ISSN No:-2456-2165

# Investigating Dividend Effects on LQ45 Stocks 2017-2022

Efraim, Joey[1*]; Endri, Endri[2]
[1]Universitas Mercubuana, Jakarta, Indonesia
[2]Universitas Mercubuana, Jakarta, Indonesia

Corresponding Author:- Efraim, Joey[1*]

**Abstract:- This study provides valuable insights into the relationship between dividend announcements and their impact on stock returns and trading volume for LQ45 companies. The findings contribute to a better understanding of market dynamics and offer useful information for investors and market participants. This study investigates the influence of dividend announcements on stock returns and trading volume for LQ45 companies. Data was collected from reliable stock market websites using purposive sampling. The collected data underwent rigorous analysis using the Kolmogorov-Smirnov normality test and One-sample T-test in SPSS version 25. The results are noteworthy. Abnormal returns were observed on the day before and after the cum-dividend date for both the good news and bad newsgroups within the LQ45 Index. Furthermore, significant differences were found in the average trading volume activity within the good newsgroup. However, no significant average trading volume activity was observed in the bad newsgroup during the same period.**

***Keywords:-*** *Dividend Announcements, Stock Returns, Trading Volume, LQ45 Companies, Market Dynamics, Cum-Dividend, Good newsgroup, Bad News Group.*

## I. INTRODUCTION

The capital market's development reflects economic progress, where companies sell shares to raise capital, and investors buy shares for profits through dividends and capital gains. Dividend announcements provide valuable insights into a company's prospects, with market reactions impacting stock prices and trading volume. General Shareholder Meetings determine dividend details, such as the amount and important dates. In 2022, there were 319 companies that distributed dividends on the Indonesia Stock Exchange. According to data from the Ministry of Finance (2022), as of July 31, 2022, the government received dividends amounting to Rp 37.9 trillion from state-owned enterprises, with PT Bank BRI (Persero) TBK being the largest contributor, providing dividends of Rp 14.05 trillion.

According to Sih, Gumanti, and Paramu (2019), market reactions to these announcements can lead to changes in stock prices and trading volume. Understanding these dynamics helps investors and market participants make informed decisions in the dynamic capital market. Stock prices in the market are believed to reflect all available information, according to Fama (1970). This concept, known as the efficient market hypothesis, acknowledges that markets can sometimes be inefficient in quickly incorporating new information. Company managers have access to more detailed information about their businesses compared to external investors, creating an information asymmetry. Dividend distribution is a crucial factor for investors when making decisions about buying, holding, or selling stocks. Companies need sufficient cash for dividends and may issue additional shares to maintain financial liquidity. In efficient markets, dividend announcements can lead to abnormal stock price increases, indicating positive company growth prospects. Investors are more likely to buy stocks of companies that announce dividends, anticipating higher returns. Hariyanto and Murhadi (2020) also emphasize the significance of dividend announcements in guiding investor decisions. These announcements provide valuable information for investors seeking exceptional returns.

According to Silalahi and Sianturi (2021), investors use dividend distribution information as a signal for the company's financial condition, while some investors utilize it to obtain dividends, and traders take advantage of the short-term momentum by selling on the cum dividend day and buying back on the ex-dividend day for profit. According to Saragih (2019), market reactions to information can be measured using returns or abnormal returns. Investors predict that dividend distribution will affect stock prices, which can be measured using abnormal stock returns, as stated by Amiruloh and Muis (2019). Foster (1986) suggests that trading volume activity is a parameter to observe market reactions. According to Ningrum and Risman (2022), the market responds to dividend distribution as a signal that can influence stock price movements. This finding is consistent with Jayanti's (2019) research, which suggests that investors react before dividend announcements. When dividend announcements increase, investors respond positively, while a decrease in dividends leads to a negative reaction.

According to research by Devi and Putra (2020), changes in stock prices and trading volume indicate the usefulness of information. Endri *et. al.*(2021) explains that volatility is a barometer of measuring the risk of facing uncertainty which investor consider when purchasing financial assets. Hariyanto and Murhadi's (2021) study reveals positive abnormal returns for increasing or steady

dividend announcements and negative abnormal returns for decreasing dividends, suggesting that dividend announcements provide valuable insights into a company's performance and future prospects. As the findings of Mutiara and Wardhana (2020), there is a positive abnormal return observed two days before the cum-dividend date, indicating a positive market response to dividend distribution information. Additionally, some investors tend to sell their shares on the ex-dividend day, the day after the cum-dividend date, as they are no longer entitled to receive dividends during that period.

This study aims to determine if there are significant differences in stock returns and trading volume before and after dividend announcements among companies listed in the LQ45 stock index from February 2017 to August 2022. Azizah (2020) explains that the Indonesian capital market has relatively low transaction values due to the limited trading activity of most securities. Hence, the LQ45 index was created considering liquidity and market capitalization.

## II. LITERATURE REVIEW

➢ *Efficient Market Hypothesis*

Fama (1991) suggests that an efficient stock market reflects all available information. Efficient markets consider both past and future information, as explained by Kayana et al. (2018). The speed at which stock prices respond to relevant information is examined by the efficient market hypothesis. A faster reflection of new information in stock prices reduces the likelihood of investors obtaining abnormal returns. Company information significantly influences investor decisions and expectations, emphasizing the crucial role of information in the concept of market efficiency.

