

Stock Price Behaviour around the Announcement Date of Cash Dividend on the Indonesia Stock Exchange

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ABSTRACT

This study aims to explain the stock prices behavior around the announcement date of cash dividends. The study compares the stock prices a week before the cumulative date, cumulative date, record date, a week after the record date, and two weeks after the record date. The stock prices are also compared to the cash dividends nominals in 2017 and cash dividends in 2018. The researcher obtains the research data from LQ45 companies in 2018. The data is tested using the Wilcoxon Signed-Ranks Test. The results show that the date of announcement and recording of dividends do not have an impact on the increase in stock prices, but the result shows a decline in stock prices. The results of this study imply that the announcement of cash dividends does not trigger stock buying action around the announcement date for the companies who distribute cash dividends.

Keywords: Cash dividend; dividend distribution; stock price; stock price behavior; efficiency market.

INTRODUCTION

Currently, it is easier for Indonesian people to be investors in their capital market. Investors are facilitated in registering accounts and getting investor ID, the quantity of buying shares per lot, and securities online application. Also, stock investment education has reached students through investment galleries at the university to foster student interest in stock investment.

For traders, the stock market price plays a very important role in buying and selling decisions. Generally, they use technical analysis and make short-term transactions. Currently, the acquisition of information and stock transactions is made easier with the online securities application. Also, the information on the former dividend distribution date and the dividend distribution date in the current period will be placed in the online system in the corporate action news menu which included the cumulative date, record date, distribution date, and nominal cash dividend distributed. Information needed by investors can easily be found in online securities applications, such as e-Smart BNI Securities, IPOT, etc. The dividend dates are varied among companies, it spreads from February until October, but mostly in April and May. Information can be accessed as soon as possible without waiting for mass media information or market analyst recommendations. However, has the online information been used effectively by investors? This

question can be investigated with the changes in stock prices around the date of recording cash dividends because the information about dividend distribution dates of each company can be accessed in online securities applications. This study also obtains the data from this online securities application. The situation in Indonesia may differ from some years ago when information is dependent on the announcement or information by email, and the common people just choose to invest in mutual funds.

The previous study regarding the dividend announcement date and the volatility of share price has been done. The announcement of cash dividend makes the stock price reaction in Indonesian market [2], [12], [20], German stock market [11], Indian [17], [18], Pakistan [24], and Romanian [27]. The stock price will drop after the ex-dividend date, especially for the lower stock price in the Hong Kong market [10], the German stock market [15], and Pakistan [22], [24]. The study also gives evidence that the movement of the stock price is around the dividend price. However, this indicates a gap with the efficient market hypothesis that in a more efficient market, when new information emerges, no individual or group can predict stock price movements, so they cannot make profits from the new information [8], [17].

When approaching the date of recording the dividend, the price is very likely to increase. Traders buy stocks because they expect cash dividends to be

distributed. For short-term traders, the increase in the stock price will be best used to make a capital gain from selling the stock. Capital gain can certainly be realized if the shares owned are sold at a higher price. But on the other hand, waiting for the distribution of cash dividends is also an opportunity to get a return without having to sell shares.

To understand the market response around the date of dividend distribution in the Indonesian market, the movement of stock prices study is conducted in 2018 for the companies in the LQ45 index and compared the price change to the cash dividends in 2017. The situation other than in 2018 does not take into consideration the security and political events in Indonesia, especially in Jakarta as the nation's capital of Indonesia. In early 2016, there was a bomb in the city of Jakarta, indicating a security disturbance with a long recovery. In 2017 there was the political case of Ahok as governor of Jakarta and then the general election for the governor of Jakarta took place. In 2019 there was Indonesia presidential election which had an impact on activities in the capital market. In 2020 and 2021, there was a Covid-19 pandemic in the world that impacted activities in the capital market. Although in 2018 there were simultaneous regional elections outside the national capital, it is not expected to have a significant impact on distorting the capital market.

This study focuses on observing three things related to stock prices around the announcement of cash dividends, namely prices before the recording date, stock prices after the recording date, and the value of dividends distributed. This research observes the stock prices before the recording date to see whether there is an increase in stock prices when the recording date is approaching. The increasing price should be compared with dividends distributed to give an actual picture of potential returns between taking short-term transactions or waiting for cash dividends. After short-term transactions are deemed no longer profitable, the stock price will return to normal.

This study's implications are (a) showing the availability of data with an online securities system for investor account owners and (b) adding to the literature on stock price behavior around the dividend announcement date in situations where information about corporate actions can be captured easily from investors' accounts via the online system. The practical implications are aimed at (a) providing an overview to young investors or those who have just entered the stock market on how to behave with dividend distribution information that can be found on the online system, (b) giving an idea to investors whether dividend distribution information gives abnormal returns when the information

is easily accessible through each investor's account, and (c) providing an overview to choose technical analysis for trading or choose fundamental analysis for long-term investment. Meanwhile, the theoretical contribution is (a) to examine the content of dividend announcement information in the open information era, (b) to test the efficiency of information in the Indonesian capital market, and (c) to provide a pattern of stock price movements around the dividend announcement date. The implication for education is to provide an overview of the analysis in the capital market, which in this case is technical analysis for short-term investments.

Efficient Market Hypothesis

The efficient market hypothesis asserts prices are random, which means no individual or group of people can predict the stock or indices movement [17]. "When new relevant information enters the market relating to an asset, this information will be used to analyze and interpret the value of the asset concerned. As a result, there is a possibility of a shift to a new equilibrium price" [8].

Then information about dividend announcements is also included in the explanation of the semi-strong form of efficiency market. The published information can influence the stock price of companies that publish information, such announcements include the announcement of dividend distribution [8]. The characteristics of the semi-strong efficient market hypothesis (EMH) can be related to abnormal returns. If the semi-strong form, no investor or group of investors can use the published information to get abnormal returns in the long term [8]. Nevertheless, it is possible to provide an opportunity in the short term. Predictably, stock prices will rise when approaching the dividend announcement to obtain short-term returns.

