Overreaction Anomaly on Indonesia Stock Exchange in The Jii70 Index for 2020-2022

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ABSTRACT

This research aims to analyse the phenomenon of overreaction anomaly, characterised by differences in cumulative average abnormal returns between winner stock portfolios and loser stock portfolios on the Indonesia Stock Exchange (BEI). The sample used in the research included shares of companies in JII70 and was selected using purposive sampling techniques to obtain 12 company shares. The method for calculating abnormal returns in this research uses the market-adjusted model. In addition, an independent sample t-test was chosen as a statistical test to test the difference between cumulative average abnormal return winners and cumulative average abnormal return losers. The results of this study show that the overreaction anomaly phenomenon of the three formations (monthly, quarterly, and semester) only occurs in the monthly formation.

1. INTRODUCTION

An efficient capital market can quickly respond to information, creating a new equilibrium price. It allows investors to reduce the risk of their investment mistakes. Stock prices in efficient markets do not always reflect the equilibrium price. A new equilibrium price will be formed after investors analyze the impact of the information, which emphasizes the importance of the accuracy of the information received. According to Mar'ati (2010), capital market refers to activities related to public offerings and securities trading of public companies related to the securities they issue, as well as institutions and professions related to securities.

Changes in share prices create new news for the public (investors), so investors adjust to every new news that enters the market, whether in the form of good or bad news. Information obtained from the market will change investors' attitudes and behaviour when making decisions because not all investors reason when understanding the information or events that occur.

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Irrational investors will overreact in response to information; if the information they get is bad news, it will make irrational investors decide that shares are experiencing a decline by selling shares that are performing poorly as quickly as possible to get away from it. Losses will be inversely proportional if the information obtained in the form of good news will make investors set prices that are too high.

News received by investors will result in overreaction because some investors behave irrationally in responding to the news, investors' attitudes or responses are irrational due to emotional and psychological factors experienced by investors. Overreaction occurs in the capital market due to information obtained from external parties in the capital market (crisis, inflation, etc.) or from internal parties in the capital market (divisions, dividends, rights issues, mergers, acquisitions, etc.). Overreaction is based on information asymmetry in the form of gaps in information that investors receive from each other. On the other hand, the overreaction phenomenon is an opportunity for investors to implement a contrarian strategy, namely buying shares when there is excessive selling (over-selling) and acting to sell shares when there is excessive buying (selling high).

Overreaction can change the status of shares from the loser category to the winner and vice versa. The overreaction phenomenon can be used to test the hypothesis of an efficient capital market on the Indonesian stock exchange. This research aims to examine the efficiency of the Indonesian capital market, focusing on overreaction. These efforts are still needed to strengthen existing conclusions regarding the efficiency of the Indonesian capital market (Isnawati, 2015).

Overreaction was first discovered by De Bondt and Thaler (1985), who showed that stocks that previously performed poorly (losers) tended to improve, while stocks that previously performed well (winners) tended to worsen over around 36 months. The overreaction observed by Bondt & Thaler (1985) is rooted in the concept of information asymmetry, which describes a situation where there is inequality in the information received by one investor compared to other investors. Investors with access to information act rationally, while those without adequate information tend to make irrational decisions. These decision-making differences lead to abnormal stock price movements, indicating that the market overresponds to information, with varying investor preferences in practice.

Investors in carrying out investment activities need to consider the risks and returns they will obtain. Risk is the risk that will be accepted to get the expected return, while return is the result that investors expect from the funds they invest. Therefore, investors are obliged to analyze whether the profits obtained will be greater than the risks faced. Risks to investors can arise due to information entering the market, such as uncertain political situations, the emergence of government policies, uncertainty in the business world, and the global crisis, which is still hitting the world, including Indonesia.

An anomaly is a phenomenon in the market where things are found that are not supposed to be or there is a situation that is unusual or deviates from the efficient market hypothesis. Anomalies exist in all efficient forms of markets, whether weak, semi-strong or strong. Previous debates about efficient markets still occur frequently today. Several studies have emerged that state that market anomalies are deviations from the efficient market hypothesis and can influence stock prices.

