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Research Paper

Exploration of Stock Price Reactions and Stock Trade Volumes Before and After Announcement of Cash Dividends in Indonesia Stock Exchange 2015-2016

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ABSTRACT

The purpose of this research is to determine the effect of cash dividend announcements on stock prices and stock trading volumes and to examine differences in abnormal return and stock trading volume before and after the announcement of cash dividends for companies that distribute cash dividends for two consecutive years listed on the Exchange Indonesian securities in 2015-2016. This research uses observation period 2 days before and 2 days after the announcement of 159 cash dividends with saturated sampling method. The collected data were analyzed through simple linear regression analysis and independent sample t test. Data analysis and hypothesis testing prove that there is no effect of cash dividend announcements on stock prices and stock trading volume and there is no difference in abnormal returns and stock trading volume before and after the announcement of cash dividends.

Keywords: Abnormal Return, Stock Trading Volume, Cash Dividend Announcement.

INTRODUCTION

One of the main focuses in a company's financial policy is the announcement of cash dividend distribution. Dividends distributed by a company to investors can be either cash dividends or stock dividends. (Angela Schneeman, 2012).

Dividend announcements are more meaningful information than earnings announcements. For investors, dividends are the results obtained from shares that have become their property. Announcement of dividends is important information that will get a lot of response by the market. According to Arifin (1993) in Nurhidayati (2006) revealed that there are two types of announcements that are often conveyed by managers of a company to inform the company's achievements and prospects are announcements related to dividends and company earnings announcements in the previous period. Companies in Indonesia mostly prefer to inform cash dividends to their business prospects rather than other forms of dividends.

One of the factors that can affect investors to invest in a company is the issuer's internal corporate action by informing dividend distribution. Corporate this action can have a major effect on the interests of investors because it can affect the number of shares outstanding, share ownership and changes in stock prices. Suwanna (2012) states that dividend announcements have a significant effect on the price of shares of financial companies listed on the Stock Exchange of Thailand. Troudi and Milhem (2013) found that there was a positive and significant relationship between the announcement of cash dividends and stock prices in the Jordanian Stock Market. Legenzova, Jurakovaite, and Galinskaite (2015) analyze that dividend announcements affect stock prices in companies listed on Nasdaq OMX Baltic Market.

The majority of issuers assume that announcing dividend distribution will have a positive impact on the stock price. This disagreed with Modligani and Miller (1961) on Irrelevance's Dividend theory that investors do not care about the amount of dividends distributed because they cannot reflect the value of the company.

In a study conducted by Asamoah (2010) stated that dividend announcements did not have an impact on the behavior of stock price changes on the Ghana Stock Exchange. Hashemijoo, Arkedani, Younesi (2010) empirical results show a significant negative relationship between stock price volatility and dividend policy of consumer product companies listed in the Malaysian Stock Market. Gunaratne, Priyadarshanie and Samarakoon (2015) stated that the dividend policy of manufacturing companies in Sri Lanka has an insignificant relationship to stock price volatility.

The formation of stock prices in the capital market cannot be separated from the activities of the stock trading volume of investors. Trading volume describes the number of supply and demand for shares in the capital market, so that the greater the transaction volume will affect the faster and easier a stock is traded. With the announcement of dividend distribution, it becomes an important source of information for investors, which influences the market reaction, namely increasing the volume of stock trading which can provide benefits to investors in the form of increased investment liquidity.

In a study conducted by Gurgul, Majdosz and Mestel (2004) stated that dividend announcements had a significant positive effect on stock trading volume in companies listed on the German Stock Exchange. Khoirudin and Faizati (2013) show that dividend announcements affect the activity of stock trading volume in companies listed in Indonesian sharia securities. But there are several studies which state that stock trading volume is not affected by the announcement of Putra and Sujana's dividends (2014). Yang and Wu (2014) examined that dividend announcements did not have a significant effect on stock trading volumes listed on the Taiwan Stock Exchange.

