Market Response to Dividend Announcement in Southeast Asian Emerging Markets

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Abstract. The existence of corporate actions such as dividend announcement will affect the return on the company's stock price. This study aims to determine the market response to the dividend announcement by using the Fama-French Three-Factor Model to explain stock returns in the Southeast Asian Emerging Market. The method used in this study is event study, where the authors use 21-day abnormal returns to determine the market response to dividend announcement events in Indonesia, Philippines, Thailand and Malaysia. As a result, the market responds positively to the dividend announcement and the dividend announcement has a significant effect on each country.

Keywords: Dividend Announcement, Abnormal Return, Fama-French Three Factors, Market Response

1 Introduction

Southeast Asia is an area where the economy is still dependent on natural products. Even so, economic growth in this region is too fast, due to the establishment of a free trade area in the Southeast Asian region. The existence of the ASEAN Free Trade Area makes Southeast Asia one of the most competitive production sites with very strong competitiveness in the global market. In addition, the existence of the ASEAN Free Trade Area also creates economic integration which has the principle that all trade barriers between member countries can be reduced or even eliminated in order to increase goods and services that enter and exit so that the volume of trade becomes higher. The high volume of trade will lead to increased production, increased production efficiency, increased employment opportunities, and will reduce production costs, thereby increasing product competitiveness and public welfare. The existence of this economic integration will also encourage the flow of investment from one country to another, because economic integration will become stronger with the integration of the capital market. Capital market integration will provide opportunities for companies to obtain capital and opportunities for investors to invest in securities and portfolios.

Emerging market is a country with a low to middle level economy that emerged due to developments and reforms. According to the MSCI World Index, emerging market countries are Indonesia, Malaysia, the Philippines and Thailand. Because the country is still developing, investment opportunities in emerging market countries are very large, even though they have high risks. Table 1 is data on the growth of Gross Domestic Product (GDP) from 2016-2020 compiled from the World Development Indicators which illustrates that the four developing countries in Southeast Asia have very good economic growth. Indonesia from 2016-2018 experienced an average increase in GDP of 3.86% annually. The faster GDP growth compared

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to developed countries is the reason why investment in emerging markets attracts investors' attention.

Table 1. Gross Domestic Product Growth (%)

	2016	2017	2018	2019	2020
Indonesia	3,76	3,84	3,99	3,87	-3,11
Malaysia	3,04	4,38	3,36	2,93	-6,80
Philippines	5,55	5,40	4,87	4,68	-10,78
Thailand	3,05	3,82	3,86	1,98	-6,32

(World bank data, 2021)

As an investor, you will expect a return from the capital that has been invested. Usually, the return generated from the capital market is in the form of capital gains and dividends. Dividend distribution is carried out to improve the welfare of shareholders as investors and parties who have claims on the company. The company will pay dividends at a stable amount and will increase dividends if the company is confident of its future earnings. The existence of this phenomenon related to dividend policy raises a theory that is considered to be able to explain this phenomenon. One such theory is the dividend signaling theory which explains that dividends can be used as a signal that can convey the company's internal information to the market. In addition, the movement of stock prices can also be an advantage if we have shares in a company. The existence of stock price movements is caused by changes in the value of the company which is influenced by assets, profits, capital and market sentiment which causes the share value to change. The existence of corporate actions such as the announcement of dividend distribution will affect the return on the company's stock price.

Earnings expectations that are not in line with investor expectations will also cause stock price movements. The speed of stock price response to this corporate action can describe the level of efficiency of a market. An efficient market is a market whose prices reflect and adjust quickly to new information, so that current prices reflect all information available in the market [1]. Testing on a semi-strong market is usually done with a methodology called event study which aims to find out whether there are abnormal returns or excess returns in certain events such as income announcements, merger announcements or dividend announcements [2].

2 Literature Review

2.1 Dividend Policy

Dividend is a portion of the company's income paid to shareholders. According to Cagan [3], dividends given to shareholders are not based on the price of a share, but are based on profits that have been obtained by the company to reward shareholders. The purpose of distributing dividends is to increase the welfare of shareholders [4]. Dividend policy was initiated by Miller and Modigliani [5] who explained that dividend policy does not affect firm value or better known as dividend irrelevant theory. In this theory, the value of the company can only be determined by the way the company generates revenue and manages risk.