The relationship between dividends and stock prices is also discussed in the irrelevance theory and signaling theory. The irrelevance theory introduced by Miller and Modigliani states that dividend payment must not have an impact on stock prices in a perfect market [15], even the distribution of dividends reduces the market value of the company [4] because it reduces assets and profits in the next time. In contrast, the signaling theory and the dividend puzzle indicate that dividend payments are likely to have a profound impact on the stock price [15]. Investors perceive certain information as good or bad based on the signals transmitted by the company's management in regards to its future performance [27]. The evidence according to the signaling theory shows a positive correlation between the dividend and stock price [15].

Cash Dividend

A dividend indicates a company's financial health [25]. A dividend indicates the future company earning and management forecasting ability [4]. Each period the company distributes profits to owners. The distribution of profits to owners can be in the form of cash or shares. The distribution of profits in the form of cash is called cash dividends. The distribution of cash dividends can vary between companies in terms of the frequency of distribution, as well as the nominal distribution. Some companies distribute cash dividends twice in one year, other companies distribute cash dividends once, but there are also companies that do not distribute cash dividends. The number of cash dividends distributed may vary depending on the decision of the general meeting of shareholders on the portion of profits to be distributed in cash dividends.

There are differences in the policy of determining the number of cash dividends distributed in western countries and Indonesia [12]. In western countries, e.g., the US market, London market, German market, and Greek market, the dividend is determined by the management while in Indonesia it is determined at the shareholders' meeting. The companies' boards who decide to pay the dividend and the amount of the dividend. Then the board declares to distribute dividends as a commitment to the payment of a dividend. This difference in the method of determining the distribution of the dividend amount has the impact that the level of uncertainty in the amount of cash dividend distribution in Indonesia is lower than the uncertainty that occurs in western countries because investors already know the dividend distribution plan at the general meeting of shareholders.

The Information in Dividend Announcement

Management tries to provide information that can be used by investors. A statement released by a company can be a signal, especially for investors [19]. Dividend information is good news for investors. It has been suggested that "good news" information can reduce market expectations regarding the volatility of long-term returns. Afterwards, "good news" information may increase market expectations regarding the immediate returns [7]. This will affect the stock price, as well as the investor, who might buy the company stock.

Investors closely assess and monitor the dividend policy of firms as one of the top priority investment strategies [1]. Signaling models views the dividend pay-out policy as a signal of future earnings [23]. Information on earnings and

dividends has shown a large influence on the value of companies. The market reaction occurs when there is information about the company's prospects in the future, for example, information about earnings [6], then there is also information on earning distribution in dividend announcements. Investors respond more favorably to dividends when in times of uncertainty. Information about paying dividends is a signal for firm quality [3].

The dividend relevance theory broadly states that the distribution of earnings is a factor of relevance in the company's valuation [13]. Sometimes information about dividends can create an optimistic bias on the value of the company in the future, especially when the prediction is made by a well-known (star) analyst [9]. The assumption is that forecasts made by star analysts are more accurate than those made by non-star analysts.

Do dividend announcements contain information? Experts express varying opinions on whether dividends have information content [8]. There are several methods to test the information content of dividends [8]: (a) test the predictive power of dividends on earnings; (b) the ability to increase profit; and (c) observing the movement of stock prices around the announcement of dividends using an event study. Given the methods mentioned, this research focuses on testing information using event studies. The event study method examines the market reaction to an event [8] which in this study is the publication of information with an announcement. The announcement will make a market reaction that is indicated by the movement of stock prices.

The results of the research on the Hong Kong Stock Exchange show that dividend information is more favorable than earnings information [4]. However, there is an opinion that earnings information and earnings forecasts provide a strong signal regarding the prediction of company performance. It was further stated that information about earnings and profit predictions had more impact on stock prices when it occurred in developed countries (US, Australia, Japan), provided they had a fairly high tax on dividends. If the Hong Kong stock exchange shows that dividends are more favored than earnings announcements or profit predictions, the same thing is predicted in Indonesia as well. Moreover, Hong Kong experienced a better level of economy and capital market than Indonesia.

Stock Price

Dividend policy is one of the factors for market volatility, explaining the variation in stock prices [1]. In emerging markets such as Indonesia, stock price movements fluctuate relatively high, this

includes around the time of the dividend distribution announcement [20]. Dividend distribution information is believed to affect stock price movements on the stock exchange, caused by the actions of investors who want to make a profit from these events [2].

In daily transactions, there are several indicators that can be related to stock prices, including opening price (open), closing price (close), highest share price (highest), lowest share price (lowest), average share price (average), and trading volume (the number of transactions traded in the market in a given period).

The stock price or the actual stock value can be divided into three, namely stocks with large values, or called first liner/big cap, and stocks of small value which are commonly referred to as second liners and third liners [26]. The three stock price categories may have characteristics that have not been grouped in this study.

Information on stock prices in daily transactions has been managed by information system developers, giving rise to information in various forms. Information that is widely used by investors, traders, observers, and analysts, for example, is a graphical display. The charts are reorganized so that trend analysts appear in stock trading which is part of technical analysis.

Evidence from Nigeria shows that an increase in cash dividends can affect stock price increases [14]. This indicates that stock prices play an important role in determining stock market prices.

Stock Price Behaviour

Bullish is the tendency of prices to move up/strengthen continuously within a certain period (uptrend). Bearish is the tendency of prices to move down/weaken continuously within a certain period (downtrend). When it is bullish, the buyer plays a role, while when it is bearish the seller plays a role [21]. Bulls are buyers, while bears are sellers. When many buyers are trying to get shares, the price will move up (uptrend). On the other hand, when sellers try to sell their shares, the stock price moves down (downtrend).

When approaching the date of recording the dividend, it is estimated that buyers will see an opportunity to get returns from the distribution of dividends, with increased buying demand it will increase the share price. Logically, the buyer's willingness to accept an increase in stock prices from the normal price is a maximum of the number of dividends received. The number of buyers is interested because the stock listing assumes that the information on the dividend recording date is read by the public or stock buyers.