Transparency in information sharing between issuers and investors, highlighted by Nani, Saerang, and Alexander (2019), contributes to creating an efficient market. Market efficiency is assessed based on the speed and accuracy of market responses to information, as stated by Yustina and Sukmaningrum (2019). It is important to note that market efficiency is not solely determined by information availability but also by market participants' ability to make informed decisions.

Fama (1970) categorizes market efficiency into three forms: weak (reflecting past information), semi-strong (reflecting all publicly available information), and strong (reflecting all information, including private or undisclosed information). Jayanti (2019) explains that in weak-form efficient markets, past information is not useful for investors. Semi-strong form efficient markets involve simultaneous dissemination of information, allowing some investors to assess it before others, as mentioned by Hamanda et al. (2021). An efficient market is driven by investors who possess information and react promptly, resulting in price changes and the establishment of a new equilibrium based on shared knowledge. Since the generation of new information is random, investors who receive it will respond quickly, as its timing cannot be predicted.

➢ *Dividend Announcement & Abnormal Return*

According to Saragih's (2019) research, dividend announcements on the Indonesia Stock Exchange during the period 2015-2016 resulted in abnormal returns five days before and five days after the announcement. This suggests that dividend announcements can be interpreted by market participants as signals of a company's information. Yusrina and Sukmaningrum (2019) found abnormal returns surrounding dividend announcements in the Jakarta Islamic Index. Investors are interested in dividends as they provide a means to reduce uncertainty and adjust their stock ownership. Mutiara and Wardhana's (2020) study discovered abnormal returns on the day of dividend announcements on the Indonesia Stock Exchange during the period 2017-2018, indicating that Indonesian capital market investors still capitalize on dividend announcement events to profit.

Devi and Putra (2020) demonstrated different abnormal returns before and after dividend announcements in the IDX High Dividend 20 index during the period 2019. Dividend announcements are one of the accurate sources of information influencing investor decision-making, as noted by Jayanti (2019). Hariyanto and Muhardi (2021) observed abnormal returns ten days before and ten days after dividend announcements in ASEAN stock exchanges, including Indonesia, Thailand, Singapore, and Malaysia. Hamanda, Mursidi, and Warsono (2021) found abnormal returns surrounding dividend announcements in the food and beverage sector of the Indonesian stock market during the period 2017-2019. Lavista and Utami (2017) also observed abnormal returns surrounding dividend announcements in the Composite Stock Price Index during the period 2014-2016.

- $H1_1$: There is abnormal return in companies categorized as good news before and after dividend announcements in the LQ45 index from 2017 to 2022.

- $H1_2$: There is abnormal return in companies categorized as bad news before and after dividend announcements in the LQ45 index from 2017 to 2022.

➢ *Dividend Announcement & Trading Volume Activity*

According to Saragih's (2019) research, there was an increase in trading volume five days before and five days after dividend announcements on the Indonesia Stock Exchange during the period 2015-2016. This indicates that dividend announcements contain informative value for investors, influencing trading volume. Devi and Putra (2020) found differences in average trading volume activity before and after dividend announcements in the IDX High Dividend 20 index during the period 2019. This suggests that the increase in trading volume reflects investors' response to dividend announcement information.

Lavista and Utami (2017) observed differences in trading volume activity before and after dividend announcements in the Composite Stock Price Index during

the period 2014-2016. Through dividend announcement information, investors can utilize this information by buying stocks before the dividend announcement and selling them on the cum dividend date.

- $H2_1$: There is a difference in average trading volume activity in companies categorized as good news before and after dividend announcements in the LQ45 index from 2017 to 2022.
- $H2_2$: There is a difference in average trading volume activity in companies categorized as bad news before and after dividend announcements in the LQ45 index from 2017 to 2022.

➢ *Framework*

Therefore, the conceptual framework of this research can be represented in the following diagram.