2.2 Signaling Theory

In 1979, Bhattacharya for the first time coined the dividend signaling theory. This theory explains that insiders or in this case is management, have more information about the condition of the company when compared to shareholders. Dividends are one of the expensive signaling devices that are impossible to imitate by companies that do not generate profits in the current year. In this theory, a change in the amount of dividends distributed, either up or down, is considered to give a signal about the company's financial performance in the future. An increase in the amount of dividends will be considered as a positive signal of the profits obtained by the company so that it will produce a positive abnormal return, while a decrease in the amount of dividends will be a negative signal of the company's profitability and liquidity in the future which is reflected in negative abnormal returns.

2.3 Fama-French Three Factor Model

In 1982 Banz in his research found that there is an influence between firm size and firm return. In addition, in 1988 Bhandari also saw that asset returns can also be influenced by leverage. Then, Fama-French [6] found that firm size and book to market ratio can affect asset return and were included as a new factor in 1993. By including these new factors, the asset pricing model becomes as follows:

$$Rit - Rft = ai + bi\ (Rmt - Rft) + siSMBt + hiHMLt + eit$$

2.4 Efficient Market Hypothesis

In theory, the efficient market hypothesis is generally related to whether stock prices at a point in time can reflect available information [6]. In addition, Fama also divides the efficiency types into 3 categories, namely weak form efficiency, semi strong form efficiency and strong form efficiency. In the concept of the Efficient Market Hypothesis, a semi-strong market form occurs if stock prices react quickly to published information [7]. To test the form of a semi-strong market is usually done with a methodology called event study.

3 Research Methods

This study aims to describe the market response to the announcement of dividend distribution. This research was conducted using the event study method which is a method of financial analysis to find stock returns due to an event or events [2]. The event in this research is the announcement of dividend distribution.

The data taken are issuers that have announced dividend distributions for five consecutive years from 2016-2020. This study uses the one-year government bond rate in each country as the risk-free rate. The population included in this study are issuers listed on stock exchanges in Indonesia, the Philippines, Malaysia and Thailand.

This study is divided into two periods, namely the estimation period which is used to develop the model in measuring normal returns or expected returns and the event period. The estimation period used in this study is 100 trading days. The number of event periods for 21 days consisting of pre-event for 10 days before the event date, event day for one day as t=0 and post event for 10 trading days after the event day. To find out more about the study period, see Figure 1.

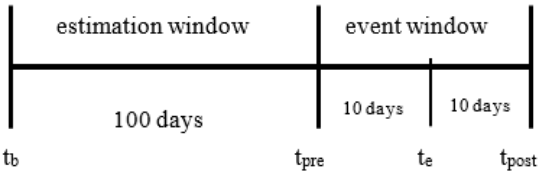

Fig. 1. Research Period.

After the research data is obtained, the data is processed, then portfolio formation is carried out using the Fama-French Three Factor model to determine abnormal returns and tested using statistical methods. Before testing the hypothesis, in this study a portfolio was formed. Portfolios can be formed with the following stages:

1) Retrieve data for each variable used in the study by accessing the DataStream.
2) Calculate the independent variables, namely SMB and HML. SMB is obtained by multiplying the stock price by the number of shares. HML data can be calculated by dividing common stockholder equity by market capitalization.
3) Sort variable values from the largest to the smallest variables.
4) Divide the SMB factor variable into two parts: the smallest value and the largest value by determining the median of the SMB factor.
5) Divide the HML factor variable into three parts by finding the values of the 30% and 70% percentiles.
6) Next, they are sorted 2x3, so that 6 portfolios are obtained for each country.
7) After the portfolio is formed, then calculate the SMB and HML with the formula:

a) Size:

$$\text{SMB} = \frac{SH + SM + SL}{3} - \frac{BH + BM + BL}{3}$$

b) Book to market equity:

$$\text{HML} = \frac{SH + BH}{2} - \frac{SL + BL}{2}$$

After knowing the value of SMB and HML, then perform a regression between variables where *y* is the stock return minus the risk free and *x* is the market return minus the risk free, SMB and HML. After performing the regression, a model is obtained to estimate the expected return. In this study, the Fama-French Three Factor model was used. The linear equation formula used in this study is as follows:

$$R_{it} - R_{ft} = a_i + b_i\,(R_{mt} - R_{ft}) + s_i SMB_t + h_i HML_t + e_{it}$$

