

Semi-strong form efficiency: Market reaction to dividend and earnings announcements in Vietnam stock exchange

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Abstract. The paper seeks an answer to whether Vietnam is efficient in semi-strong form by identifying the market's reaction to publicized information and events. With a sample covering all listed companies on Ho Chi Minh Stock Exchange from 2014 to 2015, we investigate whether announcements of earnings and dividend changes provide any signaling effect to the share price movements. It is observed that there is insignificant reaction on the dividend announcement day itself and also in the few days around it. In addition, from the market reactions to both dividend and earnings announcements, it concludes that both announcements have significant effects on the stock price with relative significantly abnormal return surrounding announcement date. However, changes in cash dividends do convey more useful information to the market. Therefore, Ho Chi Minh stock exchange has not fully achieved at its efficient level.

Keywords: stock exchange, signaling effect, price movements, Efficient Market Hypothesis, Semi-strong form efficiency.

Средняя степень эффективности рынка: реакция рынка на сообщения о дивидендах и доходах на бирже ценных бумаг во Вьетнаме

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Аннотация. Авторы статьи ищут ответ на вопрос: является ли рынок ценных бумаг Вьетнама эффективным в условиях средней степени эффективности путем идентификации реакции рынка на публичную информацию и события? Используя данные с биржи ценных бумаг в городе Хо Ши Мин за период с 2014 по 2015 г., авторы исследуют, являются ли сообщения об изменениях доходов и дивидендов сигналами для движения цен ценных бумаг. Замечено, что само по себе сообщение о дивидендах не имеет существенного значения в день объявления, как и в другие дни. Кроме того, наблюдения за реакцией рынка на сообщения о дивидендах и доходах привели авторов к выводу, что данные сообщения имеют существенный эффект на цены ценных бумаг с относительно значимым чрезмерным откликом в дни, предшествующие дате сообщений. Однако изменения в денежных дивидендах дают рынку больше полезной информации. Поэтому биржа в Хо Ши Мин не достигла еще полной эффективности в своей работе.

Ключевые слова: рынок ценных бумаг, информационный эффект, гипотеза эффективного рынка, средняя степень эффективности рынка.

1. INTRODUCTION

The Efficient Market Hypothesis (EMH) is one of the most important hypotheses in modern financial literature. It also called theory of stock market behavior, has inspired many researchers in the last decades. The EMH holds that new information relevant to the market will be nearly instantaneously incorporated into share prices, thus on average investors cannot consistently earn excess returns (Malkiel and Fama, 1970). Based on the identification of a set of available information, EMH considered the three degrees namely weak-form efficiency, semi-strong form efficiency and strong form efficiency.

Semi-strong form efficiency holds for a certain market if all available information is publicly reflected by current market prices. It implies that stock prices are not only reflective of past historical information, but also of all publicly available information on the market. Accordingly, the market's reaction to publicly available information should be *instantaneous* and *unbiased* in order to eliminate investors' expectations for abnormal returns. Instead of the term *instantaneous* and *unbiased*, Shleifer (2000) referred to the *speed and correctness* of the market's reaction to new information. The former means that the current market price is already incorporated all available information. The latter refers to the quality of the market's adjustment to new information.

Semi-strong form efficiency is generally tested under two approaches: the direct method supported by event studies and indirect method that conducted by performance evaluation studies. Fama (1970) argues that each individual test on semi-strong form efficiency only brings supporting evidence for the model, with the idea that by accumulating such evidence, the validity of the model will be established.

Vietnam stock market was officially put into operation on July 20th 2000 under its former name Ho Chi Minh Securities Trading Center, now known as Ho Chi Minh Stock exchange (HOSE). In March 2005, the second securities trading center of Vietnam which was Hanoi Securities Trading Center and later renamed to Hanoi Stock Exchange (HNX). During early years of establishment, with a tiny number of stocks on the market, securities trading activities in Vietnam were relatively inactive. Vietnamese investors were virtually unfamiliar and inexperienced with the mechanism of a totally new market. Although, from 2006–2007, Vietnam stock market was experienced a peak period with the name of “the new miracle Asian” (IMF's annual report, 2006). However, in the early 2008, Vietnam stock prices fell drastically from heights that are now considered the effects of a stock market bubble. During the period of 2009–2015, the value of the stock market was in its recovery, yet still sluggish.