From some empirical evidence in several countries, it is seen that the behavior of stock price volatility and trading volume of shares in the capital market is much influenced by investors' expectations of the company's earnings in the future by looking at current income potential. Based on the differences in the results of previous studies, the researchers are interested in conducting re-research related to the announcement of cash dividends on market reaction, namely changes in stock prices and stock trading volumes that occur in Indonesia around 5 days from the ex-dividend date assuming that the shareholders have no longer attached to the right to return dividends distributed. From these thoughts only 2 days before and 2 days after the ex-dividend date are examined with the market predictions will react actively to corporate actions, namely the announcement of cash dividend distribution. In this study will examine the implications of the announcement of cash dividends to predict whether there is a change in stock prices and stock trading volume, by taking the title "Exploration of Stock Price Reaction and Trading Volume before and after the Cash Dividend Announcement at the Indonesia Stock Exchange 2015-2016".

LITERATURE REVIEW

Shares

According to Samsul (in Anwar, 2015), stocks are a sign of ownership of a person or organization in a company. A sense of security for your investment is the main requirement for an investor to invest his funds. The decision to invest funds / capital is a natural thing for investors to do on the basis of two interrelated factors, namely expected return and risk (Jogiyanto, 2003).

Stock investment is an investment that has a high risk so that it is normal when a company tries to attract investors by offering a higher rate of return than other industrial sectors. Fluctuations in the selling price of shares on the stock exchange, may depend on investors' perceptions of the factors that affect the price. There are two factors that influence stock prices, namely estimated income (dividends and capital gains) and the rate of return required by investors.

Stock Trading Volume

According to Suad (2009) trade volume is a function of supply and demand and can be used as a sign of a stronger change and a weakening of the market, so that it can be used as an important indicator for investors.

Stock trading volume is one indicator of technical analysis on valuation of a stock price and is a tool to assess the capital market's reaction to information through the movement of stock trading volume activity. Large stock trading volumes indicate that the shares are actively traded. Stock trading volume shows the number of shares traded during a certain period (Tandelilin, 2010). Stock trading activities are measured using TVA (Trading Volume Activity) which is stated in the following formula:

$$TVA = \frac{trading\ company's\ stock(i)\ at\ t\ time}{listing\ company's\ stock(i)\ at\ t\ time}$$

Dividends

Dividends are a share of profits after deducting taxes distributed to shareholders. The amount depends on the decision of the board of directors (General Meeting of Shareholders) and the profits earned.

Angela Schneeman (2012) states that dividends can be paid in several forms. The most common type consists of cash or dividend shares.

a. Cash

Most of the company's dividends are cash dividends. In the simplest form, cash dividends only divide and distribute corporate profits, in cash, to corporate shareholders in accordance with the requirements of the issued shares.

b. Stock Dividend

At this time, stock dividends can be distributed in lieu of cash. An issue of stock dividends involves authorizing and issuing new shares to existing shareholders pro rata.

Donald E. Kieso, Jerry J. Weygandt, and Terry D. Warfield (2008) stated that dividends are divided into:

a. Cash Dividend

The board of directors sets out to prepare cash dividend announcements. After approval of the resolution, the council announces dividends. Before paying it, however, the company must prepare a list of current shareholders. For this reason, there is usually a time lag between announcements.

b. Property Dividend

Dividends paid in company assets other than cash are called property dividends or dividends in the form of goods. Dividends may be merchandise, real estate, investment, or whatever form the board of directors determines.

c. Liquidation Dividend

Dividends other than based on retained earnings are sometimes described as liquidation dividends. This term implies that the dividend is the shareholder's return, investment rather than profit. In other words, dividends are not based on income reducing the amount deposited by shareholders and therefore are called liquidating dividends.

d. Stock Dividend

Companies sometimes issue stock dividends. In this case, the company distributes assets. Each shareholder maintains exactly the same proportional share in the company and some book value as after the company's stock dividend problem.

METHODOLOGY

Population and Research Sample

The research population is a company that distributes cash dividends for 2 consecutive years listed on the Stock Exchange in 2015-2016, which is 159 companies in all sectors. The sampling technique in this study uses saturated sampling, that is, all members of the population are used as samples.

Company data that distributes cash dividends in a row for 2 years as follows:

Tabel 1 Issuer divides dividend in two years

No.	Sector	Number of Issuer
1	Agriculture	6
2	Mining	10
3	Basic industry	13
4	Variety industry	9
5	Good consumption	16
6	Property-real estate	24
7	Infastructure	8
8	Finance	30
9	Services trade	35
10	Manufacture	8
Total		159

Research Variable

In this study using the independent variable (X) is the dividend announcement and the dependent variable is the stock price (Y1) which is proxied by Abnormal Return (AR) and stock trading volume (Y2) which is analyzed through an indicator of total volume activity (TVA) activity.