According to Tandelilin (2010), an anomaly is a deviant event or incident that was not anticipated and which offers investors the opportunity to obtain abnormal returns. Cederburg & O'Doherty (2015) stated in their research that an anomaly is a pattern of stock returns that is on average inconsistent with the prevailing model of asset price behavior.

The practical phenomenon of overreaction that occurs in the capital market is experienced by PT Adaro Energy Tbk (ADRO). Information in the form of good news received by PT Adaro Energy Tbk (ADRO) in January 2021, where PT Adaro Energy Tbk (ADRO) will benefit from the increase in coal commodity prices in the market. In the first semester of 2021, this coal mining issuer managed to record net income of USD 1.56 billion or an increase of 15% from the first semester of 2020 at USD 1.36 billion. Meanwhile, ADRO generated operational EBITDA of USD 635 million and core profit of USD 330 million, or an increase of 36% and 45% respectively compared to the same period last year. He said that the company's

financial position is quite strong, production is solid and this year's target is 52-54 million tons (https://economy.okezone.com).

Furthermore, the overreaction phenomenon creates a situation where stocks produce the opposite results to what they should. This can result in price reversals in stocks that typically generate high returns and are in demand, while low-performing stocks will start to gain interest from the market (Yull & Kirmizi, 2011). Investors often change their behavior excessively based on the latest information they receive and tend to correct their actions for subsequent periods. As a result, investors can take less rational actions with the shares they own (Octavio & Lantara, 2014).

Overreaction which often arises due to irrational behavior tends to be carried out by novice investors who have just entered the capital market. This is due to their limited knowledge and experience. Analysts and investment managers usually advise novice investors to invest in shares of companies with good performance, high liquidity levels, and large capitalization (known as blue chips).

Research conducted by Swandewi & Mertha (2013) concluded that there is a relevant difference between winner stock portfolios and loser stock portfolios in manufacturing companies, where the abnormal return on the loser stock portfolio is greater than the abnormal return on the winner stock portfolio. Another research conducted by Pasaribu, (2011) concluded that signs of overreaction did not occur on the Indonesia Stock Exchange (BEI) in all quarterly, semester and annual periods, especially for shares included in LQ-45.

In conclusion, this research aims to analyze overreaction anomalies occurring from monthly, quarterly and semester formations accompanied by differences in cumulative average abnormal returns between winner portfolio shares and loser portfolio shares in companies included in the JII70 index for the 2020-2022 period. It is hoped that the results of this research will provide valuable insight for investors in identifying investment opportunities and avoiding risks that may be associated with overreaction anomalies in the stocks included in the JII70 Index.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT
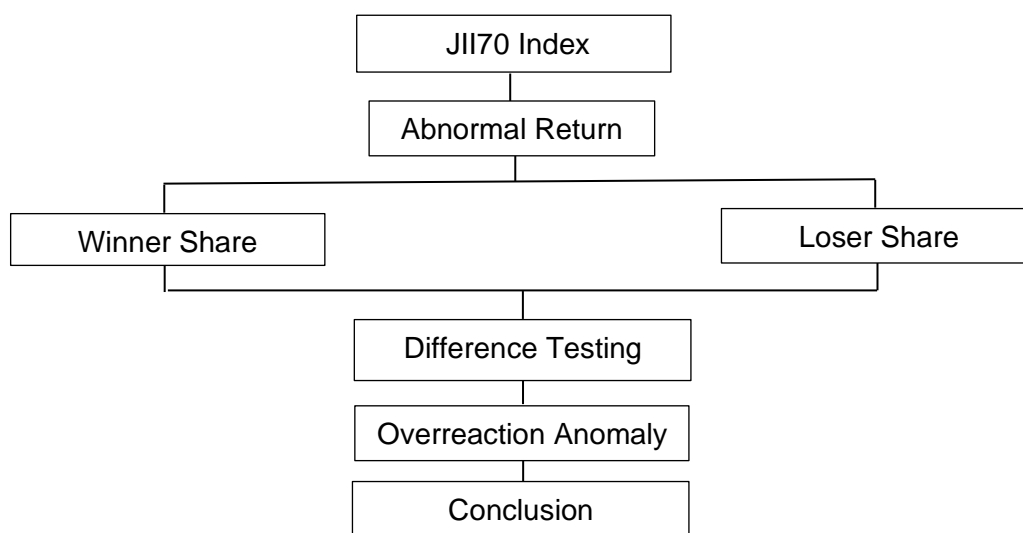
Overreaction Anomaly