When approaching the dividend recording date, it is estimated that buyers see an opportunity to get returns from the distribution of dividends, so they will try to buy shares. With the increase in demand for the purchase of shares, it will increase the share price. Logically, the maximum increase from the normal price is estimated at the number of dividends per share to be distributed. This increase in share purchases occurred with the assumption that the information on the dividend recording date was read by the public.

Stock Price Analysis

The analysis commonly used in capital market transactions are trends and candlesticks. A trend is a tendency of price changes, for example, an uptrend or a downtrend. When the price tends to fall but the trading volume increases, it is very possible that there will be a change in the uptrend.

Candlesticks are displayed in the form of a chart. Candlesticks can be an illustration of stock prices that occur in the capital market in the form of prices: open, low, high, close, accompanied by volume and date information. In the stock trading information system, the candlestick display can be set in minutes, hours, daily or weekly.

Dividend Announcement Date

The distribution of dividends occurs from period to period, the dividend distribution date can be predicted, and even by the information systems, the distribution date can be easily accessed on the online system. The distribution of dividends begins with the announcement of the dividend distribution, as well as the date of recording of shareholders who are entitled to dividends. Between the announcement date and the expiration date of the dividend rights holder's recording is called the dividend month premium [11].

The following are the dates related to the distribution of the company's dividends [12] [27]: (a) **Declaration date**: is the announcement date of the dividend distribution plan. (b) **Reference date**: is the date joint-stock company that are taken into account for determining the shareholder's status. (c) **Cumulative date**: End of the Trading Period of Shares with Dividend Rights. The cumulative dividend date is important because shareholders are entitled to dividends if on that date they are registered as shareholders. (d) **Record date**: the last date the company recorded the shareholders who are entitled to receive dividends. (e) **Ex-dividend date**: the date of release of dividend rights from shares. (f) **Payment date**: is the date of sending dividends from the company to shareholders who have been registered as dividend recipients.

Abnormal Return

Abnormal return is the excess of the return that occurs from the normal return. Abnormal returns can be a proxy for market reactions [6]. Event studies analyze abnormal returns from securities that may occur around the announcement of an event [6], [8]. This abnormal return has two parts, namely the realized return which is the difference between the current stock price and the previous stock price, plus the expected return component using estimation models. However, the current study does not completely use the abnormal return calculation from the price difference and the expected return, but only focuses on the price difference. Thus, only half of the part in the calculation of abnormal returns is not referred to as abnormal returns. The focus observed is only on price changes.

High returns in dividend month premium, which are positive abnormal returns in months in which corporations are predicted to issue dividend payments [11]. In Vietnam, research has been carried out on abnormal returns during the dividend announcement date up to the ex-dividend date for the 2008-2015 data period, the results show that there is a positive impact on stock prices around the dividend announcement date [16].

Differences in Share Prices Regarding Cash Dividend Announcement Date

Shareholders react as a response to new information regarding dividends [27]. In simple terms, it can be explained that the announcement of dividend distribution is good news for investors who already own shares of a company. The announcement date is also a momentum for stock traders to buy and sell shares. The market will respond to the dividend announcement date by increasing stock prices.

Many studies are more inclined to discuss stock prices around the ex-dividend date. In general, the discussion of the ex-dividend date is associated with stock returns or the decline in stock prices after that. This research is focused on detecting price changes around the cumulative date and record date. These two pieces of information can be obtained from online stock transaction applications so that investors, including novice investors, can access the information. Likewise, the list of company profiles included in the LQ45 index also includes the cumulative date and the record date from year to year.

Currently, information about the company's actions can be obtained on online securities applications that can be accessed by each investor.

One of the actions is the distribution of dividends. From the application, you can track the distribution of dividends in previous years. It has also been informed of the dates related to the registration date of the shareholders for the distribution of dividends. If the investor is observant, then he can take the information and use the opportunity to transact.

Since the distribution of dividends is positive and interesting information, it may trigger the purchase of shares of companies that will distribute dividends. Prices will tend to rise. But does this condition occur in the Indonesian capital market? Because not all investors are aware of accessing this information and using the opportunity to earn dividends.

Previous research [20] states that there was a statistically different change in the average price before and after the ex-dividend date. This price difference indicates that there is a movement in the stock around the announcement date of the cash dividend. Evidence from Bucharest Stock Exchange shows that there is a significant influence on the declaration date, ex-date, and the record date of the abnormal return [27].

When approaching the recording date of shareholders who will receive dividends, stock traders try to buy shares to gain rights in the dividend distribution. Purchase of shares will continue to occur until the last date of recording. The purchase of shares from these stock traders will increase the stock market price. The increase in share prices should be seen by comparing prices from the previous time. At a glance, it can be seen that price movements in the Indonesian capital market appear to occur at the time of the announcement of the dividend, so a price comparison one week before the cumulative date can be used to predict the change in the increase.

When dividends are an indication of a company's health [25] which is good news, then the market should respond to that which triggers price increases. There is research that states that dividend announcements have an effect on increasing stock prices [2]. Therefore, it is estimated that the increase in stock prices will occur around the date of recording dividends.

Previous research has shown that prices around the cumulative date do not provide abnormal returns, which means that there is no significant increase in stock prices [12]. Nevertheless, the research was only one and two days before and after the cumulative date.

H1a: The stock price on the cumulative date is higher than a week before the cumulative date.

H1b: The stock price on the cumulative date is higher than the price on the rec date.

A research result states that stock prices at the ex-date have decreased [15], especially in stocks with low values [10]. This shows that the stock price when the recording of shareholders entitled to dividends has been completed, then the price in the market will return to normal. In this study, it is estimated that the stock price after the record date will gradually decline. The record date is estimated to be the highest peak in the stock price. Then a week and the next two weeks will gradually go down to the normal point.

H2a: The price on the record date is higher than the stock price one week after the record date.

H2b: The stock price on the record date is higher than the stock price two weeks after the record date.

H2c: The stock price one week after the record date is higher than the stock price two weeks after the record date.