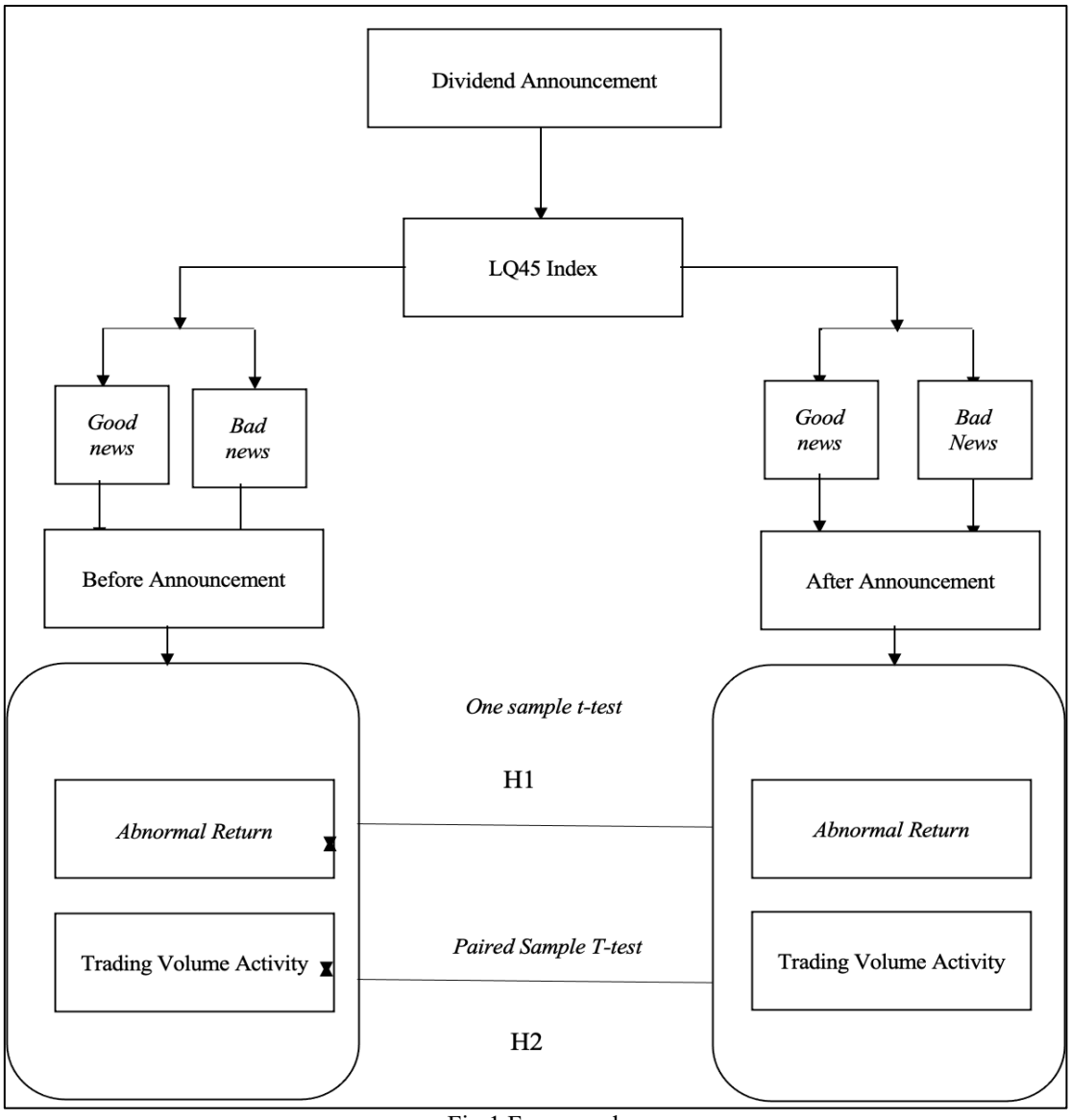


Fig 1 Framework

## III. METHOD

➢ *Population & Sample*

This study focuses on all stocks listed on the LQ45 index of the Indonesia Stock Exchange. The researchers used purposive sampling, selecting stocks based on specific criteria. The sample includes companies that were continuously listed on the LQ45 index from February 2017 to July 2022 and made dividend announcements between 2017 and 2022. This ensures that the selected stocks represent the LQ45 index consistently during the specified period.

➢ *Analysis Models & Variables*

In this study, the variables used are abnormal return and trading volume activity. In efficient markets, abnormal return and trading volume activity are indicators of how individual investors perceive an event as informative and capable of influencing investment decisions differently from normal investment decisions. Differences in abnormal return and trading volume activity represent the stock market's reaction to an information-containing event, while event that lack information do not exhibit differences in abnormal return and trading volume activity in the stock market.

- *Abnormal Stock Return:*

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

$AR_{it} = Abnormal\ return$ for stock $i$ on day $t$

$R_{it} = Actual\ Return\ f$or stock $i$ on day $t$

$E(R_{it}) = Expected\ Return\ f$or stock $i$ on day $t$

According to Ghozali (2018), the data analysis method used in this study is descriptive statistics, which includes measures such as mean, median, standard deviation, maximum, and minimum values to describe the researched data. This research used the event study method to empirically examine market reactions to dividend announcements in terms of stock returns and liquidity of companies listed on the LQ45 index.

The chosen observation period or event window for this research, following the studies by Hariyanto and Murhardi (2021), Maisur and Nazariah (2020), and Ozo and Arun (2019), spans twenty-one days, consisting of ten days before the dividend announcement, the announcement day itself, and ten days after the announcement. The cum-dividend date, representing the last day where shareholders are entitled to receive dividends, is used as the dividend announcement period in this study. The estimation period in this research, based on the work of Puspaningtyas (2019), covers one hundred days and involves estimating regression models using historical data to calculate expected returns.