Data Collection Technique

Data collection techniques used in this study are documentation. The data used is secondary data, namely data obtained indirectly from the Indonesia Stock Exchange in 2015-2016. From these secondary data, the data needed in this study are:

1. Ex-dividend date data for 2015 - 2016.
2. Dividend data per share in 2015 - 2016.
3. Stock price data close (close price) 2 days before and 2 days after the ex-dividend date.
4. Stock trading volume data (Total Volume Activity) 2 days before and 2 days after the ex-dividend date.
5. Data on the number of shares outstanding in 2015-2016.

Data Analysis Technique

In this study using SPSS version 22 to analyze research data and test predetermined hypotheses. The steps of data analysis techniques in this study are as follows:

1. Calculate the Abnormal Return (AR) of shares from 159 company samples. Calculation of Abnormal Return (AR) from 159 companies for 2 days before and 2 days after the announcement of the cash dividend (ex-dividend date), as follows:

a. Calculating Actual Individual stock return (Rit) during the observation time as follows:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

R_{it} : *Return* company's stock(i)at t time
P_{it} : Company's stock price(i)at t time
P_{it-1} : Stock price(i)at t-1 time

b. Calculating market return / Expected Return is calculating the daily market return during the observation period as follows:

$$R_{mt} = \frac{IHSG_{it} - IHSG_{it-1}}{IHSG_{it-1}}$$

R_{mt} : *Return* company's daily market at t time
$IHSG_{it}$: Company's *IndeksHargaSahamGabungan* (composite stock price index) at t time
$IHSG_{it-1}$: Company's *IndeksHargaSahamGabungan* (composite stock price index) at t-1 time

c. Calculating abnormal return towards market adjusted model through even study to determine whether significant abnormal return has occurred at dividend's announcement (Jogiyanto, 2010) using formula as follow:

$AR_{it} = R_{it} - R_{mt}$

2. Calculating trading volume activity (TVA) shares from 159 company samples, which have been frequently used by many researchers is to use the formula (Tandelilin, 2010) as follows

$$TVA = \frac{trading\ company's\ stock(i)\ at\ t\ time}{listing\ company's\ stock(i)\ at\ t\ time}$$

RESULTS AND DISCUSSION

Data

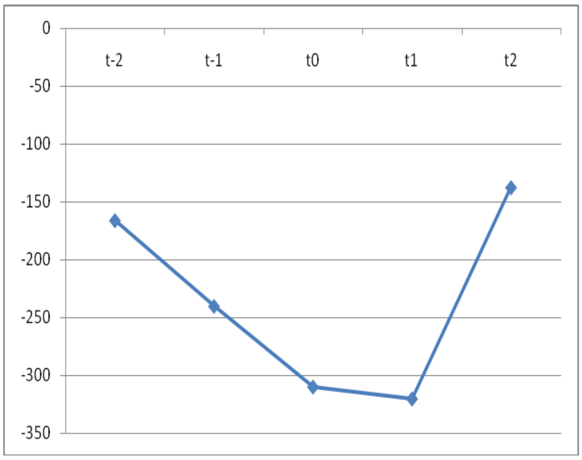
Data is taken from the Indonesia Stock Exchange. The companies that were sampled were all companies listed on the Indonesia Stock Exchange that distributed dividends in a row during 2015-2016.

Results of Calculation of Abnormal Return and Total Volume Activity

Abnormal return is obtained from the difference between actual return and expected return. Based on calculations during the period of events generated abnormal returns are negative.