Due to the impacts of the investors' misjudgement, the stocks that contain good information tend to be over- or underpriced than it should be. Similarly, a stock price that is associated with bad (good) information tends to be underpriced (overpriced) than it should be (Musnadi et al., 2018; Azmi & Hasmita, 2016). Overreaction is an attitude of analysts and investors who tend to respond to information about unexpected earnings and can cause abnormal returns from shares in the capital market. These investors' predictions will result in an overreaction in the capital market. In addition, overreaction can happen because in receiving information, investors give too much weight to the current information and give less weight to long-term fundamentals (Kaluge & Kinesti, 2022). Moreover, according to Caporale et al., (2019), evidence of anomalies is found predominantly in the case of weekly data. In most cases, strategies based on overreaction anomalies are not profitable, and therefore the latter cannot be seen as inconsistent with the Efficient Market Hypothesis (EMH).

Abnormal Return

Abnormal return is the difference between the actual and expected returns that occurs before the official information is released or there is even an information leak after the official information is released (Samsul, 2015). The return difference will be positive when the return obtained is greater than the calculated return, and conversely the return will be negative if the return obtained is lower than the expected return or calculated return. The impact of the overreaction is that the stock price will change to an extreme and no longer reflect its intrinsic price. The consequence of their overreaction is that the investor can earn abnormal returns. Then, once they realize that the reaction has been excessive, they will start correcting the

reaction following the actual situation. It is what makes the stock price will return to its fair price (Kaluge & Kinesti, 2022).

Based on the description above, the framework for this research can be formulated as follows:

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                    │   JII70 Index    │
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                    ┌──────────────────┐
                    │ Abnormal Return  │
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              ┌──────────────┴──────────────┐
    ┌──────────────────┐          ┌──────────────────┐
    │  Winner Share    │          │   Loser Share    │
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                    │ Difference Testing│
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                    │   Conclusion     │
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Figure 1. Research Framework

3. RESEARCH METHOD

This research uses a comparative research design that compares two or more independent groups. The population in this research are companies included in the JII70 index listed on the Indonesia Stock Exchange (BEI) for the 2020-2022 period, namely 70 companies. The sample is part of the number and characteristics possessed by the population. The sampling technique in this research that will be used is purposive sampling, which is a technique for determining samples with certain considerations according to the object being studied (Sugiyono, 2017). The sampling steps used in this research are: First, companies that have been continuously included in the JII70 Index for 3 years from the 2020-2022 period. In this step, researchers collected data from the idx.co.id site to find out and see which companies were continuously included in the JII70 index during the 3 years of research from the 2020-2022 period. Second, the data will be sorted using ascending based on the intersection point of the average abnormal return of the winner stock portfolio and the intersection point of the average abnormal return of the loser stock portfolio. In this step, researchers took daily closing stock price data from the site www.finance.yahoo.com to calculate daily returns. Once the daily return is known, the average value of the return will be calculated. After obtaining the average daily return value, shares will be grouped between winner portfolio shares and loser portfolio shares. The final step, after grouping winner and loser stocks, is to recalculate the average value (average) to get the cut-off point value. Where the winner shares are above the cut point value while the loser shares are below the cut point value.

Based on these criteria, the number of samples in this study can be taken as 12 companies. The names and list of companies included in this research can be seen in the table 1. Furthermore, the data analysis technique used in this research uses abnormal returns as a benchmark to see overreaction events in the capital market, where investors are expected to think before making a decision when selling or buying shares. In addition, normality test and Independent Sample t-test are employed to analyzed the data.