After getting the model from the equation, then the event study procedure used is as follow:

1) Calculate the actual return of each stock with the following formula:

$$Actual\ Return = \frac{Close\ Price_t - Close\ Price_{t-1}}{Close\ Price_{t-1}}$$

2) Calculate abnormal return of each stock with the following formula:

$$ARi,t = Ri,t - E(Ri,t)$$

3) Calculate average abnormal return of each stock with the following formula:

$$AARt = \frac{\sum_{i=1}^{N} ARi,t}{N}$$

To test the hypothesis of this study, a t-test was performed. The t-test conducted in this study refers to the t-test conducted by Brown and Warner [8]. The statistical hypotheses in this study are as follows:

H0: AR = 0; the average abnormal return is zero in other words; the dividend announcement event does not affect the return of stocks in the emerging market countries of Southeast Asia.

H0: AR ≠ 0; the average abnormal return is not equal to zero, in other words, the existence of dividend distribution events significantly affects the return of stocks located in countries that are included in the Southeast Asian Emerging Market.

4 Result and Discussion

4.1 General Overview

According to the MSCI Index, developing countries in the Southeast Asia Region are Indonesia, Malaysia, the Philippines and Thailand. The following are the number of dividend announcement events in the Southeast Asian Emerging Market each year.

Table 2. Dividend Announcement in Each Country from 2016 to 2020

Year	2016	2017	2018	2019	2020
Indonesia	214	237	254	321	308
Malaysia	250	251	250	251	250
Filipina	111	111	107	115	89
Thailand	530	547	578	591	617
Total	1105	1146	1189	1278	1264

During the observation period carried out by the researcher, from January 2016 to December 2020 there were 795 companies that made dividend announcements in the emerging markets of Southeast Asia on a regular basis for five consecutive years. Table 3 is the number of company data in each country sampled during the study period.

Table 3. Total Sample

Country	Sample
Indonesia	87
Malaysia	223
Filipina	52
Thailand	433
Total	795

4.2 Portfolio Formation

The formation of the portfolio in this study used 2x3 sorting to become the basis for the formation of the portfolio. The number of stocks formed in sample and out sample can be seen in Table 4. The portfolio will continue to be used for the next one year. In addition, it can also be seen which country is the most dominant country in each existing portfolio.

Table 4. Number of Shares in Portfolio

	2016	2017	2018	2019	2020
SH	180	177	177	186	177
SM	154	161	167	158	163
SL	61	57	51	51	55
BH	57	57	57	57	57
BM	165	157	152	161	155
BL	178	182	188	188	184

4.3 Discussion

4.3.1 Indonesia

Table 5 shows the average positive abnormal return throughout the period of events that occurred in Indonesia. The highest average abnormal return before the dividend announcement is at T-3 and after the dividend distribution announcement is at T+1 of 0.020. In the table it can also be seen that the smallest average abnormal return before the dividend announcement is at T-9, while the smallest abnormal return after the dividend announcement is at T+5 of 0.002. There is a positive average abnormal return in the Indonesian market throughout the event period. The existence of a positive abnormal return value on the market in Indonesia indicates that the company's performance is in good or profitable condition [9]. There is an increase and decrease in the average abnormal return every day. Table 4.4 shows the results of the t-test on stocks that make dividend announcements in Indonesia. In addition to positive AARs, significant AARs were also found throughout the event period from T-10 to T+4 with a significance level of 1%. In addition, at T+6 to T+10 also resulted in a significant t-test, but the t-test was not significant at T+5.

From the t-test conducted on the AAR market in Indonesia, it shows that the dividend announcement event in Indonesia from 2018-2020 has a significant impact on the reaction of the Indonesian market. In other words, the alternative hypothesis is accepted and the null hypothesis is rejected. This is in accordance with research conducted by Puspaningtyas [9] regarding dividend announcements on shares listed on the Indonesia Stock Exchange in 2017 using event studies and hypothesis testing using t-test. The results of Puspaningtyas' research are that the stock market in Indonesia reacted to the dividend announcements made in 2017, whether the dividends distributed decreased or increased. The announcement of the dividend distribution seems to have been predicted by the market, because since the beginning of the event period, the average abnormal return has been very significant, and slowly began to decline regularly until after the dividend announcement. The market which since the beginning of the event period has a very large average return, it is suspected that there is information leakage in it so that the dividend announcement event can be predicted by the market.