Table 2Average AR during Event Period

t-2	t-1	t0	t1	t2
-166.0271952	-240.075156	-309.81044	-320.0892	-137.5301

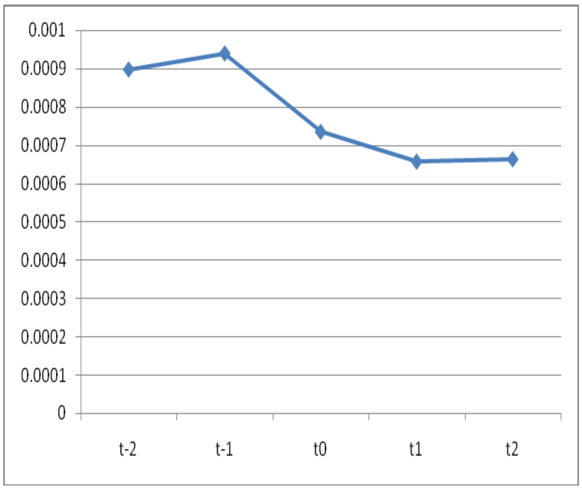


Graph 1. Average AR during Event Period

Based on the graph 1 the average abnormal return around the period of the event drastically decreases which takes place at t-2 to t + 1. This situation shows the behavior of investors reacting negatively before and after the ex-dividend date event. Negative market reaction makes investors sell a lot so that falling stock prices affect the return.

Table 3Average TVA during the Event Period

t-2	t-1	t0	t1	t2
0.000897089	0.000938868	0.000734666	0.000657411	0.00066363



Graph 2. Average TV When the Event Period

The results of market reaction responses are illustrated on graph 2, which occurred before the announcement of cash dividends, investors were in positive action, namely the trading volume increased, but before the ex-dividend event, the investor's reaction tended to decline until the announcement of cash dividends was announced. This shows that investor behavior responds to inconsistent dividend announcements that affect the decrease in trading volume activity.

Effect of Cash Dividend Announcement on Share Prices

The analytical tool used to examine the effect of cash dividend announcements on stock prices in this study using simple linear regression analysis. Prior to simple linear regression testing, the classical assumption test was performed, namely normality test, heteroscedasticity test and autocorrelation test.

1. *Heteroscedasticity Test*

In this study heteroscedasticity test was conducted using the park test, the results can be seen as follows:

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-302.787	1027.712		-.295	.768
	dividen	.425	.559	.043	.760	.448
a. Dependent Variable: price						

Based on the t count value of 0.760 <from t table on DF N-2 that is t in DF 157 with a value of 1.65462 and the coefficient of parameters for independent variables is not significant or significance value> 0.05 is 0.768, then there are no symptoms of heteroscedasticity.

2. Autocorrelation Test

In this study autocorrelation test was conducted using the Durbin-Watson test method, the results can be seen as follows:

Model Summary[b]										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.043[a]	.002	-.001	18191.62910	.002	.578	1	316	.448	1.866
a. Predictors: (Constant), dividends										
b. Dependent Variable: price										

Based on the calculated DW value is 1.866 with the number N = 159 and the number of independent variables 1 (K = 1.159) then the value of dU = 1.747 is obtained. So the DW 1.866 value is greater than the upper limit of dU which is 1,747 and less than (4-dU) 4-1,747 = 2,253 so that it can be concluded that there is no autocorrelation.

3. Hypothesis testing

Hypothesis testing using a simple linear regression test is the effect of the announcement of cash dividends on stock prices with a significance of 0.05. The test results are as follows:

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.043[a]	.002	-.001	18191.62910
a. Predictors: (Constant), dividends				
b. Dependent Variable: price				

Based on the SPSS test output, R square is 0.002, meaning the dividend announcement can only explain the stock price of 0.2%, while the 99.8% is influenced by other variables not examined in this study.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-302.787	1027.712		-.295	.768
	dividen	.425	.559	.043	.760	.448
a. Dependent Variable: price						

1) Based on the t test is known the significance value of the influence of the regression coefficient of determination of 0.448 which is above the value of 0.05, thus the first hypothesis is rejected which means that there is no effect of the announcement of cash dividends on stock prices. This means that the information contained in the announcement of cash dividends does not become a positive signal or does not have meaning for investors in making investment decisions so as not to affect changes in stock prices, because investors not only consider one information but also consider the various information available. This study supports Irrelevance Theory by Modigliani and Miller (1961) that dividends do not affect the value of the company, so the announcement of cash dividend distribution is unable to change preferences in

conducting transactions on the stock exchange and supports the Tax Preference Theory by Litzenberger and Ramaswamy (1979) which states that investors prefer capital gain because it can delay tax payments rather than cash dividend income. The results of this study are the same as those carried out by Asamoah (2010) in Ghana Stock Exchange, Hashemijoo, Arkedani, Younesi (2012) in consumer product companies in the Malaysian Stock Market. Gunaratne, Priyadarshanie and Samarakon (2015) in manufacturing companies in Sri Lanka.

