurtosis versus std error kurtosis was -1.3. As for ROA after policy determination, the statistical value of skewness versus std error skewness was obtained at 0.3, while the statistical value of kurtosis versus std error kurtosis was obtained at -1.2. This shows that the data is normal. In line with the opinion which states that if the score is between -2 and 2 then the data distribution is normal[18].

The data normality test is a test to measure whether the data obtained has a normal distribution so that it can be used in statistics. In other words, the normality test is a test to find out whether the empirical data obtained from the field is in accordance with a certain theoretical distribution, in this case the normal distribution.[19]. The data normality test in this study used Spahiro-Wilk which aims to determine the distribution of data from a small sample. The df value or degrees of freedom is 9, which is less than 50. This is in accordance with the theory which states that the Shapiro-Wilk test is used for data with no more than 50 samples.[20]. This means that if the df value is more than 50 then the normality decision is made using Kolmogorov-Smirnov. Based on these results, the significance value of ROA before and after the establishment of the asymmetric auto rejection policy was obtained, namely 0.072 and 0.358. This shows that the data is normally distributed because the significance value exceeds 0.05. This statement is strengthened by the theory which states that data is said to be normally distributed if the significance value is more than 0.05 (sig.> 0.05)[20]. Normal distribution also known as Gaussian distribution) is a probability

distribution that is symmetric about the mean, indicating that data near the mean occurs more often than data far from the mean[21].

Normality testing in this study also used the QQ plot method. Data that has a normal distribution, the results obtained are in the form of a straight diagonal line. Conversely, the more points in the plot that deviate significantly from a straight diagonal line, the less likely it is that the data set follows a normal distribution[22]. A QQ plot is a scatter diagram created by plotting two sets of data quantiles against each other. If both sets of quintiles come from the same distribution, we should see points forming a roughly straight line. If the QQ plot which is a plot of ordered sample quantiles (x) versus the corresponding standardized quantiles (q) has points that lie close to a straight line, then it is said that the observations are normally distributed[23]. Based on the test results, it was found that the ROA before determining asymmetric auto rejection showed that the data was normally distributed and the ROA after determining asymmetric auto rejection also showed that the data was normally distributed. This can be proven from the dots that spread close to the diagonal line. So it can be said that the normality assumption is met.

The results of paired samples statistics show that there is a difference between ROA before and after the establishment of the asymmetric auto rejection policy. This can be seen from the difference in the average ROA value before and after the policy was implemented, namely 4.5444 and 4.5778. However, based on the paired samples test, it shows that there is no significant difference between stock performance before the asymmetric auto rejection policy was implemented and stock performance after the asymmetric auto rejection policy was implemented. This is because the average value is only different by 0.033. Apart from that, the significance value is 0.975. This means that if it is greater than 0.05, H0 is accepted and H1 is rejected.

4. CONCLUSION

Based on the results of the research and discussion above, it was found that the significance value before policy determination based on the normality test using Spahiro-Wilk was 0.072 and after policy determination was 0.358. This means that the data is normally distributed because the significance value is more than 0.05. The average value of return of assets (ROA) based on statistics shows that there is a difference in stock performance before determining asymmetric auto rejection and stock performance after determining asymmetric auto rejection, namely 4.5444 and 4.5778. However, the paired sample t test shows that there is no significant difference between stock performance before the establishment of asymmetric auto rejection and stock performance after the establishment of the asymmetric auto rejection policy. This is because the average value is only different by 0.033. Apart from that, the significance value is 0.975. This means that if it is greater than 0.05, H0 is accepted and H1 is rejected.

5. ACKNOWLEDGEMENT

First of all, the author would like to express his deep gratitude to his academic supervisor who provided invaluable direction and guidance during this research. The success of this journal cannot be separated from guidance and encouragement to continue to carry out in-depth exploration and analysis. Thank you for your patience and time invested in guiding each stage of the research.

Thanks are also expressed to colleagues who have shared knowledge and insights that have enriched understanding of the research topic. Collaboration and intensive discussions with fellow researchers have enriched the ideas in this journal. All of these contributions form a strong foundation for the success of writing this journal.

6. BIBLIOGRAPHY

[1] G. A. Wijayanti and Kadir, "Dampak Pandemi Covid-19 Terhadap IHSG dan Indeks Harga Saham Sektoral Selama Periode Awal Pandemi di Indonesia," *Indonesian Journal of Human Resource Management*, vol. 1, p. 2, 2022.

[2] Rapingah dkk, Buku Ajar Metode Penelitian, Palu: Feniks Muda Sejahtera, 2022.

[3] Ardyan dkk, Metode Penelitian Kualitatif dan Kuantitatif, Jambi: Sonpedia Publishing Indonesia, 2023.

[4] Djaali, Metodologi Penelitian Kuantitatif, Jakarta: Bumi Aksara, 2020.

[5] Abdilah and Khusna, "Pengaruh Struktur Aset dan Kebijakan Deviden Terhadap Kebijakan Utang (Studi Pada Perusahaan Sub Sektor Lembaga Pembiayaan yang Terdaftar di Bursa Efek Indonesia Tahun 2017-2020)," *Jurnal Kewarganegaraan*, vol. 6, no. 2, pp. 5131 - 5139, 2022.

[6] Adil dkk, Metode Penelitian Kuantitatif dan Kualitatif, Padang: Get Press Indonesia, 2023.

[7] Mardawani, Praktis Penelitian Kualitatif, Yogyakarta: Deepublish, 2020.

[8] Witara dkk, Metodologi Penelitian Bidang Pendidikan, Yogyakarta: Green Pustaka Indonesia, 2023.

[9] Izza dkk, Metodologi Penelitian Kesehatan, Padang: Get Press Indonesia, 2023.