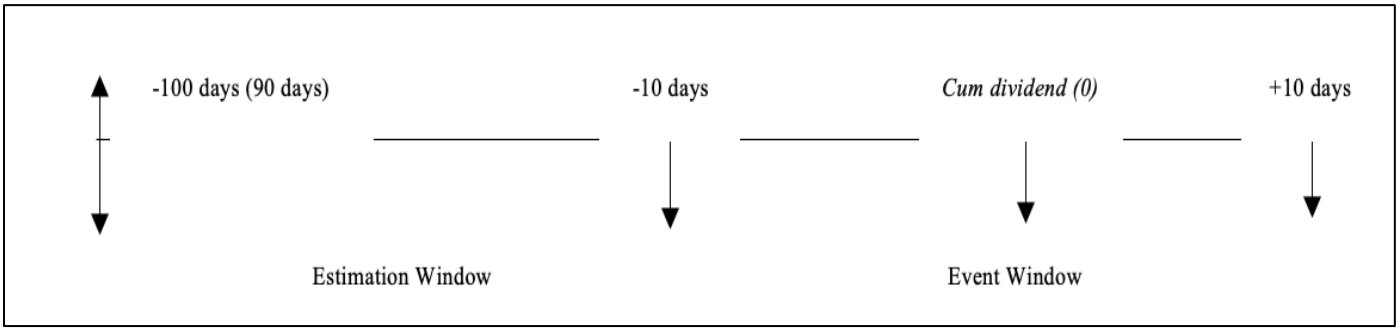


Fig 2 Observation Period

➢ *Analysis Models & Variables*

- *Normality Test*

According to Ghozali (2018), the normality test is conducted to assess whether residual variables in a regression model have a normal distribution. This test is crucial in inferential studies like this research, which aims to examine the differences in abnormal returns and trading volume activity before and after dividend announcements in the good news and bad news groups based on dividend yield changes. Pastika and Widana Putra (2019) state that the normality test is performed to evaluate the distribution of data in the variables used for the study. Santoso (2010, p. 43) explains that good data exhibits a normal distribution pattern, either skewed to the left or right. The Kolmogorov-Smirnov test can be used, as suggested by Ningrum and Risman (2022), to conduct the normality test. The Kolmogorov-Smirnov test is commonly used to determine normality, and a significance value greater than 0.05 indicates normal distribution, while a value less than 0.05 suggests non-normal distribution, as stated by Hariyanto and Murhadi (2021).

- *Hypothesis Test*

According to Hamanda, Mursidi, and Warsono (2021), Saragih (2019), and Ningrum & Risman (2022), the research utilizes the one-sample t-test to examine the significance of abnormal returns around the event announcement. Jayanti (2019) states that the one-sample t-test is suitable for testing whether data from a sample follows a predetermined distribution and supports hypotheses about the population. Hariyanto and Murhadi (2021) explain that the one-sample t-test is used to determine if a specific value significantly differs from the sample mean. Yusrina and Sukmaningrum (2019) employed the paired sample t-test to analyze the average trading volume activity, and Silalahi & Sianturi (2021) mention that data should meet the assumption of normality for parametric tests. Therefore, if the data deviates from normality or contains outliers, appropriate measures will be taken to address these issues, ensuring the validity of the tests. Gujarati and Porter (2008, p.99) explains the assumption of normality playing a critical role in parametric tests. If there are outliers or extreme data points present in the analysis, they should be treated by removing them to fulfil the assumption of normality.

## IV. RESULTS

The Indonesia Stock Exchange's reaction to the dividend announcement event is indicated by significant abnormal returns and abnormal trading volume activity during period. Endri *et al*. (2021) explain that abnormal return is indicated when the average actual return of a stock during the event period is greater than the average return expectation predicted by the investors. Tables 1 to 4 show the results of descriptive statistics for abnormal return and trading volume activity.

ISSN No:-2456-2165

Table 1 Descriptive Statistic for Average Abnormal Return in Good News Group

| DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION | DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION |
|---|---|---|---|---|---|---|---|---|---|
| T-10 | -0,0124 | 0,0475 | 0,0045 | 0,0132 | T+1 | -0,0358 | 0,0016 | -0,0164 | 0,0117 |
| T-09 | -0,0137 | 0,0294 | 0,0016 | 0,0098 | T+2 | -0,0382 | 0,0184 | -0,0051 | 0,0131 |
| T-08 | -0,0197 | 0,0366 | 0,0052 | 0,0154 | T+3 | -0,0281 | 0,0288 | -0,0007 | 0,0141 |
| T-07 | -0,0214 | 0,0387 | 0,0032 | 0,0128 | T+4 | -0,0379 | 0,0315 | -0,0032 | 0,0149 |
| T-06 | -0,0172 | 0,0207 | 0,0009 | 0,0098 | T+5 | -0,0209 | 0,0495 | -0,0006 | 0,0153 |
| T-05 | -0,0086 | 0,0312 | 0,0061 | 0,0094 | T+6 | -0,0463 | 0,0301 | -0,0019 | 0,0168 |
| T-04 | -0,0306 | 0,0137 | -0,0053 | 0,0119 | T+7 | -0,0208 | 0,0162 | -0,0026 | 0,0092 |
| T-03 | -0,0252 | 0,0218 | -0,0009 | 0,0116 | T+8 | -0,0266 | 0,0255 | -0,0012 | 0,0127 |
| T-02 | -0,0192 | 0,0236 | -0,0016 | 0,0109 | T+9 | -0,0258 | 0,0435 | 0,0009 | 0,0121 |
| T-01 | -0,0236 | 0,0261 | 0,0005 | 0,0105 | T+10 | -0,0267 | 0,0331 | 0,0017 | 0,0141 |
| T0 | -0,0154 | 0,0148 | 0,0000 | 0,0080 | | | | | |