The difference between stock returns and the value of cash dividends

The second important thing is the number of dividends to be distributed. The dividend amount is the amount expected to be obtained by investors who are recorded in the distribution of dividends. If the market sees an upward movement in share prices and they are triggered to participate in buying shares, then it may be possible that the increase in share prices approaching shareholder records is higher than the number of dividends distributed. If the increase is higher than the number of dividends distributed, this indicates that it will be more profitable for people who make short-term transactions by buying and selling shares near the listing date of the shares rather than waiting for dividends to be distributed.

Although it is suspected that there will be differences in changes in stock prices and the number of cash dividends to be distributed, the research evidence shows that changes in stock prices before and after the ex-dividend date are not statistically different from the number of cash dividends per share [20]. This triggers the researcher to re-examine whether it is true that there is no difference between the return from stock prices and the value of cash dividends, or whether it is proven to be different between the two.

H3a: The increase in the average share price cumulative date is higher than the value of cash dividends distributed in the previous year.

H3b: The increase in the average share price cumulative date is higher than the value of cash dividends in the study year.

H3c: The increase in the average share price of the rec date is higher than the cash dividend of the previous year.

H3d: The increase in the average share price of the rec date is higher than the cash dividend of the previous year.

After the recording date of the shareholders for the distribution of cash dividends, the potential for obtaining stock returns from the distribution of dividends has been ascertained. Traders naturally decreased their interest in trading stocks after that. It is not uncommon for stock prices to gradually return to normal. There may be two indications, namely, the stock price is starting to fall, and the stock price is similar to the week before the shareholder listing.

Prediction Model

Stock price movements can be predicted as follows:

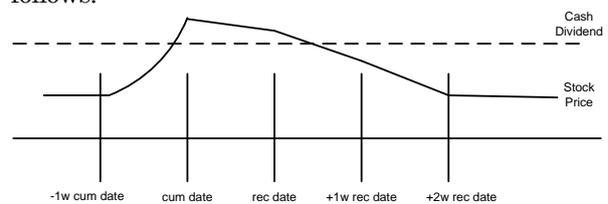


Figure 1. Stock Price Movement Prediction Model

The hypotheses in this study are simply described in the research model as shown above. The share price starts to rise a week before the cumulative date if the information has been captured by the shareholders. The peak of the increase is on the cumulative date, then it moves down slowly after the cumulative date. The decline will continue to occur until the normal price is estimated for up to two weeks.

RESEARCH METHOD

Research Design

This research is an event study with a time window around the recording date of shareholders for dividend distribution. Designed with a quantitative method to explain the behavior of stock prices around the recording date when the shareholder is registered to receive cash dividend and the possibility of abnormal returns.

Data and variables used: Prices on the cumulative date; Price two weeks before cumulative date; Price one week before cumulative date; Prices on rec date; Price one week after rec date; Price two weeks after rec date; Value of cash dividends distributed in the year concerned; Value of cash dividends distributed in the previous year.

Price data is detected based on daily transactions on the dates surrounding the announcement and recording of dividend recipients. The detected price data are as follows: the lowest share price (lowest); the highest price (highest); and the average share price. The time for data collection related to stock prices is 2018 for data on dividend announcement dates and stock prices, 2017 for data on last year's dividends.

The hypotheses were tested using the Wilcoxon signed-rank test. This is a nonparametric test because there is a non-normal distribution constraint with One-Sample Kolmogorov Smirnov on variable value differences. This Wilcoxon signed-rank test is to determine whether the mean of the variables being compared is statistically different. The compared variable is the stock price on the observation date. The first variable is placed which is conceptually estimated to have a higher stock price than the second variable. Then the increase in stock prices compared to the value of cash dividends in the previous period. The hypothesis is accepted if the significance level is < 0.05 and the mean difference is positive ($\text{mean var1} > \text{mean var2}$).

Sampling

The populations in this study are companies in the LQ45 index. The sampling method is purposive sampling. The sample criteria used are:

- Criterion 1: During 2018 it is included in the LQ45 Index category for the February-July 2018 period or the August 2018-January 2019 period.
- Criterion 2: Distributing cash dividends: Previous year (2017) and 2018
- Criterion 3: There is no corporate action on shares. The Company did not take action on shares (stock split, stock options, initial public offering) in 2017 or 2018 after the cumulative date. The company's actions can affect changes in the value of shares.

The distribution of dividends in the previous year in this case in 2017 can be used by investors to predict the number of dividends to be distributed in 2018. Using this information, investors can estimate the expected increase in the presence of share distribution information. This information on the previous year's dividend also plays a role in answering whether the information on dividend distribution last year was noticed by investors and whether the price increase was above or below the estimated dividend last year.

Companies that carry out a stock split will affect the nominal share price, thus the nominal amount of dividends divided will also change and the previous information becomes less relevant or needs to be adjusted. So, in this research, companies that do stock splits are not included in the analysis.

Data source

The data used are primary data obtained from the BNI Securities (E-Smart BNI) stock trading transaction application. The use of online media as a means of transacting shares has indeed started to bloom. This is a development in the use of information systems to support the rise of transactions in the capital market. With the independent online transaction system, information regarding the company's actions to distribute dividends as used in this study can be easily accessed by investors/traders.

Table 1. Data Types and Data Sources

Data Types	Data Sources
Companies in LQ45	[idx.co.id] – [Market Data] – [Statistical Report] – [LQ45 Company Performance Summary] for companies included in LQ45 for the period February – July 2018 and August 2018 – January 2019.
Stock Policy (no action)	[E-smart] [5007-Market] – [Stock Details] - [CA News]. Observe and note whether there is a stock policy after the cumulative date in 2017 and 2018. If there is no stock policy, it is given a value of 1, and if there is a stock policy, it is marked cross or zero and does not meet the sample criteria.
Cumulative date	BNI E-Smart: Market – Stock Detail: CA News: Cumulative date If in one year the company distributes dividends twice, the data used for the first period is used. 1) Research data only uses one record for one company per year 2) In general, the first distribution is nominally higher than the second distribution.
Rec Date	E-Smart BNI: Market – Stock Detail: CA News: Rec Date
Stock Price	E-Smart BNI: Chart (details as per date required)
Cash Dividend	BNI E-Smart: (5007) Market: Stock Detail: CA News: Div Amount. To make the search easier, the data is sorted by cumulative date.

