




The effect of dividend announcements on the price and volume of stock trading at the Stock Exchange in 2007 (analysis of paired sample t-test)

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Article Info	ABSTRACT
<p>Article history:</p> <p>Received March 02, 2022 Revised March 16, 2022 Accepted March 30, 2022</p> <hr/> <p>Keywords:</p> <p>Dividend announcement; Price; Trading volumes.</p>	<p>The main purpose of this study is to investigate the effect of dividend announcements on price and trading volume of stock. The effect is reflected from a significant difference between prices and trading volume of stock before and after dividend announcement. The object of this study is a company listed on the Indonesia Stock Exchange and doing dividend announcement in 2007. The study period is between 5 days before dividend announcement and 5 days after dividend announcement. The method using paired sample t-test to compare prices and trading volume of stock means between 5 days before dividend announcement and 5 days after dividend announcement. The results of this study show that the price and trading volume of stocks have a significant difference before and after the dividend announcement.</p> <p><i>This is an open access article under the CC BY-NC license.</i></p> 

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1. INTRODUCTION

The progress of a country's economy can be reflected in the capital market activity in that country. This is based on the function of the capital market as a capital transaction infrastructure that can affect a country's economic development. The capital market is a market for various long-term financial instruments that can be traded, whether in the form of debt, equity (shares), derivative instruments or other instruments.

Suad (1994: 4) states that apart from being part of the financial market that deals with long-term supply and demand, the capital market also carries out economic and financial functions. The economic function means that the capital market allocates funds efficiently from parties who have funds, namely investors to parties who need funds, namely companies, while the financial function is indicated by rewards or rewards for investors according to the characteristics of the investment they choose.

Investors invest in the capital market in the form of securities. Securities are divided into two parts, namely fixed income securities (bonds) and capital securities (shares). Capital securities are a sign of ownership of a company. Common stockholders are the true owners of the company because they are the ones who bear the risk in the event of a loss. But when the company benefits, the common stockholders also benefit. Investors are usually more interested in common stock because

common stock allows investors to get high profits if the company's profits are large through high dividend payouts. Apart from dividends, investors can benefit from capital gains. Capital gain is the difference between the buying price and the selling price. Capital gains are widely used by speculators because of their daily nature. Speculators and investors must have information about the company. One of these information factors can be obtained from the announcement of dividend distribution

Pettit (1972) states that dividend announcements are important information for investors. This is due to good or bad company performance, one of which can be reflected in the dividends given to investors. The amount of dividends distributed by the company depends on the company's dividend policy. There are companies that pay high dividends, low dividends and some do not pay dividends. The existence of dividend announcements tends to eliminate or reduce uncertainty because investors have obtained certainty about dividend distribution. Investors prefer to obtain current income compared to obtaining capital gains which are still filled with uncertainty.

When a dividend announcement is made by a company going public, there will be various reactions from investors. The reaction of these investors is the effect of the dividend announcement. Announcement of dividends for the company as a signal of the company's performance in that period. For investors, dividend announcements are information for making investments. If investors think that the company's dividend announcement is good, then investors buy the shares which are expected to result in an increase in the company's trading volume. This is also expected to result in a significant difference between the trading volume of shares before the dividend announcement and after the dividend announcement.

Several studies have been conducted to examine the effect of dividend announcements. Research on dividend announcements conducted both in Indonesia and abroad still yields mixed results. Research conducted by Indah Patmawati (1999), Kartini (2001) and Sudjoko (1999) concluded that dividend announcements contain information, while research conducted by Amsari (1993), Soetjipto (1997) and Sugeng (2000) found no evidence of dividend information content. .

2. RESEARCH METHOD

The data required is historical and secondary data. The data was obtained from various sources. The sources of the data are: a. Data on companies listed on the IDX in 2007. b. Data on stock prices and daily stock trading volume in 2007. This data was obtained from the IDX. c. Data on companies that announced dividends and the date of dividend announcements in 2007. This data was obtained from the IDX journal and website. d. The number of shares outstanding was obtained from the financial statements of each company.

Sampling method, the population in this study are all companies listed on the Indonesia Stock Exchange (IDX). This research period was conducted in 2007. The research period was taken in 2007 because this year the economic conditions were quite stable and the investment climate was very conducive so as to minimize the factors that could influence this research.

Data Processing Techniques. Raw data obtained from various sources is processed using MS Excel which is then analyzed using software for statistical processing. The data was first tested for data normality. The data normality test was carried out to find out whether the data was normally distributed or not. Data that is normally distributed means that it has a normal distribution, in other words the sample we have represents the population (www.inparametric.com). The data normality test was carried out using the Kolmogorov Smirnov test method with a significance level of 5% with the following rejection rule: a. If the significance level is > 0.05 , the data is normally distributed, b. If the significance level is < 0.05 , the data is not normally distributed. If the data is not normally distributed, a non-parametric test is performed, namely the Wilcoxon sign rank test. If the research data is normally distributed, it can be processed with a parametric test, namely the paired sample t test.