Source: Secondary Data, Processed

Based on Table 1, the highest average abnormal return in the Good News group occurs around the ex-dividend date at T+05, indicating a value of 0.0495. On the other hand, the lowest average abnormal return during the observation period in the Good News group is seen at T+06, with a value of -0.0463. There are also positive average abnormal returns in the Good News group at T-10, T-09, T-08, T-07, T-06, T-05, T-01, T0, T+09, and T+10. This suggests that positive average abnormal returns are more commonly observed in the days leading up to the ex-dividend date.

Table 2 Descriptive Statistic for Average Abnormal Return in Bad News Group

| DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION | DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION |
|---|---|---|---|---|---|---|---|---|---|
| T-10 | -0,0458 | 0,0502 | -0,0023 | 0,0193 | T+1 | -0,0483 | 0,0735 | -0,0020 | 0,0280 |
| T-09 | -0,0345 | 0,0500 | -0,0008 | 0,0215 | T+2 | -0,0381 | 0,0205 | -0,0048 | 0,0152 |
| T-08 | -0,0513 | 0,0356 | 0,0002 | 0,0175 | T+3 | -0,0676 | 0,0632 | 0,0011 | 0,0228 |
| T-07 | -0,0154 | 0,0468 | 0,0100 | 0,0136 | T+4 | -0,0282 | 0,0331 | -0,0009 | 0,0165 |
| T-06 | -0,0278 | 0,0380 | 0,0016 | 0,0166 | T+5 | -0,0517 | 0,0201 | -0,0034 | 0,0157 |
| T-05 | -0,0279 | 0,0179 | 0,0000 | 0,0123 | T+6 | -0,0475 | 0,0090 | -0,0072 | 0,0125 |
| T-04 | -0,0323 | 0,0220 | -0,0030 | 0,0136 | T+7 | -0,0360 | 0,0300 | -0,0020 | 0,0162 |
| T-03 | -0,0304 | 0,0678 | 0,0079 | 0,0226 | T+8 | -0,0364 | 0,0190 | 0,0000 | 0,0154 |
| T-02 | -0,0323 | 0,0823 | 0,0039 | 0,0218 | T+9 | -0,0225 | 0,0333 | 0,0027 | 0,0136 |
| T-01 | -0,0533 | 0,0339 | -0,0028 | 0,0197 | T+10 | -0,0226 | 0,0231 | 0,0004 | 0,0113 |
| T0 | -0,0262 | 0,0401 | 0,0043 | 0,0145 | | | | | |

Source: Secondary Data, Processed

Based on Table 2, the highest average abnormal return in the Bad News group occurs around the ex-dividend date at T-02, indicating a value of 0.0823. On the other hand, the lowest average abnormal return during the observation period in the Bad News group is seen at T+03, with a value of -0.0676. There are also negative average abnormal returns in the Bad News group at T-10, T-09, T-04, T+01, T+02, T+04, T+05, T+06, and T+07. This suggests that negative average abnormal returns are more commonly observed in the days following the ex-dividend date.

Table 3 Descriptive Statistic for Trading Volume Activity in Good News Group

| DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION | DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION |
|---|---|---|---|---|---|---|---|---|---|
| T-10 | -0,2428 | 0,8461 | 0,1808 | 0,3422 | T+1 | -0,3277 | 40,891 | 0,2838 | 0,8753 |
| T-09 | -0,4157 | 17,726 | 0,1928 | 0,4886 | T+2 | -0,4455 | 218,185 | 10,034 | 45,554 |
| T-08 | -0,3393 | 13,306 | 0,1813 | 0,4150 | T+3 | -0,3050 | 0,7925 | 0,1196 | 0,3144 |
| T-07 | -0,3725 | 22,106 | 0,3061 | 0,5225 | T+4 | -0,4222 | 14,309 | 0,2607 | 0,4654 |
| T-06 | -0,4307 | 17,303 | 0,3411 | 0,6525 | T+5 | -0,5607 | 21,915 | 0,2819 | 0,5993 |
| T-05 | -0,3071 | 23,194 | 0,2662 | 0,5552 | T+6 | -0,3335 | 0,6779 | 0,0293 | 0,2916 |
| T-04 | -0,3309 | 0,9304 | 0,2060 | 0,3330 | T+7 | -0,4704 | 29,556 | 0,2101 | 0,6660 |
| T-03 | -0,3407 | 0,7493 | 0,0518 | 0,2286 | T+8 | -0,2655 | 11,572 | 0,1427 | 0,2905 |
| T-02 | -0,5533 | 20,603 | 0,1638 | 0,4781 | T+9 | -0,3425 | 0,9149 | 0,0556 | 0,2748 |
| T-01 | -0,2635 | 21,681 | 0,1463 | 0,4877 | T+10 | -0,3265 | 16,185 | 0,2190 | 0,4761 |

ISSN No:-2456-2165

Based on Table 3, the highest average trading volume activity in the Good News group occurs on the day before and after the ex-dividend date at T+02, indicating a value of 21.8185. On the other hand, the lowest average trading volume activity during the observation period in the Good News group is seen at T+05, with a value of -0.5607.