[10] Agustianti dkk, Metode Penelitian Kuantitatif dan Kualitatif, Makassar: Tohar Media, 2022.

[11] M. Regitasari and H. Ernandi, "Analisis Perbedaan Antara Kinerja Saham Sebelum dan Sesudah Pengumuman Right Issue pada Perusahaan yang Terdaftar di Bursa Efek Indonesia (BEI) Periode 2015 dan 2018," *Academia Open*, vol. 5, pp. 1-17, 2021.

[12] Ma'rifah dkk, "Analisis Reaksi Pasar Terhadap Perubahan Auto Rejection 15% Menjadi Auto Rejection Simetris," *Jurnal Ecogen*, vol. 6, no. 4, pp. 616-626, 2023.

[13] R. A. Putra and A. Hanggara, Analisis Data Kuantitatif, Surabaya: Jakad Media Publishing, 2022.

[14] Kusumaningtyas dkk, Konsep dan Praktik Ekonometrika Menggunakan Eview, Lamongan: Academia Publication, 2022.

[15] S. E. Kusuma and J. A. Fridayani, Statistika Inferensial untuk Organisasi dan Bisnis, Yogyakarta: Sanata Dharma University Press, 2023.

[16] E. Fahma, "Pengaruh Kinerja Keuangan melalui ROA dan DER terhadap Harga Saham," *Jurnal Universitas Komputer Indonesia*, pp. 1 - 14, 2019.

[17] A. Setiawan, Financial Engineering pada BUMD Air Minum, Yogyakarta: Deepubish, 2022.

[18] Wardana, Pengantar Aplikasi SPSS Versi 20, Yogyakarta: Kanisius, 2020.

[19] D. W. Sutha, Biostatistika, Malang: MNC Publishing, 2021.

[20] Sitopu dkk, Apikasi SPSS untuk Analisis Data Penelitian Kesehatan, Padang Sumatera Barat: Get Press Indonesia, 2022.

[21] Putri dkk, Statistik Deskriptif, Palembang: Bening Media Publishing, 2020.

[22] Pandriadi dkk, Statistik Dasar, Bandung: Widina Media Utama, 2023.

[23] Kurniawan dkk, Cara Mudah Belajar Statistik Analisis Data & Eksplorasi, Jakarta: Kencana, 2019.

[1] GA Wijayanti and Kadir, "The Impact of the Covid-19 Pandemic on the IHSG and Sectoral Stock Price Indexes During the Initial Period of the Pandemic in Indonesia," Indonesian Journal of Human Resource Management, vol. 1, p. 2, 2022.

[2] Rapingah et al, Textbook of Research Methods, Palu: Feniks Muda Sejahtera, 2022.

[3] Ardyan et al, Qualitative and Quantitative Research Methods, Jambi: Sonpedia Publishing Indonesia, 2023.

[4] Djaali, Quantitative Research Methodology, Jakarta: Bumi Aksara, 2020.

[5] Abdilah and Khusna, "The Influence of Asset Structure and Dividend Policy on Debt Policy (Study of Financing Institution Sub-Sector Companies Listed on the Indonesian Stock Exchange 2017-2020)," Citizenship Journal, vol. 6, no. 2, pp. 5131 - 5139, 2022.

[6] Adil et al, Quantitative and Qualitative Research Methods, Padang: Get Press Indonesia, 2023.

[7] Mardawani, Practical Qualitative Research, Yogyakarta: Deepublish, 2020.

[8] Witara et al, Research Methodology in the Field of Education, Yogyakarta: Green Pustaka Indonesia, 2023.

[9] Izza et al, Health Research Methodology, Padang: Get Press Indonesia, 2023.

[10] Agustianti et al, Quantitative and Qualitative Research Methods, Makassar: Tohar Media, 2022.

[11] M. Regitasari and H. Ernandi, "Analysis of the Differences Between Stock Performance Before and After the Announcement of Rights Issues in Companies Listed on the Indonesia Stock Exchange (BEI) for the 2015 and 2018 Periods," Academia Open, vol. 5, pp. 1-17, 2021.

[12] Ma'rifah et al., "Analysis of Market Reaction to the Change from 15% Auto Rejection to Symmetrical Auto Rejection," Ecogen Journal, vol. 6, no. 4, pp. 616-626, 2023.

[13] RA Putra and A. Hanggara, Quantitative Data Analysis, Surabaya: Jakad Media Publishing, 2022.

[14] Kusumaningtyas et al, Concepts and Practices of Econometrics Using Eview, Lamongan: Academia Publication, 2022.

[15] SE Kusuma and JA Fridayani, Inferential Statistics for Organizations and Business, Yogyakarta: Sanata Dharma University Press, 2023.

[16] E. Fahma, "The Influence of Financial Performance through ROA and DER on Stock Prices," Journal of the Indonesian Computer University, pp. 1 - 14, 2019.

[17] A. Setiawan, Financial Engineering at BUMD Drinking Water, Yogyakarta: Deepubish, 2022.

[18] Wardana, Introduction to the SPSS Version 20 Application, Yogyakarta: Kanisius, 2020.

[19] DW Sutha, Biostatistics, Malang: MNC Publishing, 2021.

[20] Sitopu et al, Application of SPSS for Health Research Data Analysis, Padang, West Sumatra: Get Press Indonesia, 2022.

[21] Putri et al, Descriptive Statistics, Palembang: Bening Media Publishing, 2020.

[22] Pandriadi et al, Basic Statistics, Bandung: Widina Media Utama, 2023.

[23] Kurniawan et al, Easy Ways to Learn Statistics, Data Analysis & Exploration, Jakarta: Kencana, 2019.