The purpose of this paper is to test whether Vietnam is efficient in semi-strong form by identifying the market's reaction to published information and events. Specifically, the study investigates whether announcements of both earnings and dividend changes provide any signaling effects to the share price movements. Lonie et al (1996) considered those events are among the two most important signaling devices used by managers to transmit information about firm's future prospects to the public. In the other way, dividend and earning news is also taken by investors as "signals which are emitted by the managers of companies in an uncertain economic environment characterized by informational asymmetry". Therefore, if dividend and earnings news does convey useful information in an efficient capital market, then it is assumed that such news will be reflected in the stock price as soon as they are publicly released in the market. Until now, not many studies have tested how quickly stock and securities prices reflect information concerning both dividends and earnings announcements in Vietnam. Thus, results achieved from this research are expected to improve the value of current financial model and also provide useful advices for investors. The next parts of this paper are developed as follows. Part 2 briefly reviews previous experimental studies on Vietnam weak-form efficiency and semi-strong form in emerging stock markets. Part 3 describes data and develops hypotheses. Part 4 discusses the experimental results of the study. Finally part 5 draws the conclusions.

2. PREVIUOS LITERATURE

In Vietnam, empirical testing of EMH has been conducted in a variety of ways, utilizing data from different exchange, across different time period and using different event studies, thus its results have been mixed. Regarding to the weak-form efficiency, Loc et al (2010) supported the view that the Vietnamese stock market is weak-form inefficiency. It should, however, be acknowledged that such study which test the efficiency of stock market coverage utilizing daily and weekly price series of VN-Index and REE, SAM, HAP, TMS and LAF27 from July 28, 2000 to Dec 31, 2004. Vinh et al (2010) conducted a longer investigation on daily and weekly price series of VN-Index and 8 individual stocks (CII,

ITA, SJS, TDH, ABT, AGF, TS4, FMC) from 2007 to 2010. The results from all tests had failed to support the hypothesis of weak form efficiency with daily data. However, with weekly data, the results obtained from runs test and autocorrelation test do not completely reject the hypothesis of weak form efficiency.

Nhan et al (2014) applied data daily and weekly returns of VN-index and HNX-index in Ho Chi Minh and Hanoi Stock Exchange, respectively from 2000 to 2013, the results were rather consistent with previous studies of Loc et al. (2010) and Vinh et al. (2010) whereby they strongly rejected the weak-form EMH of the Vietnamese stock market. The rejection of weak-form EMH indicated significant deviations from the random walk hypothesis of the stock returns in the Vietnamese market, in which the majority of data experience is positive correlations. Furthermore, the nonparametric runs test is used to determine the randomness of a price or a return sequence as an alternative. The test once again confirms that the Vietnamese stock market is not weak-form efficiency.

Khoa & Jian (2014) checked the random walk hypothesis for weekly Vietnamese stock market returns employing three statistical techniques namely autocorrelation test, variance ratio test, and runs test. Data for analysis was collected from July 28th 2000 (the first trading session) to July 28th 2013 (13 years of market operation). Results from autocorrelation test pointed out that RWH is rejected for the full sample and the first two cycles of the market. It proves that following price changes in the market are not random. However results from the third cycle of the Vietnamese stock market alone (from February 24th 2009 to July 28th 2013) have provided evidence supporting random walk hypothesis in VN-index. It shows the fact that the efficiency of the Vietnamese stock market has gradually been improved during nearly 10 years in operation.

Recently, Nhung (2015) examines stock market seasonality in Vietnam from 2000 to 2010. Of all the months, January has the highest average return over the period. This result provides support for the January effect. However, January only has positive returns for 40 percent of the years observed. The results also provide support for the Halloween effect with the post Halloween period outperforming the pre-Halloween period

73 percent of the time. The effect primarily occurred between 2000 and 2007. After that, the results are mixed.

Considering semi-strong form efficiency, the influence of dividend & earnings announcements on share price behavior has been examined in many developed markets. Come up with Watts (1978), the paper clarified that quarterly earnings reports contain new information. Accordingly, there was a statistically significant return in the following quarter which supporting for inefficient market since abnormal returns are still there. Aharony and Swary (1980) examined dividends and earnings announcements on the New York Stock Exchange over the period 1963–1976 and concluded that both quarterly earnings announcement and dividends change announcements have significant effects on the stock prices. But more importantly, they found no evidence of market inefficiency when the two types of announcement effects are separated. Impson (1997) extended the analysis of stock market reactions to dividends by comparing share price reactions to dividend decrease announcements. By using a sample of the US stocks during the period 1974–1993, he anticipated that dividend decrease announcements of public utility holding companies to have a stronger market response, compared to unregulated companies.

Applying for Malaysian Stock Exchange, Baharuddin et al (2010) focuses on the announcement effect of both dividend and corporate earnings on stock prices based on a sample of 120 companies listed on the Main Board of Bursa Malaysia during the period January 1, 2006 to November 30, 2006. The study results support the information content of dividend theory that increasing dividend announcements, on an average, earn positive abnormal return, while decreasing dividend announcements are associated with negative abnormal return. Overall, the results provide some evidence of semi-strong form efficiency in the Malaysian stock.

We contribute to the existing literature in two ways. First of all, this study test whether Vietnamese stock exchange is efficient in semi-strong form, with earnings and dividends announcements of Vietnamese companies that are listed on Ho Chi Minh Stock Exchange are used in this study. We are not aware of any study testing in depth this hypothesis. Further investiga-

tion is the issue of dividend changing announcements from multi-industry and its price reaction together with the earning announcements.