Data collection notes:

- If there is a cash dividend distribution more than once a year, then the transaction used in this study is the first date in 2017 or 2018. Considering, the transaction being measured is as of the dividend date, not an accumulation in one year.
- If the date stated in the calculation of the date before or after the cumulative date turns out that the capital market is closed or there is no stock trading for a particular company, then the data is represented from the previous working day.

Data Processing Techniques

Descriptive statistics are used to describe the sample and its characteristics. In this descriptive study, the average value of stock prices, the highest value, and the lowest value are presented. Hypothesis testing was done by a non-parametric test, namely the Wilcoxon signed-rank test.

Table 2. Stock Price Comparison Prediction

Item of Stock Prices	Description
-1w cum date < cum date	Stock price a week before the cumulative date
Cum date > rec date	Stock price on the record date and cum date
rec date > +1w rec date	Stock price a week after the record date
Rec date > +2w rec date	Stock price two weeks after the record date
+1w rec date > +2w rec date	Stock price a week and two weeks after the record date
Price increase cum date > previous year's cash dividend	Comparison of the increase in stock prices with the number of cash dividends distributed in the previous year ((cum date (-) CumDate-1W) – Dividend 2017)
Price increase cum date > research year cash dividend	Comparison of the increase in stock prices with the number of cash dividends distributed in the previous year ((cum date (-) CumDate-1W) – Dividend 2018)
Price increase cum date > previous year's cash dividend	Comparison of the increase in stock prices with the number of cash dividends distributed in the research year ((Rec date (-) CumDate-1W) – Dividend 2017)
Price increase cum date > research year cash dividend	Comparison of the increase in stock prices with the number of cash dividends distributed in the research year ((Rec date (-) CumDate-1W) – Dividend 2018)

RESULTS AND DISCUSSION

Data Description

The data description is intended to provide an overview of the sample, the number of cash dividends, and stock prices. This description is an initial description of the profiles of the companies that are the object of research.

The list of research samples is as in the following table. The list has gone through the criteria checking stage as stated in the attached criteria checking data.

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Table 3. Sample Data

No.	Description	Count
1	Total Data of Identified Companies registered with LQ45 Period 1 and Period 2	50
2	Registered LQ45 2018 Period 1 (Feb-Jul 2018)	45
3	Registered LQ45 Year 2018 Period 2 (Aug 2018-Jan 2019)	45
4	Not registered Period 1 or Period 2	5
5	LQ45 registered company data in Period 1 and Period 2 (Criterion 1)	40
6	The company did not distribute cash dividends in 2018 and 2017	(6)
7	Companies that distribute cash dividends in 2018 (Criterion 2)	34
8	The company carries out a stock policy in 2017 or 2018 during the research period	4
9	Companies as sample	30

The research sample companies that were examined were those that distributed dividends in 2017 and 2018. Some paid dividends twice, and sometimes the second dividend was greater than the first dividend. However, this study uses the first dividend distribution data.

The minimum value of dividends distributed is Rp2 in 2017 and Rp3 in 2018. The maximum value of cash dividends distributed is the same for 2017 and 2018 which is Rp2600 per share. The average cash dividend value in 2017 was Rp228 and in 2018 it was Rp231. In 2018 it was not much different from 2017 but experienced a slight increase in 2017.

The average share price in the previous week was IDR 8360 with a minimum price of IDR 295 and a maximum price of IDR 71638. If the dividend value in the previous year (2018) is compared to the average share price in 2019, it is 231/8360 or 2.76% of the share price. This data shows the 2% to 3% dividend portion that can be expected when investing in stocks. The data also shows that in 2018 the dividend rate was quite low because 3% was lower than the interest rate on savings or time deposits which was 6.46%. A lower rate of return from deposits usually has an impact on the decline in stock market prices. This condition can be a concern in this research.

A phenomenon also occurred in the capital market that the stock price during the cumulative date compared to the previous week experienced a slight decline of around 0.84% or (minus) Rp70, from Rp8360 in the week before the cumulative date to Rp8290 during the cumulative date.

The stock price decreased again on the record date. The decrease occurred from the cumulative date to the record date of about 2.32% from the price of Rp8290 on the cumulative date to Rp8098 during the rec date.

Table 4. List of Companies Samples in LQ45

No	Stock Code	Companies	Categories
1	ADHI	Adhi Karya (Persero) Tbk.	Building Construction
2	ADRO	Adaro Energy Tbk.	Coal Mining
3	AKRA	AKR Corporindo Tbk.	Wholesale
4	ASII	Astra International Tbk	Automotive and Components
5	BBCA	Bank Central Asia Tbk.	Bank
6	BBNI	Bank Negara Indonesia (Persero) Tbk.	Bank
7	BBTN	Bank Tabungan Negara (Persero) Tbk.	Bank
8	BJBR	BPD Jawa Barat dan Banten Tbk.	Bank
9	GGRM	Gudang Garam Tbk	Tobacco Manufacturers
10	HMSP	HM Sampoerna Tbk.	Tobacco Manufacturers
11	ICBP	Indofood CBP Sukses Makmur Tbk.	Food and Beverages
12	INDF	Indofood Sukses Makmur Tbk.	Food and Beverages
13	INTP	Indocement Tunggul Prakasa Tbk.	Cement
14	JSMR	Jasa Marga (Persero) Tbk.	Toll Road, Airport, Harbor and Allied Products
15	KLBF	Kalbe Farma Tbk.	Pharmaceuticals,
16	LPKR	Lippo Karawaci Tbk.	Property and Real Estate
17	LPPF	Matahari Department Store Tbk.	Retail Trade
18	MNCN	Media Nusantara Citra Tbk.	Advertising, Printing and Media
19	PGAS	Perusahaan Gas Negara (Persero) Tbk.	Energy
20	PTPP	PP (Persero) Tbk.	Building Construction
21	SCMA	Surya Citra Media Tbk.	Advertising, Printing And Media
22	SMGR	Semen Indonesia (Persero) Tbk	Cement
23	SRIL	Sri Rejeki Isman Tbk.	Textile, Garment
24	SSMS	Sawit Sumbermas Sarana Tbk.	Plantation
25	TLKM	Telekomunikasi Indonesia (Persero) Tbk	Telecommunication
26	UNTR	United Tractors Tbk	Wholesale (Durable and Non-Durable Goods
27	UNVR	Unilever Indonesia Tbk.	Cosmetics and Household
28	WIKA	Wijaya Karya (Persero) Tbk.	Building Construction
29	WSBP	Waskita Beton Precast Tbk.	Cement
30	WSKT	Waskita Karya (Persero) Tbk.	Building Construction