Stock Price Data Processing, Analysis is carried out by observing the company's stock prices that are sampled for 5 days before the announcement of dividends and 5 days after the announcement of dividends. The observed stock price is the daily closing price. From these stock prices, data processing is carried out to find the average stock price with the following formula:

$$\text{SHARE PRICE Average} = \frac{\sum \text{SHARE PRICE}}{n} \dots \dots \dots (1)$$

Processing of Stock Trading Volume Data. Analysis was carried out by observing the sample stock trading volume for 5 days before the dividend announcement and 5 days after the dividend announcement. From this trading volume, we look for relative trading volume using the TVA (Trading Volume Activity) formula. After the TVA of each share is known, then the average volume is calculated.

Hypothesis Testing. Hypothesis testing for normally distributed data can be carried out using the parametric test, namely the paired sample t-test with a significance level of 5%. For those that are not normally distributed using a non-parametric test, namely the Wilcoxon sign rank test with a significance level of 5%.

3. RESULTS AND DISCUSSIONS

Capital market activities in Indonesia have long been known in Indonesia, namely during the Dutch colonial era. This can be seen from the establishment of the stock exchange in Batavia which was organized by Vereniging Voor de Effectenhandel on December 14, 1912, even though its initial aim was to raise funds for the benefit of developing the plantation sector in Indonesia. The development of this capital market was quite rapid, so that finally the Surabaya Stock Exchange was opened on January 11, 1925 and the Semarang Stock Exchange on August 1, 1925. However, at the beginning of 1939 in Europe there was political turmoil which also affected the trading of securities in Indonesia.

After the recognition of sovereignty from the Dutch government, in 1960, the government initiated the revival of the capital market by issuing bonds from the Government of the Republic of Indonesia. The revival of the capital market in Indonesia began in 1970, at that time the Money and Capital Market Team was formed, followed in 1976 by the establishment of BAPEPAM (Capital Market Executing Agency) and the establishment of a company and investment company, PT Danareksa. This was followed up with the inauguration of trading activities on the Jakarta Stock Exchange by President Soeharto in 1977. To encourage capital market activities the government issued incentives and regulations. Initially there were 2 stock exchanges in Indonesia, namely the Jakarta Stock Exchange (BEJ) and the Surabaya Stock Exchange (BES). On December 1, 2007,

Object of research.

The object of this study are companies listed on the IDX with the sampling criteria as mentioned in sub-chapter 3.1.2. In 2007 there were 347 companies listed on the IDX. Of the 347 companies, there were 91 companies that announced dividends in 2007. Of the 91 companies, 32 companies were screened with high stock trading frequency and would be used as samples for this study.

The companies that were sampled were as follows;

Company Code	Company name
ANTM	PT. Aneka Tambang Tbk
APOL	PT. Arpeni Pratama Ocean Line Tbk
ASII	PT. Astra International Tbk
UNSP	PT. Bakrie Sumatera Plantations Tbk
BBCA	PT. Bank Central Asia Tbk

bnii	PT. Bank International Indonesia Tbk
BBRI	PT. Bank Rakyat Indonesia Tbk
RMB	PT. Bentoel International Investama Tbk
BLTA	PT. Berlian Laju Tanker Tbk
BHIT	PT. Bhakti Investama Tbk
EARTH	PT. BUMI Resources Tbk
CLPI	PT. Colorpak Indonesia Tbk
CPIN	PT. Charoen Pokphand Indonesia Tbk
GJTL	PT. Gajah Tunggal Tbk
IATA	PT. Indonesia Air Transport Tbk
ISAT	PT. Indosat Tbk
MFIN	PT. Mandala Multifinance Tbk
MPPA	PT. Matahari Putra Prima Tbk
MTDL	PT. Metrodata Electronics Tbk
TIME	PT. Multistrada Arah Sarana Tbk
MLPL	PT. Multipolar Tbk
PBRX	PT. Pan Brothers Tbk
RUIS	PT. Radiant Utama Interinsco Tbk
RALS	PT. Ramayana Lestari Sentosa Tbk
PTBA	PT. Bukit Asam Coal Mine Tbk
TLKM	PT. Telekomunikasi Indonesia Tbk
TRIM	PT. Trimegah Securities Tbk
TOTL	PT. Total Bangun Persada Tbk
TBLA	PT. New Tunas Lampung Tbk
TURI	PT. Tunas Ridean Tbk
UNVR	PT. Unilever Indonesia Tbk
UNTR	PT. United Tractors Tbk

Source: processed data

Descriptive Statistical Analysis.