Table 1. Research Samples

No	Code	Company
1	SIDO	PT Industri Jamu dan Farmasi Sido Muncul Tbk
2	MYOR	PT Mayora Indah Tbk
3	IPTV	PT MNC Vision Networks Tbk
4	MNCN	PT Media Nusantara Citra Tbk
5	WIKA	PT Wijaya Karya (Persero) Tbk
6	ACES	PT Ace Hardware Indonesia Tbk
7	SMGR	PT Semen Indonesia (Persero) Tbk
8	UNVR	PT Unilever Indonesia Tbk
9	AALI	PT Astra Agro Lestari Tbk
10	INTP	PT Indocement Tunggal Prakasa Tbk
11	PTPP	PT PP (Persero) Tbk
12	DMAS	PT Puradelta Tbk

Source: Secondary data, 2024

4. RESULTS

The results in descriptive statistics show data from stock returns and abnormal stock returns, while appendices (1, 2, and 3) display the values of the cumulative average abnormal return (CAAR) results of winners and losers in calculation formation (monthly, quarterly, and semester).

Table 2. Descriptive Statistics Analytics

A				B			
Stock Return				*Abnormal Return*			
Code	Min	Max	Mean	STDEV	Code	Min	Max	Mean	STDEV

Code	Min	Max	Mean	STDEV	Code	Min	Max	Mean	STDEV
SIDO	-0,9899	97,4375	0,1318	3,5968	SIDO	-0,9839	97,4297	0,1316	3,5965
MYOR	-0,9901	103,3210	0,1399	3,8139	MYOR	-0,9840	103,3132	0,1397	3,8136
SMGR	-0,1215	0,2000	-0,0004	0,0287	SMGR	-0,0773	0,1782	-0,0006	0,0239
UNVR	-0,0692	0,1938	-0,0006	0,0230	UNVR	-0,0743	0,1313	-0,0007	0,0207
AALI	-0,1546	0,2121	-0,0004	0,0267	AALI	-0,0889	0,1102	-0,0006	0,0220
IPTV	-0,1101	0,3451	-0,0022	0,0371	IPTV	-0,0890	0,2049	-0,0007	0,0000
INTP	-0,1888	0,1995	-0,0005	0,0280	INTP	-0,1389	0,1777	-0,0007	0,0233
PTPP	-0,1403	0,2456	-0,0005	0,0336	PTPP	-0,0890	0,2049	-0,0007	0,0000
WIKA	-0,1821	0,2473	-0,0007	0,0338	WIKA	-0,1320	0,2065	-0,0009	0,0283
MNCN	-0,1308	0,1412	-0,0007	0,0264	MNCN	-0,0866	0,1514	-0,0009	0,0234
DMAS	-0,1071	0,1260	-0,0005	0,0248	DMAS	-0,0969	0,0978	-0,0007	0,0224
ACES	0,0698	0,1591	-0,0012	0,0269	ACES	0,0741	0,1297	-0,0013	0,0245

Source: Secondary data, 2024

Based on table 2, part A shows stock return data which can be seen in the mean results and standard deviation which shows investment risk. Based on the mean results, the first stock that offers the highest return is MYOR stock with a mean value of 0.1399 and has a risk level. Investment of 3.8139, followed by second place, namely SIDO shares with a mean value of 0.1318 and an investment risk level of 3.5968. The first shares that offer the lowest stock returns (highest losses) are IPTV shares, with a mean value of -0.0022 and an investment risk level of 0.0371, followed by second place, namely ACES shares with a mean value of -0.0012 and has an investment risk level of 0.0269. The shares that have the first lowest investment risk are UNVR shares at 0.0230 and the second share is DMAS at 0.0248, conversely the shares that have the first highest investment risk are MYOR shares at 38139 and the second share is SIDO at 3.5968.

In addition, part B shows data on stock abnormal returns which can be seen from the mean and standard deviation results which symbolize investment risk. The mean is 0.1397 and has an investment risk level of 3.8136, followed by second place, namely SIDO shares with a mean value of 0.1316 and has an investment risk level of 3.5965. The first shares that offer the lowest abnormal stock returns (highest losses) are ACES shares with a mean value of -0.0013 and have an investment risk level of 0.0245, followed by second place, namely WIKA shares with a mean value of -0.0009 and has an investment risk level of 0.0283 and

MNCN with a mean value of -0.0009 and has an investment risk level of 0.0234. The shares that have the first lowest investment risk are IPTV shares of 0.0000 and the second share is PTPP of 0.000, conversely the shares that have the first highest investment risk are MYOR shares of 3.8136 and the second share is SIDO of 3.5965.