Table 5. Descriptive Statistics for Cash Dividends

	N	Min	Max	Mean	Std. Dev.
Cash Dividends 2017	30	2	2600	228.87	489.861
Cash Dividends 2018	30	3	2600	231.80	483.216

Table 6. Descriptive Statistics of Stock Price -1 Week Cumulative Date 2018

Stock Price	N	Min	Max	Mean	Std. Dev.
Low Cum -1 Week	30	287	70375	8231.03	13885.084
High Cum -1 Week	30	302	72900	8489.60	14315.651
Average Cum -1 Week	30	295	71638	8360.43	14100.216

Table 7. Descriptive Statistics of Share Prices on Cumulative Date 2018

Stock Price	N	Min	Max	Mean	Std. Dev.
Low Cum Date	30	267	67800	8152.40	13626.906
High Cum Date	30	281	69875	8429.07	14053.782
Average Cum Date	30	274	68838	8290.87	13840.316

Table 8. Descriptive Statistics of Stock Prices on Rec Date 2018

Stock Price	N	Min	Max	Mean	Std. Dev.
Low Cum Date	30	265	67800	7966.80	13535.375
High Cum Date	30	281	69300	8230.27	13900.521
Average Cum Date	30	273	68550	8098.67	13717.429

Table 9. Descriptive Statistics of Stock Prices on Rec Date +1 Week 2018

Stock Price	N	Min	Max	Mean	Std. Dev.
Low Cum Date	30	257	69500	7892.20	13653.735
High Cum Date	30	278	70475	8115.67	13897.527
Average Cum Date	30	268	69988	8004.10	13775.364

Table 10. Descriptive Statistics of Stock Prices on Rec Date 2018

Stock Price	N	Min	Max	Mean	Std. Dev.
Low Cum Date	30	292	69275	7776.77	13454.785
High Cum Date	30	306	71000	8109.23	13905.113
Average Cum Date	30	299	70138	7943.13	13679.216

Interestingly, stock prices have continued to decline from a week before the cumulative date up

to two weeks after the rec date. Descriptively, these data have shown that the distribution of dividends does not have much impact on the enthusiasm of the market to buy shares so the share price does not experience a significant increase. However, to answer whether the decrease is statistically significant, a statistical test will be carried out in the hypothesis testing section.

Table 11. Stock Price Change

Date	Average	Change	Change in %
Cum -1W	8360		
Cum	8290	-70	-0,84%
Rec Date	8098	-192	-2,32%
Rec +1W	8004	-94	-1,16%
Rec +2W	7943	-61	-0,76%

Wilcoxon Signed-Rank Test

The Wilcoxon signed-rank test is presented in two types of descriptive and different tests. The statistical descriptive table shows the average share price on a certain date. Different test tables are used to show statistical differences in stock prices on the compared dates.

Table 12. Descriptive of Wilcoxon Signed Rank Test

Variables	N	Mean	Std. Dev.	Min	Max
Average Cum -1 Week	30	8360.43	14100.216	295	71638
Average Cum Date	30	8290.87	13840.316	274	68838
Average Rec Date	30	8098.67	13717.429	273	68550
Average Rec Date +1 week	30	8004.10	13775.364	268	69988
Average Rec Date +2 week	30	7943.13	13679.216	299	70138
Div17	30	228.87	489.861	2	2600
Div18	30	231.80	483.216	3	2600
Dif CM * -1W	30	-69.57	731.140	-2800	2013
Dif RC * CM-1W	30	-261.77	687.253	-3088	1063

Hypotheses Testing

The results of the Wilcoxon signed-rank test were analyzed to show a comparison of the observed data. The level of significance indicates the strength of the difference.

Hypothesis 1a states that the stock price on the cumulative date is higher than the price in the previous week. The results of the different tests showed a significance level of 0.136 (>0.05), thus hypothesis 1a was not confirmed. Even the share price tends to decrease from Rp8360 in the week before the cumulative date to Rp8290 on the cumulative date.

Hypothesis 1b compares the stock price at the cumulative date with the stock price at the record date. The hypothesis states that the price at the

cumulative date is higher than the stock price at the record date. The difference test showed a significance level of 0.000 (<0.05) indicating a significant difference. The share price decreased from IDR 8,290 on the cumulative date to IDR 8,098 on the record date. Neither statistically nor the price level confirms that the stock price at the cumulative date is higher than the record date, or H1b is statistically confirmed. However, this statistical confirmation has not been very satisfactory when looking at globally that stock prices since the week before the cumulative date have not increased along with the share distribution information, but stock prices tend to always decrease.

Hypothesis 2a states that the stock price on the record date is higher than the price a week after. On average, there was a decrease in share price from Rp8098 at the record date to Rp8004 in the following week, but the decrease was at a significance level of 0.254 (>0.05) so it was not significant. Thus, H2a is not statistically confirmed.

Hypothesis 2b states that the price at the record date is higher than the price two weeks later. On average, it decreased from Rp8098 to Rp7943, but the decrease was at the significance level of 0.393 (>0.05), so it was not significant in the difference test. Thus, H2b was not statistically confirmed.

Hypothesis 2c states that the stock price one week after the record date is higher than the stock price two weeks after the record date. On average, there was a decrease from Rp8004 to Rp7943, but the decrease was not significant at the significance level of 0.959 (>0.05). Thus, H2c was not statistically confirmed.