Effect of Cash Dividend Announcement on Stock Trading Volume

1. Heteroscedasticity Test

In this study heteroscedasticity test was conducted using the park test, the results can be seen as follows:

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-57.996	28.645		-2.025	.044
	DIVIDEN	.003	.016	.012	.215	.830
a. Dependent Variable: VOLUME						

Based on the calculated t value of 0.215 <from t table on DF N-2, that is t in DF 157 with a value of 1.65462 and the coefficient of parameters for independent variables is not significant or significance value> 0.05 is 0.830, then there is no symptom of heteroscedasticity.

2. Autocorrelation Test

In the study conducted autocorrelation test with the Durbin Watson Test method, the results can be seen as follows:

Model Summary[b]					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.012[a]	.000	-.003	507.055421431	2.026
a. Predictors: (Constant), DIVIDEN					
b. Dependent Variable: VOLUME					

Based on the calculated DW value is 2.026 with the number N = 159 and the number of independent variables 1 (K = 1.159) then the value of dU = 1.747 is obtained. So the DW value of 2.026 is greater than the upper limit of dU which is 1,747 and less than (4-dU) 4-1,747 = 2,253 so that it can be concluded that there is no autocorrelation.

3. Hypothesis testing

Hypothesis testing using simple linear regression test is the effect of cash dividend announcement on stock volume with a significance of 0.05. The test results are as follows:

Model Summary[b]				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.012[a]	.000	-.003	507.055421431
a. Predictors: (Constant), DIVIDEN				
b. Dependent Variable: VOLUME				

Based on the SPSS test output, R square is 0.012, meaning that the announcement of cash dividends can only explain the stock trading volume of 0.1%, while the 99.9% is influenced by other variables not examined in this study.

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	-57.996	28.645		-2.025	.044
	DIVIDEN	.003	.016	.012	.215	.830
a. Dependent Variable: VOLUME						

Based on the t test is known the significance value of the influence of regression determination coefficient of 0.830 which is above the 0.05 value, thus the second hypothesis is rejected which means that there is no effect of the announcement of cash dividends on stock trading volume. This means that the market does not respond to information on cash dividend announcements as positive information or cash dividend announcements do not contain information that is useful for making investment decisions so that not all investors trade. So the announcement of cash dividends did not make investors react to the event. The results of this study are in accordance with the research conducted by Putra and Sujana (2013) on the Indonesia Stock Exchange, Yang and Wu (2014) on the Taiwan Stock Exchange.

Different Tests of Share Prices and Volume of Stock Trading Before and After Dividend Announcement

1. Homogeneity Test

In this study using ANOVA test to determine the homogeneity of table data as follows:

ANOVA					
PRICE					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	49240304709.248	191	257802642.457	.585	1.000
Within Groups	55533769143.862	126	440744199.554		
Total	104774073853.110	317			

Based on the table above, it is known that the significance value of 1.00 can be concluded that the stock price data has the same variant. Then the hypothesis is tested by Sample T Test Independent Test, the table as follows:

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	Df	Sig. (2-tailed)
PRICE 2015	Equal variances assumed	.003	.958	.023	316	.982
	Equal variances not assumed			.023	315.999	.982

		Levene's Test for Equality of Variances		t-test for Equality of Means		
		F	Sig.	t	Df	Sig. (2-tailed)
PRICE 2016	Equal variances assumed	.054	.816	.075	316	.940
	Equal variances not assumed			.075	315.956	.940

Based on the above data, it is known that the significance value in 2015 was 0.98 and in 2016 it was 0.94, the value was far greater than 0.05 so the third hypothesis was rejected which meant that there was no significant difference between abnormal return of shares before the announcement of cash dividends with stock abnormal return after the announcement of cash dividends. The test results show that there is no change in market reaction, meaning that the announcement of cash dividends in Indonesia does not contain information for investors. In other words, information on cash dividend distribution is considered to have no economic value and cannot yet describe the value of the company, so investors consider that these companies have not shown good prospects in the present and in the future. Based on the Irrelevance Theory, dividends do not affect the value of the company, so the announcement of cash dividend distribution is not able to change preferences in conducting transactions on the stock exchange. The results support the research conducted by Pratama, Syafitri, Aprilia (2014) at Kompas100 company, Anggriani (2011) in companies listed on the Indonesia Stock Exchange, Wahyuni and Sukartha (2012) in the company LQ 45 category, Hidayati (2014) study on Issuers Index Kompas 100, Megawati and Oktanina (2015) at companies on the Indonesia Stock Exchange.