Table 5. Indonesia's AAR T-Test Results

T-	AAR	t-test	Sig
-10	0,020	10,152	***
-9	0,014	8,338	***
-8	0,018	9,587	***
-7	0,016	8,123	***
-6	0,018	9,942	***
-5	0,015	8,040	***
-4	0,018	8,592	***
-3	0,021	11,701	***
-2	0,019	9,323	***
-1	0,018	11,090	***
0	0,015	8,257	***
+1	0,020	8,843	***
+2	0,015	10,498	***
+3	0,016	9,397	***
+4	0,010	6,039	***
+5	0,002	0,672	
+6	0,011	5,939	***
+7	0,011	7,962	***
+8	0,014	10,616	***
+9	0,016	11,386	***
+10	0,017	10,045	***

4.3.2 Malaysia

The average abnormal return in Malaysia as shown in Table 6 shows a positive number. Before the dividend announcement in Malaysia, the highest average abnormal return was found on T-5 and T-4 and the smallest abnormal return before the dividend announcement was on T-10 and T-3 of 0.007. The highest average abnormal return in Table 6 is 0.012 which occurs at T+3 and the lowest abnormal return is found at T+9 and T+10 of 0.006. At the time of the dividend announcement (T0), the market reacted very significantly, even before the dividend announcement. But slowly the market reaction decreased after the dividend announcement.

From the results of the t-test on the Malaysian market AAR, the high level of significance from the beginning of the event period (T-10) to the end of the event period (T+10) indicates that there is information leakage in the Malaysian market regarding the dividend announcement event. The results of the t-test significantly indicate that dividend announcements have an impact on market reaction in Malaysia as indicated by AAR during the study period. Some investors in Malaysia reacted positively before the announcement and some reacted positively after the dividend announcement. According to Mehta, Jain, and Yadav (2014), a positive reaction to the average abnormal return shows that investors see dividend announcements as a positive and profitable signal for investors so that stock demand increases and then produces positive abnormal returns.

Table 6. Malaysia's AAR T-Test Results

T-	AAR	t-test	Sig
-10	0,007	9,005	***

-9	0,009	9,034	***
-8	0,008	6,708	***
-7	0,009	7,459	***
-6	0,009	10,361	***
-5	0,010	11,341	***
-4	0,010	10,743	***
-3	0,007	7,700	***
-2	0,008	10,210	***
-1	0,008	7,570	***
0	0,009	10,244	***
+1	0,011	7,343	***
+2	0,010	11,734	***
+3	0,012	5,370	***
+4	0,007	3,277	***
+5	0,008	8,724	***
+6	0,008	8,858	***
+7	0,008	7,832	***
+8	0,007	7,351	***
+9	0,006	7,618	***
+10	0,006	7,060	***

4.3.3 Philippine

The table of descriptive statistics for Philippine abnormal returns is shown in Table 7. It can be seen that the abnormal return in the Philippines has a positive average. The existence of a positive average abnormal return on the stock market in the Philippines is in accordance with research conducted by Mehta et al. [10] which found a positive market reaction in India. This positive reaction shows that investors believe this dividend announcement is a good signal and will be profitable for them. So that later there will be an increase in stock demand which produces a positive abnormal return. The smallest average abnormal return before the dividend announcement is in T-7, while the highest average abnormal return before the dividend announcement is 0.015 which is found in T-8. After the dividend announcement in the Philippines, the highest average abnormal return was found at T+2 and the smallest abnormal return was found at T+10 of 0.018.

The Philippine market also produces significant t-tests both before the dividend announcement and after the dividend announcement. The significant t-test results on the Philippine market AAR show that dividend announcements that occurred in the Philippines in 2018-2020 have a significant impact on the Philippine market. In other words, the null hypothesis where AAR = 0 is rejected and the alternative hypothesis is accepted. This is in accordance with research conducted by Kumar et al. [11] which states that dividend announcements affect the company's abnormal returns.