Descriptive statistical analysis aims to analyze data by describing the data that has been obtained. This descriptive statistical analysis was carried out by analyzing the maximum, minimum, mean or average and standard deviation of stock prices and stock trading volume.

Stock price

Table.2 descriptive statistics on stock prices

	Minimum	Maximum	Means	Standard Deviation
Price before	126	21000	3105.6375	21.00364
Price after	121	23600	3156.6437	15.26133

Source: processed data

Based on the table above, it can be seen that the price before the dividend announcement has a mean of 3105.6375 and a standard deviation of 21.00364. The lowest value of the price before the

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dividend announcement is 126 and the highest value is 21000. For the variable price after the dividend announcement, it has a mean of 3156.6437 and a standard deviation of 15.26133. The lowest value of the price after the dividend announcement is 121 and the highest value is 23600.

Stock Trading Volume.

Table.3 tva descriptive statistics

	Minimum	Maximum	Means	Standard Deviation
TVA	0.000117	0.116820067	0.006788605	0.00154265365
Before	67		8	8011
TVA	0.0002241	0.11686419	0.009183284	0.00130999153
After				5557

Source: processed data

Based on the above data for TVA before the dividend announcement has a mean of 0.0067886058 and a standard deviation of 0.001542653658011. The minimum value of the data is 0.00011767 and the maximum value is 0.116820067. The TVA variable after the dividend announcement has a mean of 0.009183284 and a standard deviation of 0.001309991535557. The minimum value of the data is 0.0002241 and the maximum value is 0.11686419.

Test Analysis.

In this section, data that has been processed to answer the hypotheses made by the author will be presented. This study aims to find out whether there is an effect of dividend announcements for investors as reflected in stock prices and stock trading volume with a period of 5 days before the dividend announcement and 5 days after the dividend announcement.

Normality test.

The normality test was performed using the Kolmogorov Smirnov non-parametric test. The consideration is because it is not yet known whether the data to be examined is parametric or non-parametric, so it can be said that the data is non-parametric. The data is said to have a normal distribution if the significance level is greater than α , which is 5%. The first normality test is carried out on stock prices. After testing the normality for stock prices, the following results are obtained;

Table.4 stock price normality test

		Before_P	After_P
N		5	5
Normal	Means	3105.637500	3156.64376
Parameters(a,b)		0	00
	td. Deviation	21.00364552	15.26133852
MostExtreme	Bsolute	.225	.218
Differences	Positive	.179	.181
	Negative	-.225	-.218
Kolmogorov-Smirnov Z		.503	488
asymp. Sig. (2-tailed)		.962	.971

Source: processed data

From the results above it can be seen that the asymp sig for the stock price before the dividend announcement is 0.962 and for the stock price after the dividend announcement is 0.971. This shows that the data used as a sample for stock prices meet the normality test requirements, namely with a significance level above 5%. The second

normality test is carried out on the stock trading volume. The results of processing the normality test data for stock trading volume are shown in table 4.

Table 5. Stock trading volume normality test

		Before_P	After_P
N		5	5
Normal Parameters(a,b)	Means	.006788605	.009183284
	std. Deviation	.001542653	.001309991
MostExtreme Differences	absolute	658011	535557
	Positive	.209	.319
	Negative	.157	.319
Kolmogorov-Smirnov Z		-.209	-.223
	asyp. Sig. (2-tailed)	.467	.714
		.981	.688

Source: processed data

From the results above, it can be seen that the asymp sig for stock trading volume before dividend announcement is 0.981 and for stock trading volume after dividend announcement is 0.688. This shows that the data used as samples are normally distributed because they meet the normality test requirements, namely the significance level is above 5%. Overall the results of the normality test conducted for stock prices and stock trading volume meet the normal distribution sample requirements. In other words, stock prices and trading volume of stocks used as a sample can represent the existing population.

Hypothesis testing

Hypothesis testing was carried out using the paired sample t-test method. The research period is set 5 days before the dividend announcement and 5 days after the dividend announcement.