Hypothesis 3a states that the increase in stock prices from a week before the cumulative date to the cumulative date in 2018 is higher than the cash dividends distributed per share in 2017. The results of the difference tests show a significant difference at the level of 0.007 ($\text{sig} < 0.01$), but the share price decreased or was negative by Rp69 while the share dividend value was around Rp228, so the amount of dividend value with changes in share price increases cannot be compared. Thus, H3a is not confirmed.

Hypothesis 3b states that the amount of increase in stock prices starting from a week before the cumulative date until the cumulative date in 2018 is higher than the number of cash dividends in 2018. The data does show a difference at the significance level of 0.005 ($\text{sig} < 0.01$) but the event is a price decline. While the hypothesis is an increase in stock prices. So, hypothesis 3b is not confirmed.

Hypothesis 3c states that the increase in stock prices starting a week before the cumulative date until the record date in 2018 is higher than the

Table 13. Hypothesis Test Results

Stock Price	Hyp.	Mean Var 1	Mean Var 2	Mean Differ.	Z	Sig.	Description
CumDate > CumDate-1W	H1a	8290.87	8360.43	-69.56	-1.491	.136	Not Confirmed
CumDate > RecDate	H1b	8290.87	8098.67	192.2	-3.795	.000	Confirmed
RecDate > RedDate+1W	H2a	8098.67	8004.10	94.57	-1.142	.254	Not Confirmed
RecDate > RecDate+2W	H2b	8098.67	7943.13	155.54	-.854	.393	Not Confirmed
RecDate+1w > RecDate+2w	H2c	8004.10	7943.13	60.97	-.051	.959	Not Confirmed
Price increase cum > Cash Dividend 2017	H3a	-69.57	228.87	-298.44	-2.684	.007	Not Confirmed / opposite direction
Price increase cum > Cash Dividend 2018	H3b	-69.57	231.80	-301.37	-2.787	.005	Not Confirmed / opposite direction
Price increase rec > Cash Dividend 2017	H3c	-261.77	228.87	-490.64	-3.672	.000	Not Confirmed / opposite direction
Price increase rec > Cash Dividend 2018	H3d	-261.77	231.80	-493.57	-3.733	.000	Not Confirmed / opposite direction

number of cash dividends in 2017. The results show a difference at the significance level of 0.000 (sig < 0.001) but the stock price has decreased instead of increased. So, hypothesis H3c is not confirmed.

Hypothesis 3d states that the increase in stock prices starting a week before the cumulative date to the record date in 2018 is higher than the number of cash dividends in 2018. The result shows a difference at the 0.000 significance level (sig < 0.001) but the stock price has decreased instead of increasing. So, hypothesis 3d is not confirmed.

Discussion

The prediction, the price will increase due to the stimulus from the distribution of dividends. Traders who want to get dividends will buy shares, triggering price increases. Likewise, information on when the recording date will be carried out is also available in the online securities system that can be accessed easily. The increase is estimated until the cumulative date and gradually decreases to return to normal in the next period (Figure 2). However, the reality is that stock prices continue to decline from a week before the cumulative date to two weeks after the record date.

Thus, as shown in Figure 4, changes in stock prices tend to be negative. Stock prices move to the opposite of predictions, there was a sharp decline from a week before the cumulative date to the cumulative date and still declined sharply towards the record date, then the stock price gradually recovered in the following week after the record date.

Generally, many factors may be influencing the capital market in Indonesia. In retrospect, there were many political events on central and regional levels, namely general elections. In addition, there are trade wars between the strongest countries and the change in deposit interest rates.

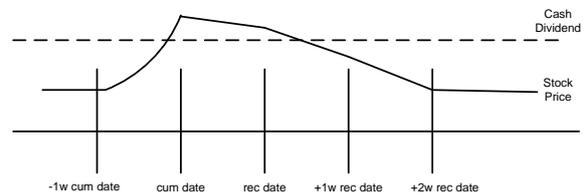


Figure 2. Stock Price Prediction

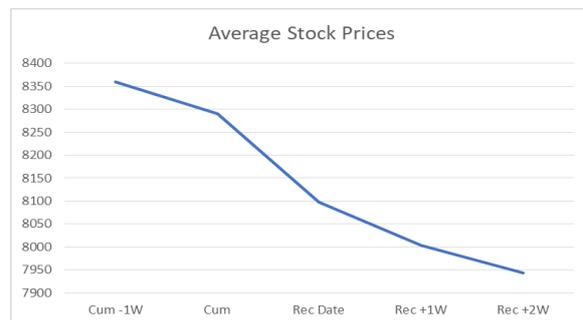


Figure 3. Average Stock Price Research Data

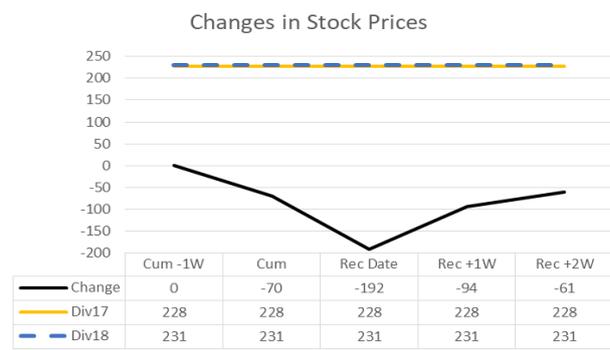


Figure 4. Changes in Stock Prices Research Data

This study has data on cash dividend announcement and distribution dates that spread from March until July 2018, but the most are May than April. Column (a) is the count of companies included in LQ45 in periods 1 and 2, and column (b) is the companies' sample used in this study.

Table 14. Spread of Time Period Cash Dividend Distribution LQ45 2018

Month	LQ45 Period 1 and 2 (a)	Data Sample (b)
March	1	1
April	13	8
May	13	11
June	7	6
July	7	4
No Cash Dividend	8	
Count	49	30

There are 8 LQ45 companies in 2018 that did not distribute cash dividends. Even though these companies are not included in the sample, this indicated that there was an economic slowdown that make some companies not making a profit.