The analysis in this study uses comparative analysis to carry out hypothesis testing based on comparing one variable with another variable, where in this study a comparison is made between the cumulative average abnormal return (CAAR) of the winner stock portfolio and the loser stock portfolio to determine the occurrence of the overreaction anomaly phenomenon with the conditions The cumulative average abnormal return (CAAR) value of the winner stock portfolio must be negative, while the cumulative average abnormal return (CAAR) of the loser stock portfolio must be positive and the difference between cumulative average abnormal return (Delta CAAR) of the two portfolios must be positive. The formation in this research is divided into three formations (monthly, quarterly, semester) to determine the occurrence of overreaction anomalies during 2020-2022.

Table 3. Cumulative Average Abnormal Return (CAAR) Winner dan Loser per Month

Monthly Formation	CAAR Winner	STDEV	CAAR Loser	STDEV	Sig-t	Delta CAAR
1	-0,0026	0,0091	0,0060	0,0078	0,7600	0,0086
5	-0,0008	0,0131	0,0026	0,0117	0,6900	0,0034
6	0,0009	0,0144	0,0017	0,0103	0,8100	0,0008
7	0,0007	0,0110	0,0010	0,0071	0,8560	0,0003
10	-0,0004	0,0094	-0,0001	0,0087	0,2580	0,0003
11	0,0042	0,0092	0,0045	0,0068	0,9780	0,0088
20	0,0004	0,0104	0,0031	0,0089	0,5820	0,0027
21	0,0001	0,0100	0,0002	0,0112	0,2050	0,0001
22	0,0001	0,0176	0,0021	0,0093	0,5300	0,0020
27	0,0001	0,0178	0,0002	0,0114	0,6390	0,0001
31	-0,0065	0,0077	-0,0021	0,0066	0,3010	0,0044
32	-0,0045	0,0165	-0,0010	0,0066	0,3610	0,0035

Source: Secondary data, 2024

Table 3. shows the results of the difference in calculation between the cumulative average abnormal return of the winner stock portfolio and the loser stock portfolio from the monthly count formation, which can be seen in the 1st, 5th, 6th, 7th, 10th, 11th, 20th, 21st, 22nd, 27th, 31, and 32) experienced a price reversal due to a positive cumulative average abnormal return (Delta CAAR) difference so that a conclusion can be drawn that in that month there was an overreaction, while in other months there was no price reversal, which indicates that there was no overreaction due to the difference negative cumulative average abnormal return (Delta CAAR). After further study, based on the conditions for overreaction anomalies, only months (1 and 5) experienced overreaction anomalies, while in months (6, 7, 10, 11, 20, 21, 22, 27, 31, and 32) only experienced overreaction.

Table 4 shows that there was a price reversal in the calculation formation (quarter 2 and quarter 11). The results of the calculation difference between the cumulative average abnormal return of the winner and loser stock portfolios (Delta CAAR) showed that there was a price reversal in the calculation formation (quarter 2 and quarter 11) due to the results obtained by the cumulative average abnormal return loser can exceed the results obtained by the cumulative average abnormal return winner, so that Delta CAAR (result of the difference between cumulative average abnormal returns) gets a positive value but in the formation (quarter 2 and quarter 11) it only shows an overreaction, meanwhile in other quarters showed no difference.