Table 4 Descriptive Statistic for Trading Volume Activity in Bad News Group

| DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION | DAYS | MINIMUM | MAXIMUM | MEAN | STD. DEVIATION |
|---|---|---|---|---|---|---|---|---|---|
| T-10 | -0,3252 | 11,505 | 0,2018 | 0,4252 | T+1 | -0,6046 | 0,7880 | 0,1492 | 0,3121 |
| T-09 | -0,4134 | 0,7071 | 0,0545 | 0,3150 | T+2 | -0,4931 | 20,338 | 0,3832 | 0,6975 |
| T-08 | -0,5537 | 15,276 | 0,2000 | 0,4834 | T+3 | -0,5847 | 16,802 | 0,0448 | 0,4911 |
| T-07 | -0,3996 | 13,290 | 0,1460 | 0,4163 | T+4 | -0,5149 | 0,6541 | 0,0674 | 0,3474 |
| T-06 | -0,4488 | 18,307 | 0,2588 | 0,6014 | T+5 | -0,3318 | 10,573 | 0,1771 | 0,3883 |
| T-05 | -0,5365 | 15,294 | 0,1336 | 0,5575 | T+6 | -0,3674 | 21,991 | 0,1513 | 0,5320 |
| T-04 | -0,4839 | 23,100 | 0,2258 | 0,6423 | T+7 | -0,4219 | 12,263 | 0,1555 | 0,5414 |
| T-03 | -0,5150 | 20,994 | 0,2868 | 0,5364 | T+8 | -0,4195 | 11,529 | 0,2212 | 0,3901 |
| T-02 | -0,5581 | 46,033 | 0,3239 | 10,395 | T+9 | -0,4240 | 0,6060 | -0,0709 | 0,3184 |
| T-01 | -0,5905 | 19,013 | 0,0998 | 0,5999 | T+10 | -0,6086 | 0,7542 | 0,1867 | 0,3606 |

Based on Table 4, the highest average trading volume activity in the Bad News group occurs on the day before and after the ex-dividend date at T-02, indicating a value of 4.6033. On the other hand, the lowest average trading volume activity during the observation period in the Bad News group is seen at T+09, with a value of -0.6086.

➢ *Normality Test*

In this study, we use a test called the Kolmogorov-Smirnov test to check if the data follows a normal distribution. If the significance value is greater than 0.05, it means the data is normally distributed. However, if the significance value is less than 0.05, it indicates that the data does not follow a normal distribution. It is important to note that normality is crucial in statistical analysis, as mentioned by Gujarati and Porter (2008, p.99). If there are any outlier or extreme data points during the testing, they should be removed to meet the assumption of normality.

Table 5 Normality Test

| DAYS | AAR GOOD NEWS | AAR BAD NEWS | TRADING VOLUME ACTIVITY GOOD NEWS | TRADING VOLUME ACTIVITY BAD NEWS | DAYS | AAR GOOD NEWS | AAR BAD NEWS | TRADING VOLUME ACTIVITY GOOD NEWS | TRADING VOLUME ACTIVITY BAD NEWS |
|---|---|---|---|---|---|---|---|---|---|
| T-10 | 0.200 | 0.007 | 0.080 | 0.200 | T+1 | 0.060 | 0.200 | 0.200 | 0.200 |
| T-09 | 0.200 | 0.001 | 0.200 | 0.200 | T+2 | 0.200 | 0.200 | 0.200 | 0.104 |
| T-08 | 0.051 | 0.200 | 0.200 | 0.094 | T+3 | 0.200 | 0.010 | 0.200 | 0.200 |
| T-07 | 0.200 | 0.200 | 0.200 | 0.200 | T+4 | 0.200 | 0.062 | 0.060 | 0.141 |
| T-06 | 0.200 | 0.169 | 0.057 | 0.153 | T+5 | 0.128 | 0.200 | 0.200 | 0.200 |
| T-05 | 0.200 | 0.200 | 0.200 | 0.200 | T+6 | 0.200 | 0.200 | 0.115 | 0.076 |
| T-04 | 0.200 | 0.200 | 0.200 | 0.200 | T+7 | 0.200 | 0.169 | 0.200 | 0.131 |
| T-03 | 0.200 | 0.032 | 0.174 | 0.200 | T+8 | 0.200 | 0.005 | 0.200 | 0.200 |
| T-02 | 0.200 | 0.034 | 0.200 | 0.200 | T+9 | 0.083 | 0.159 | 0.200 | 0.200 |
| T-01 | 0.147 | 0.200 | 0.056 | 0.200 | T+10 | 0.200 | 0.200 | 0.060 | 0.066 |
| T0 | 0.200 | 0.039 | 0.200 | 0.200 | | | | | |

Based on Table 5, the normality test for the Good News and Bad News group show significance values above the significance level of 0.05. Therefore, we can conclude that the residuals in the Good News and Bad News group have normally distributed data. The null hypothesis (H0) is accepted, suggesting that the data follows a normal distribution. This means that the data can be considered suitable for parametric analysis in the research.