Simultaneous regional head (governor) elections took place in 2018. According to information from the general election commission, the preparation stage started on 27 September 2017 until the recapitulation of the vote count in July 2018. Examples of provinces that carry out elections are West Java, Central Java, East Java, and other provinces outside Java. Then the 2019 presidential election preparations have started in 2018. It is estimated that this general election event will also affect conditions in the capital market.

The issue of the trade war between the United States and China in 2018 affected the economic situation in Indonesia. The real impact is Rupiah inflation. Companies that are related to foreign countries are certainly affected by the price of fees or debt payments.

Hypothesis 1a is not significant, there is no increase in stock prices from a week before the cumulative date until the cumulative date. Several possibilities could happen: (a) Economic conditions and capital market activities are slowing down. (b) Traders do not pay attention to the share distribution information provided by the capital market. (b) More and more long-term investors do not pay attention to stock price movements or short-term information about the company. (c) Trader transactions are only transactions by small-scale shareholders, so they do not affect prices.

Economic and capital market conditions may be impacted by a political event. Indonesia held a simultaneous head of province election in Java and outside Java, and also the preparation for the presidential election. Sometimes business actors and investors wait and predict the economic situation in which a new leader will be elected. This situation can make a decline in the capital market's buying transactions and the price will go down.

Short-term transaction by traders and long-term transaction by investors have their characteristics. The long-term transaction may not make a

transaction around the dividend date. So, there is no significant increase change in stock price. Even the long-term investors know the information provided by the online system, they did not react to make stock buying or selling transactions.

Likewise, the secondary market can legally be owned by small-scale investors, which can be done in the online system. Shares outstanding in the public are at least 7.5% which can be owned by many investors, including novice investors. This small-scale transaction may not be able to significantly affect the increase in stock prices.

Hypothesis 1b likely confirms the prediction that the stock price on the cumulative date is higher than on the record date. However, it was conveyed that unfortunately this data was not supported by confirmation of the upward movement of stocks in the previous week. This means that the price at the record date is still lower than the price a few weeks earlier, indicating that the stock market is experiencing a decline in stock prices from time to time. Especially in the situation of general election dan war trade between the US and China, the business actors and the investor perhaps hold down the transaction.

The decline in stock price also continues after the record date but was not as significant as predicted in hypotheses 2a, 2b, and 2c. Changes in the decline in stock prices that are getting smaller indicate less stock selling. Another piece of evidence shows that there is no abnormal return around the ex-dividend date, there was a negative stock yield on the ex-dividend date in most markets [22].

When compared with the value of cash dividends distributed, as predicted in hypotheses 3a, 3b, 3c, and 3d, the previous dividend nominal information is irrelevant to discuss, because the stock price decreased and did not pay attention to the nominal of cash dividend information. The decline in stock prices causes the return to be minus which cannot be compared to the nominal dividend which gives a positive return. On this occasion, the researcher cannot recommend whether it is necessary to buy shares before the announcement of dividends or sell shares when approaching the recording of dividends so that the return is close to or higher than the dividends distributed. The researcher only conveys to hold shares so that they get a return from the distributed cash dividends.

The same thing also happened at the Bombay Stock Exchange where there was no abnormal return around the dividend announcement [17]. However, there were indeed more changes in stock price increases as much as 57 times positive changes, 49 times negative changes, and 64 times constant. Thus, in India, it can be said that there is no significant price increase around the dividend

announcement date. However, other evidence occurred in India during the pandemic where there was a positive market reaction around the dividend announcement date, especially for service companies [18].

When the stock price drops, it can be used to buy shares at a lower price. However, the problem is that when the stock price continues to fall, the value of the losses incurred will be even greater, and it is necessary to wait a long time for recovery. If the value of the dividend is not proportional to the value of the decline in shares, then in general the shareholders experience a loss.

CONCLUSION

In general, this study illustrates that the distribution of cash dividends is not responded to by the market with the occurrence of stock price movements following an important time in the recording date of shareholders who are entitled to receive cash dividends. (a) The share price does not increase from a week before the cumulative date to the cumulative date. Rather, it has decreased. (b) The stock price at the record date was indeed lower than the cumulative date, but this decline was not supported by the increase in stock prices in the previous week. What happened was that the stock price continued to decline. Although significant, this phenomenon is not a phenomenon as predicted, but a phenomenon of falling stock prices in general. (c) The share price after the record date until the following week, although it decreased, it was not significant. (d) The stock price after the record date until two weeks later, although it experienced a decrease was also not significant. (e) The stock price a week after the record date and two weeks after the record date also decreased significantly. (f) The share price a week before the cumulative date until the cumulative date did not increase by or exceed the dividend value, either cash dividends in 2017 or 2018, but instead decreased (negative). (g) The share price a week before the cumulative date until the record date also did not increase by or exceed the dividend value in 2017 or 2018.

This study has identified or is aware of its initial limitations. These limitations need to be considered. (a) Shares in the secondary market traded online may have a small percentage of ownership. According to regulations, the number of shares outstanding in the secondary capital market is a minimum of 7%. If the percentage is quite small compared to the shares issued by the company, the political decisions of the majority holder may have an impact on the changes in share prices. Likewise, if the price changes that occur in the market are due to transactions by traders with small ownership

percentages, then even though there is a price change, the majority shareholder does not necessarily respond to these changes by transacting. Because majority shareholders generally invest for the long term. (b) The users of investment transactions, which are generally minority shareholders, are short-term transactions (traders) and do not necessarily read the information regarding the distribution of shares on the website provided, and becomes an important consideration in making transactions. (c) This study has not used a stock price liner distinction between the first liner, second liner, and third liner. (d) This study has not used the impact of other factors such as politics, economy, socio-culture, and natural events.

The following are suggestions for further research: (a) exploring information in advance about share ownership in Indonesia and predicting it for stock price movements, (b) researching whether users of the online transaction program on the stock exchange pay attention to the information provided in it. (c) Examining the grouping of share ownership based on linear share ownership and its impact on changes in share prices. (d) To examine in general in advance whether the capital market in a certain year is experiencing a continuous decline, a continuous increase, or under normal conditions.

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