Table 7. Philippine's AAR T-Test Results

T-	AAR	t-test	Sig
-10	0,009	4,102	***
-9	0,009	6,289	***
-8	0,015	11,282	***

-7	0,007	4,183	***
-6	0,014	4,614	***
-5	0,012	9,302	***
-4	0,011	6,748	***
-3	0,011	6,289	***
-2	0,011	7,936	***
-1	0,010	5,765	***
0	0,014	5,639	***
+1	0,013	4,871	***
+2	0,015	5,788	***
+3	0,010	5,243	***
+4	0,009	4,885	***
+5	0,014	6,574	***
+6	0,009	3,729	***
+7	0,007	3,108	***
+8	0,010	5,236	***
+9	0,010	3,945	***
+10	0,008	3,471	***

4.3.4 Thailand

In Table 8 it can be seen that the average abnormal return in Thailand is positive. Before the dividend announcement in Thailand, the lowest average abnormal return was at T-5, while the highest average abnormal return before the dividend announcement was 0.005 which was found at T-9 and T-8. After the dividend announcement in Thailand, the lowest average abnormal return was found at T+10 and the highest average abnormal return after the dividend announcement was 0.005 which was found at T+4 and T+5.

Since the beginning of the event period, namely T-10, the market reaction in Thailand has shown great significance in the average abnormal return. This does not rule out the possibility of information leakage in the market during the event period, although after the dividend announcement, abnormal returns tend to decrease. The t-test results in Table 4.7 show that since the beginning of the event period the average abnormal return shows a positive reaction. There is also the immense significance of the T-10. Unlike the previous three countries, Thailand's AAR t-test results at the end of the event period were not significant starting from T+9, even after the dividend announcement there was a decrease in AAR starting from T+6 until the end of the year. event period. From the results of the AAR t test on the Thai market, it shows that the dividend announcement event has a significant effect on the Thai market reaction. This is reinforced by a significant AAR during the event period. There is a very large significance level of 1% both before the dividend announcement and after the dividend announcement on the stock market in Thailand. So, the alternative hypothesis which states that AR $\neq$ 0 is accepted, and the null hypothesis is rejected.

Table 8. Thailand's AAR T-Test Results

T-	AAR	t-test	Sig
-10	0,004	7,172	***
-9	0,005	8,260	***

-8	0,005	7,237	***
-7	0,004	5,432	***
-6	0,004	7,579	***
-5	0,002	4,173	***
-4	0,003	4,761	***
-3	0,003	4,429	***
-2	0,004	4,952	***
-1	0,002	2,469	**
0	0,003	3,616	***
+1	0,004	3,820	***
+2	0,003	2,875	***
+3	0,003	3,387	***
+4	0,005	6,167	***
+5	0,005	5,836	***
+6	0,004	5,311	***
+7	0,004	6,335	***
+8	0,002	2,824	***
+9	0,001	1,218	
+10	0,000	0,240	

5 Conclusion

Based on the results of research conducted by the authors, it can be concluded that every country has a positive reaction to dividend announcements. In addition, it can be seen that the announcement of dividend distribution has a significant impact on the market reaction in Indonesia, Malaysia, the Philippines and Thailand. This is evidenced by the presence of a significant average abnormal return around the dividend announcement date, so that the alternative hypothesis is accepted, and the null hypothesis where AR = 0 is rejected. In addition, the researcher found a high level of significance from the beginning of the event period (T-10) which indicates an indication of information leakage in Emerging Markets in Southeast Asia (Indonesia, Philippines, Malaysia, and Thailand) related to dividend announcements.

The results of the research carried out can provide information to investment managers or institutional investors so that they can consider strategies in preparing investment portfolios, and can see opportunities to increase abnormal returns from the portfolio made. In addition, the results of this study can also help investors to decide whether investors will invest in the short term to maximize price fluctuations or will invest in the long term according to the company's prospects. For short-term investments, the results of this study can guide investors in providing insight into which periods yield the best returns for making a sale. Investors should consider the time period around the cash dividend announcement date so that investors can maximize their capital gains according to returns and price fluctuations. The results showed that during the observation there was a significant abnormal return due to market sentiment. For the long term, an investor must consider the company's prospects. Thus, investments differ in the way they generate returns to investors which affects the risk/return composition of their portfolios.

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