➢ *Hypothesis Test*

In this study, we will use the one-sample t-test to determine if there are significant differences in cumulative abnormal return and average abnormal return. We will also utilize the paired sample t-test to examine if there are differences in average trading volume activity between the days before and after the ex-dividend date. The one-sample t-test helps us see if a specific value is significantly different from the sample mean, while the paired sample t-test compares the means of two related groups. We will use a confidence level of 95% for our analysis.

Table 6 One Sample T-Test

| DAYS | AAR GOOD NEWS | MEAN | AAR BAD NEWS | MEAN | DAYS | AAR GOOD NEWS | MEAN | AAR BAD NEWS | MEAN |
|---|---|---|---|---|---|---|---|---|---|
| T-10 | 0,117 | 0,004478 | 0,347 | -0,002785 | T+1 | 0,000 | -0,016362 | 0,017 | -0,001955 |
| T-09 | 0,456 | 0,001559 | 0,099 | -0,005810 | T+2 | 0,046 | -0,005099 | 0,015 | -0,004827 |
| T-08 | 0,121 | 0,005161 | 0,967 | 0,000155 | T+3 | 0,806 | -0,000729 | 0,255 | 0,004400 |
| T-07 | 0,242 | 0,003203 | 0,003 | -0,009959 | T+4 | 0,318 | -0,003174 | 0,805 | -0,000882 |
| T-06 | 0,679 | 0,000856 | 0,005 | -0,001555 | T+5 | 0,849 | -0,000611 | 0,321 | -0,003409 |
| T-05 | 0,005 | 0,006120 | 0,996 | 0,000014 | T+6 | 0,597 | -0,001884 | 0,013 | -0,007200 |
| T-04 | 0,045 | 0,005305 | 0,097 | -0,004037 | T+7 | 0,191 | -0,002583 | 0,574 | -0,001973 |
| T-03 | 0,724 | -0,000865 | 0,314 | 0,004915 | T+8 | 0,658 | -0,001188 | 0,167 | 0,003485 |
| T-02 | 0,490 | -0,001588 | 0,415 | 0,003855 | T+9 | 0,732 | 0,000872 | 0,360 | 0,002709 |
| T-01 | 0,825 | 0,000488 | 0,509 | -0,002814 | T+10 | 0,562 | 0,001738 | 0,863 | 0,000423 |
| T0 | 0,990 | -0,000021 | 0,478 | 0,002135 | | | | | |

Based on Table 6, the results of the one-sample t-test show significant findings in the Good News group. This is indicated by significant reactions observed on the 5th and 4th days before the ex-dividend date, as well as on the 1st and 2nd days after the ex-dividend date. The significance value at t-05 has a positive average value of 0.006, and t-04 has a positive average value of 0.0053. However, at T+01, there is a negative average value of -0.0163, and T+02 has a negative average value of -0.0051. This suggests that there are significant reactions in stock prices related to the ex-dividend date in the Good News sample.

Similarly, based on Table 6, the results of the one-sample t-test show significant findings in the Bad News group. This is indicated by significant reactions observed on the 7th and 6th days before the ex-dividend date, as well as on the 1st, 2nd, and 6th days after the ex-dividend date. The significance value at T-07 has a negative average value of -0.0099, and T-06 has a negative average value of -0.00155. Additionally, at T+01, there is a negative average value of -0.0019, T+02 has a negative average value of -0.0048, and T+06 has a negative average value of -0.0072. This suggests that there are significant reactions in stock prices related to the ex-dividend date in the Bad News sample.

Table 7 Paired Sample T-Test

| DAYS | TRADING VOLUME ACTIVITY GOOD NEWS | MEAN | TRADING VOLUME ACTIVITY BADD NEWS | MEAN |
|---|---|---|---|---|
| T-10 with T+10 | 0,537 | 0,0687 | 0,726 | 0,0397 |
| T-09 with T+9 | 0,257 | 0,1372 | 0,267 | -0,1322 |
| T-08 with T+8 | 0,765 | -0,0249 | 0,114 | 0,3347 |
| T-07 with T+7 | 0,075 | 0,1256 | 0,350 | -0,0777 |
| T-06 with T+6 | 0,111 | 0,1363 | 0,187 | 0,2262 |
| T-05 with T+5 | 0,030 | 0,0766 | 0,908 | 0,0133 |
| T-04 with T+4 | 0,008 | 0,0547 | 0,512 | -0,0870 |
| T-03 with T+3 | 0,442 | -0,0678 | 0,223 | 0,1250 |
| T-02 with T+2 | 0,378 | 0,0589 | 0,005 | 0,1904 |
| T-01 with T+1 | 0,118 | -0,1112 | 0,138 | -0,2005 |

Based on Table 7, the results of the paired sample t-test show significant findings in the Good News group. This is indicated by significant reactions observed between T-05 and T+05, as well as between T-04 and T+04. The significance value at t-05 and t05 has a positive average value of 0.0766, and T-04 and T+05 have a positive average value of 0.0547. The positive average values also indicate an increase in the average trading volume activity. This suggests that there are significant reactions impacting the stock liquidity related to the ex-dividend date in the Good News sample.