Table.5 announcement date

Company Code	Announcement Date
	Dividend
ANTM	30-May-07
APOL	2-May-07
ASII	9-Oct-07
UNSP	6-Jun-07
BBCA	15-May-07
bnii	16-Apr-07
BBRI	22-May-07
RMB	31-May-07
BLTA	24-May-07
BHIT	18-Jun-07
EARTH	5-Jun-07
CLPI	22-Jun-07
CPIN	27-Jun-07
GJTL	28-Jun-07
IATA	23-Mar-07

ISAT	5-Jun-07
MFIN	8-Jun-07
MPPA	27-Apr-07
MTDL	26-Jun-07
TIME	21-May-07
MLPL	23-May-07
PBRX	23-Apr-07
RUIS	29-May-07
RALS	30-May-07
PTBA	4-May-07
TLKM	29-Jun-07
TRIM	28-Jun-07

Stock Price Hypothesis Test

From table 5, the sample stock prices were observed with a period of 5 days before the dividend announcement date and 5 days after the dividend announcement date. Share price data 5 days before the dividend announcement date is attached in Appendix 1, while share price data 5 days after the dividend announcement date is attached in Appendix 2.

Table.6 average share price before dividend announcement

Day	Average share price
-5	3101.46875
-4	3080.90625
-3	3091.46875
-2	3129.09375
-1	3125.25

Source: processed data

Table.7 the average share price after the dividend announcement

Day	Average share price
+1	3170.5
+2	3147.3125
+3	3159.4375
+4	3170.5625
+5	3135.4063

Source: processed data

From the processed data in table .6 and table .7, a hypothesis test was carried out using the paired sample t-test method. The rejection rules for testing this hypothesis are: a. If the p-value > 0.05 then H_0 cannot be rejected or there is no significant difference, b. If the p-value < 0.05 then H_0 is rejected or there is a significant difference.

Test the Trading Volume Hypothesis.

From table 6, observations were made of the trading volume of each share with a period of 5 days before the dividend announcement date and 5 days after the dividend announcement date. Data on stock trading volume 5 days before the dividend announcement is attached in Appendix 3, while data on stock trading volume 5 days after the dividend announcement is attached in Appendix 4. The hypothesis formulation of this test is as follows:

Ho : There is no significant difference between the volume of stock trading before the announcement of dividends and the volume of stock trading after the announcement of dividends.

Ha : There is a significant difference between the stock trading volume before the dividend announcement and the stock trading volume after the dividend announcement.

Table.8 hypothesis test of stock trading volume

t	Sig. (2-tailed)
-5,434	006

Source: processed data

Based on the data above, it can be seen that the p-value is 0.006. This means that Ho is rejected or there is a significant difference between the trading volume before the dividend announcement and after the dividend announcement.

Discussion of Research Results

Based on the results of testing the hypothesis above, it shows that there is a significant difference in stock prices and stock trading volume between before and after the dividend announcement. In relation to this study, it means that the announcement of dividends has an effect on the price and volume of stock trading in 2007. This reinforces several previous studies that have been conducted.

the results of testing the hypothesis of the stock price show a p-value of 0.011. This states that there is a significant difference between the stock price before the dividend announcement and the stock price after the dividend announcement. The stock price after the dividend announcement is higher than the stock price before the dividend announcement. The results of this study are in accordance with the results of previous studies such as those conducted by Petit (1972) and Titi Sri Haryanti (2002). This research reveals that there is an effect of dividend announcements on stock prices.

the results of testing the hypothesis of the volume of stock trading shows a p-value of 0.006. This states that there is a significant difference between the trading volume of shares before the dividend announcement and the trading volume after the dividend announcement. The trading volume of shares after the dividend announcement was higher than before the dividend announcement. The results of this study are in accordance with previous studies such as those conducted by Lakonishok and Vermaelen (1986) and Titi Sri Haryanti (2002).

The results of this study are also in line with the dividend signaling theory. Whereas the dividend announcement made by the company contains information as well as a signal of the company's performance and prospects. This affects the attitude of investors to invest.

4. CONCLUSION

This study aims to examine the effect of dividend announcements on stock prices and stock trading volume in 2007. Based on the results of the research and analysis it can be concluded that: dividend announcement with share price after dividend announcement. This means that dividend announcements had an effect on stock trading volume before dividend announcements and after dividend announcements in 2007. The results of the descriptive statistical analysis show that the trend of stock prices tends to increase after dividend announcements. Based on the results of research that has been done for stock trading volume it can be concluded, that there is a significant difference between the trading volume of shares before the dividend announcement and the trading volume after the dividend announcement. This means that dividend announcements had an effect on stock trading volume before dividend announcements and stock trading volume after dividend announcements in 2007. The results of the descriptive statistical analysis show that the trend of trading volume tends to increase after dividend announcements. From all the conclusions above, one

conclusion can be drawn, that the announcement of dividends can have an effect on investor behavior to make a decision to sell or buy shares on the stock exchange. This is reflected in the changes in price and trading volume of shares before and after the dividend announcement. In other words, Dividend announcements contain very important information for investors and for the company. Companies should pay more attention to dividend announcements, because dividend announcements can be a signal for company performance. For investors, based on research results, investors can use dividend announcements as information to buy and sell shares.

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