Table 4. Cumulative Average Abnormal Return (CAAR) Winner dan Loser per Quarter

Quarterly	CAAR Winner	STDEV	CAAR Loser	STDEV	Sig-t	Delta CAAR
Quarter 1	0,0022	0,0060	-0,0562	0,05720	0,300	-0,0584
Quarter 2	0,0007	0,0027	0,0024	0,00195	0,1140	0,0017
Quarter 3	0,0017	0,0021	0,0001	0,00168	0,2340	-0,0017
Quarter 4	0,0019	0,0027	0,0016	0,00281	0,8780	-0,0003
Quarter 5	-0,0009	0,0016	-0,0023	0,00140	0,380	-0,0014
Quarter 6	-0,0022	0,0039	-0,0203	0,02293	0,2830	-0,0181
Quarter 7	-0,0001	0,0003	-0,0002	0,00229	0,8910	-0,0002
Quarter 8	0,0003	0,0005	-0,0002	0,00164	0,9430	-0,0006
Quarter 9	-0,0015	0,0016	-0,0015	0,00155	0,0640	0,0000
Quarter 10	1,5796	2,7347	-0,0005	1,93403	0,3630	-1,5801
Quarter 11	-0,0030	0,0044	-0,0014	0,00295	0,1270	0,0017
Quarter 12	0,0084	0,0063	0,0014	0,00605	0,1040	-0,0070

Source: Secondary data, 2024

Table 5. Cumulative average Abnormal Return (CAAR) Winner dan Loser per Semester

Semester	CAAR Winner	STDEV	CAAR Loser	STDEV	Sig-t	Delta CAAR
Mid 1	0,0015	0,0031	-0,0269	0,0036	0,2020	-0,0284
Mid 2	0,0003	0,0102	0,0008	0,0143	0,1980	0,0006
Mid 3	-0,0015	0,0036	-0,0113	0,0566	0,3870	-0,0097
Mid 4	0,0001	0,0026	-0,0002	0,0021	0,2480	-0,0004
Mid 5	0,7890	0,0027	-0,0010	0,0028	0,7900	-0,7900
Mid 6	0,7605	2,4025	0,0000	0,0243	0,1690	-0,7605

Source: Secondary data, 2024

Table 5 shows that there was a price reversal in semester 2, but based on the value of the significance level it was normally distributed. Meanwhile, the results of the calculated difference between the cumulative average abnormal return of the winner and loser stock portfolios (Delta CAAR) in the semester calculation formation (1, 3, 4, 5, and 6) did not experience a price reversal, because the result of the difference in the cumulative average abnormal return (Delta CAAR) obtained a negative value, this situation was caused because the results of the cumulative average abnormal return winner (CAARW) were greater than the cumulative average abnormal return loser (CAARL) but the calculation formation in semester 2 only showed an overreaction.

Discussions

The research results in this study show that of the three count formations, there is an overreaction anomaly in the monthly count formation, namely in the 1st and 5th months, while the semester and quarter count formations only show an overreaction. The results of hypothesis testing state that overreaction does not occur over a long period of time but occurs over short and separate periods, as in the research conducted by Rahmawati & Suryani (2005). Overreaction in the monthly formation can only show seven price reversals, whereas

the overreaction anomaly that can experience in the monthly formation occurs in the 1st and 5th months where the winner stock portfolio which should have a positive value becomes negative and the loser stock portfolio which should have a negative value becomes positive, so this can cause overreaction anomalies in monthly and quarterly formations.

The overreaction anomaly occurs in a short period of time because investors will immediately overreact when they receive information or news that might have an impact on the price of the shares invested in by the investor, however, this overreaction anomaly can also be caused by deliberate factors from investors trying to increase and lowering the price of shares owned by buying or selling shares owned in large quantities, so that investors who have a lot of capital can regulate and control share prices.

The results of the monthly formation calculations in months 1 (January 2020) and 5 (May 2020) fulfill the requirements for an overreaction anomaly with a cumulative average abnormal return winner (CAARW) of -0.0026 and -0.0008, cumulative average abnormal return winner (CAARW). CAARL) 0.0060 and 0.0026, while the results of the difference in cumulative average abnormal return (Delta CAAR) are 0.0086 and 0.0034. The results of calculating overreaction anomalies in monthly calculations for months 1 (January 2020) and 5 (May 2020) are supported by what Pasaribu (2011) said in his research, which explains that to determine the occurrence of overreaction anomalies, the value of the cumulative average abnormal return winner (CAARW) must be of value. negative, while the cumulative average abnormal return loser (CAARL) must be positive and the difference in cumulative average abnormal return (Delta CAAR) must be positive.