Similarly, based on Table 7, the results of the paired sample t-test show significant findings in the Bad News group. This is indicated by a significant reaction observed between T-02 and T+02. The significance value at T-02 and T+02 has a positive average value of 0.1904. From the average values, we can see that there is an increase in the trading liquidity of stocks after the ex-dividend date. This suggests that there are significant reactions impacting the stock liquidity related to the ex-dividend date in the Bad News sample.

## V. DISCUSSION

This study corroborates previous research by Hariyanto and Murhadi (2021), Saragih (2019), Felimban et al. (2018), Hamanda et al. (2021), and Yusrina and Sukmaningrum (2019), which found significant abnormal returns before and after the ex-dividend date in the case of dividend increase. The significant average abnormal returns on the fifth and fourth days before the ex-dividend date suggest the existence of information leakage, where some investors, possessing superior information, engage in early purchasing to gain abnormal returns. This aligns with signalling theory, which posits that managers hold accurate and comprehensive information unknown to external investors. Additionally, the absence of abnormal returns on the ex-dividend date can be attributed to the market already incorporating the information, while the negative abnormal returns observed on the first and second days after the ex-dividend date can be explained by the bird-in-hand theory, indicating investor preference for promised dividends over future investment returns.

The results of this study indicate the presence of abnormal returns in the bad news group, shown by significant reactions on the seventh and sixth days before the ex-dividend date, as well as on the first, second, and sixth days after the ex-dividend date. These findings align with previous research by Hariyanto and Murhadi (2021), Saragih (2019), Hamanda et al. (2021), and Khanal and Mishra (2018), which found abnormal returns around the ex-dividend date. On the seventh and sixth days before the ex-dividend date, there were negative abnormal returns in the bad news group, indicating information leakage about lower dividend distribution compared to the previous year. Some investors engaged in profit-taking or sold company shares due to the lower dividend information. The absence of abnormal returns on the ex-dividend date can be attributed to investors already responding to the information earlier through profit-taking actions. Additionally, negative abnormal returns were observed on the first and second days after the ex-dividend date, indicating a negative market response to the lower dividend distribution compared to the previous year.

The paired sample t-test results in the good news group revealed significant differences in trading volume activity between the fourth day before and after the ex-dividend date, as well as on the fifth day before and after the ex-dividend date. These findings align with previous research by Kayana et al. (2018), Felimban et al. (2018), Lavista and Utami (2017), Devi and Putra (2020), Saragih (2019), and Dewi et al. (2020), which found differences in liquidity between days before and after the ex-dividend date. The high liquidity on the fourth and fifth days, both before and after the ex-dividend date, is due to investor responses to the cum dividend information, with indications of information leakage. This is consistent with the explanation that certain parties have access to company information before it is publicly disclosed.

The paired sample t-test in the bad news group showed a significant difference in average trading volume activity between two days before and after the ex-dividend date. These findings align with previous research by Kayana et al. (2018), Yusrina and Sukmaningrum (2019), Sih, Gumanti, and Paramu (2019), Silalahi and Sianturi (2021), and Amiruloh and Muis (2019), which found no difference in trading volume activity between days before and after the dividend announcement. In the bad news group, the high liquidity observed on the second day is likely due to investors selling their shares since they no longer have dividend rights. This suggests that, in response to cum dividend information, investors in the bad news group predominantly engage in selling activities without any other significant market reactions.

## VI. CONCLUSION

This study examines the market reactions to dividend announcements and abnormal returns in the good news and bad news groups. The findings support previous research, indicating significant abnormal returns before and after the ex-dividend date in cases of dividend increase. These abnormal returns suggest the existence of information leakage and align with signalling theory. Additionally, the study finds negative abnormal returns in the bad news group, indicating information leakage about lower dividend distribution compared to the previous year. The results also reveal differences in trading volume activity, with high liquidity observed around the ex-dividend date, indicating investor responses to cum dividend information. However, in the bad news group, high liquidity on the second day after the ex-dividend date is likely due to investors selling their shares.

This research has two main limitations. Firstly, it faced challenges in gathering secondary data for the market model formula, which required time and precision due to the complexity of the calculations. Secondly, the study relied on a relatively short ten-day period before and after the cum dividend date, making it difficult to analyse data and draw conclusions over a longer timeframe. In future research focusing on the testing of abnormal return and trading volume activity in relation to dividend announcement information, researchers can consider the following suggestions. Firstly, the use of the market-adjusted model for calculations is encouraged as it offers a more efficient and accurate approach. This model takes into account market factors, allowing for a better assessment of abnormal returns. Secondly, it is recommended for future researchers to examine a shorter event window, such as a five-day period before and after the cum dividend date. This narrower timeframe can provide a more precise analysis of the impact of dividend announcements on trading volume activity and abnormal returns. By incorporating these suggestions, future studies can enhance the understanding of the relationship between dividend announcements and market dynamics.

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