ANOVA					
VOLUME					
	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	44146730.297	191	231134.714	1.605	.002
Within Groups	18142229.835	126	143985.951		
Total	62288960.132	317			

Based on the data above to test the trading volume homogeneity activity shows a significance value of 0.002 that is less than 0.05 so that the data is not homogeneous, so the hypothesis testing tool uses the Mann Whitney Test.

Test Statistics[a]	
	VOLUME 2015
Mann-Whitney U	11941.500
Wilcoxon W	24661.500
Z	-.853
Asymp. Sig. (2-tailed)	.394
a. Grouping Variable: GROUP	

Test Statistics[a]	
	VOLUME 2016
Mann-Whitney U	12145.500
Wilcoxon W	24865.500
Z	-.604
Asymp. Sig. (2-tailed)	.546
a. Grouping Variable: GROUP	

Based on the above data it can be seen that the calculated z -0.853 and -0.604 with the probability values 0.39 and 0.54, the value is far from greater than the significant value <0.05, so that the fourth hypothesis is rejected which means that there is no significant difference between the total volume of stock activity before the announcement of cash dividends with the total volume of activity shares after the announcement of cash dividends. This means that there is no change in the total volume of activity during the event period, so the announcement of cash dividends cannot always change the behavior of investors in Indonesia to conduct transactions around the event. So the volume of trading activities in the stock exchange depends not only on the announcement of cash dividends, but there are many other factors that influence the behavior of investors to conduct buying and selling transactions such as fundamental considerations of companies that distribute cash dividends, ongoing socio-political conditions, inflation rates and the level of interest rates, the rupiah exchange rate and government regulations in the industrial world. The results of this study are similar to the research conducted by Pratama, Syafitri, Aprilia (2014) at Kompas 100 company, Anggriani (2011) in companies listed on the Indonesia Stock Exchange, Wahyuni and Sukartha (2012) in the LQ 45 category company, Aprilia (2017) at the Indonesia Stock Exchange company, Handoko (2016) at the company LQ 45.

The results of this study support the Tax Preference Theory by Litzenberger and Ramaswamy (1979) which states that investors prefer capital gains because they can delay tax payments rather than cash dividend income. Because the announcement of cash dividends is not important information for investors, the results of this study are also in accordance with the dividends irrelevance theory proposed by Merton Miller and Franco Modigliani (2001). They argue that the value of a company is only determined by its basic ability to generate profits and business risks. In other words, the value of a company depends only on the income generated by its assets, not on how the income is divided between dividends and retained earnings. So that stock price movements and stock trading volume are influenced by many other factors besides cash dividend distribution, among others, the company's fundamental analysis and external information such as inflation, economic regulation, political fluctuations and issues both inside and outside the country.

CONCLUSION

Based on this research, there is no effect between the announcement of cash dividends with the stock price and trading volume of shares on the Indonesia Stock Exchange. In addition, the results of this study indicate that there is no difference in the same price and volume of stock trading before and after the announcement of cash dividends on the Indonesia Stock Exchange. Information on cash dividend announcements for companies listed on the Stock Exchange in 2015-2016 is not a relevant factor for investors in making investment decisions.

The overall conclusion of this study is that there is no information content from the announcement of cash dividends distributed by the company which affects the market reaction on the Indonesia Stock Exchange. So, investors consider the movement of shares based on capital gains rather than focus on dividend income distributed by the company, because the announcement of dividends cannot reflect the company's performance directly and there are other factors that investors consider.

Based on the conclusions, the researcher advises investors to be able to comprehensively analyze the information published by the company, so that it is not only motivated by dividend distribution announcements but also on the financial statements fundamental analysis and attention to information that can influence the stock market reaction. For further research, it is expected to conduct tests in addition to variable cash dividends that can affect the price and volume of stock trading and increase the duration of the research year and test other events or corporate actions.

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