The overreaction anomaly is a sign that the Indonesian capital market, especially companies included in the JII70 Index, have market conditions whose efficiency is in weak form. The overreaction anomaly that occurred in the 1st month (January 2020) and 5th (May 2020) was caused by the fact that in the 1st month (January 2020), as taken from economy.okezone.com, the largest consumer products company, Unilever, was one of the company shares included. In the JII70 index, sales experienced a slowdown and did not meet sales targets. Unilever has sold its products in 190 countries. The slowdown in manufacturing and agriculture resulted in layoffs and reduced consumer demand, forcing companies to cut prices and causing a decline in company sales. The incident experienced by Unilever was in the spotlight of the world market, in January 2020 sales were below 3% to 5%, while in the 5th month (May 2020) it recorded a decline in net profit in the second quarter of 2020, Unilever recorded a net profit of IDR 3.04 trillion or 15.85% lower compared to 30 June 2019 of 3.61 trillion.

Moreover, the food selection category was one of the main pillars of profit growth in the second quarter of 2020. Apart from that, FMCG market growth was disrupted due to the COVID-19 pandemic, which caused consumers to be careful when choosing consumption patterns in several categories. These various challenges have greatly influenced the company's growth rate, this condition is also coupled with rising commodity prices, which are starting to affect product costs. These events can cause the condition of the Indonesian capital market to become weak and many parties will seek to profit from this condition by playing with share prices in the capital market, causing the composite share price index (IHSG) value to shake and lead to a new value, so that Based on the results of calculations in the research, it can cause overreaction anomalies that occur in the 1st month (January 2020) and 5th (May 2020).

In the quarterly and semester formations in this research, no overreaction anomalies were found because investor behavior tends to be quick in responding to information, so that relatively long calculation formations are difficult or even impossible to find overreaction anomalies, as is the case in research experienced by Pasaribu (2011) which shows symptoms of overreaction anomaly in shares included in the LQ45 index on the Indonesia Stock Exchange (BEI) is not found in all periods (quarterly, semester and yearly) the cause is that the formation period used is too long so that the cumulative average abnormal return loser (CAARL) value cannot outperform the cumulative average abnormal return winner (CAARW) value.

The results of this research provide a lot of information that can be used as a consideration for potential investors in assessing information in investing where the information on the investment obtained can change inversely to what is desired, which can cause an overreaction anomaly. The information that causes the overreaction anomaly occurs in a short time because when the information spreads, investors will start thinking irrationally, which causes investors to start overreacting when investing. Moreover, overreaction anomalies occur only within a short calculation time and occur separately, whereas over a relatively long period of time, no overreaction anomaly can be found because investors who receive information will immediately have a reaction after knowing whether the information will have an impact on their investment or not, so that in over a relatively long period of time, the overreaction anomaly cannot be proven.

5. CONCLUSION

Based on the data analysis and discussion results, this research can conclude that: First, The phenomenon of overreaction anomaly in companies included in the JII70 index in three forms of calculation formation, namely: monthly, quarterly and semester, is only found in monthly formations. Overreaction anomalies often occur over a short period of time and do not occur repeatedly, whereas over a long period of time overreaction anomalies cannot be found. Second, an overreaction anomaly that occurs because the cumulative average abnormal return loser (CAARL) has a positive value and outperforms the cumulative average abnormal return winner (CAARW) which has a negative value. The difference between the two is what indicates an overreaction anomaly.

In addition, it is suggested for the investors to filter the information they get because information or news, whether positive or negative, should be accepted wisely by investors and not immediately decide to sell their shares at a higher or higher price. Investors are also expected to be selective about whether or not the information they receive will influence the company's performance, which in the future will influence share prices, which can rise or fall, which is related to investors' behaviour towards the information they receive.

The form of research formation used in this research has a slightly longer period, so there is very little possibility of an overreaction anomaly occurring, and investor reactions to information will be difficult to indicate. In addition, the sample used in this research is the shares of JII70 index companies, which are companies that are liquid and have good performance and the companies included in this index are not reactive to existing news, so there is little possibility of overreaction anomalies occurring.

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