3. DATA AND HYPOTHESES

3.1. Data set

To test whether Vietnam Securities Market is in semi-strong form efficiency, the authors will use the data from announcements of dividends and earnings of companies which are listed on Ho Chi Minh Stock Exchange (HSX) in Vietnam. The daily stock prices of each firm and VN-Index prices are collected for 20 days around the public announcement day from HSX database. In addition, the information about dividends and returns would be collected from quarterly report and websites of those companies under the research.

We use event study methodology to test the semi-strong form efficiency. There are a number of authors has tested semi-strong form efficiency such as Ball and Brown (1968), Fama et al (1969) and Brown and Warner (1980). They conclude that when the relevant information is announced publicly, the market will react in a sufficiently rapid way. According to efficient market hypothesis, when a company shows news regarding to prospect dividend payment or profits, or, in case of solving the uncertainties events such as rumor or information leakage before the announcement date, those information will affect to the companies' stock prices, and as the result, this will lead to the movement in stock price compared to the expectation. Thus, this exist abnormal return in these companies' stock price. Therefore, to prove that the market is in the semi-strong form efficiency, the abnormal returns have to not statistical different from 0 throughout the period of post-announcement date.

The data includes the announcements of dividends and quarterly earnings of companies which are listed on Ho Chi Minh Stock Exchange in Vietnam. Those companies must to have the following characteristics:

There is no other relevant company's information published on day before, during and after the dividends and earnings announcements.

These companies are listed on stock exchange where daily stock prices are available to collect.

The sample companies have to list on the stock exchange before January 2013 to have all

information needed to compare the data collect from January 2014 to December 2015.

This research focuses on 247 listed companies on Ho Chi Minh Stock Exchange, with the data is collected within 2 years, from 2014 to 2015.

3.2. Explanatory variables

Following research of Baharuddin et al (2010), our paper investigates the impact of announcements by simply assuming that:

Dividend Increase and Earning also Increases (DI-EI) – includes companies that announced both their dividends and earning increase in this period.

Dividend Increases but Earning Decreases (DI-ED) – includes firms that announced their dividend increased but Earning decreased.

Dividend Decreased and Earning also Decreases (DD-ED) – companies that announced have their dividend and earning gone down compared to the previous period.

Dividend Decrease but Earning Increase (DD-EI) – includes companies that have dividends decreased but earning went down in this period.

Dividend Unchanged but Earning Increase (DU-EI) – includes companies that have not changed in dividend payment although their earnings have increased.

Dividend Unchanged while Earning Decreases (DU-ED) – for companies that dividend payments have not changed although earning went down in this period of time.

In addition, in this research, the authors will follow the naive dividends and earnings expectation model (Aharony and Swary, 1980; Isa and Subramaniam, 1992). We have the formula:

$$E(D_{it}) = D_{i,t-1},$$

where:

$E(D_{it})$: Annual dividends expectation of firm i in the year t ;

$D_{i,t-1}$: Dividend payment in the year $(t-1)$.

The dividend model states that: if $D_{it} > D_{i,t-1}$ – Dividend Increase (DI); if $D_{it} < D_{i,t-1}$ – Dividend Decreases (DD); if $D_{it} = D_{i,t-1}$ – Dividend unchanged compares to the previous period. Furthermore, the expected earnings are also followed in a similar manner. If $EPS_{it} > EPS_{i,t-1}$ – Earning Increase (EI); if $EPS_{it} < EPS_{i,t-1}$ – Earning Decrease (ED);

To estimate the abnormal returns, the authors employed the Market-adjusted Abnormal Return Model (MAR) in order to avoid the estimate the parameters outside the long “event” window, this would happened if the more common risk adjusted models were to be used. This model is based on assume that equilibrium expected returns exist where $\alpha = 0$ and the average system risk = 1. In addition, according to Brown and Warner (1980), MAR also avoids the complications of a small sample and infrequent trading associated with our securities prices.

The Market-adjusted abnormal Returns are computed as follows:

$$AR_{i,t} = R_{i,t} - (\alpha_i + \beta_i R_{m,t}); \text{ with } \alpha = 0 \text{ and } \beta = 1; \text{ we have: } AR_{i,t} = R_{i,t} - R_{m,t},$$

where:

$AR_{i,t}$ – Abnormal returns;

$R_{i,t}$ – Returns for stock i on the event day t ;

$R_{m,t}$ – Market returns proxied by VN-Index prices on event day t .

For each stock, the daily return is followed the formula:

$$R_{i,j} = \frac{(P_{i,j} - P_{i,t-1})}{P_{i,t-1}},$$

where:

P_{it} – Closing price of stock i at day t ;

$P_{i,t-1}$ – Closing price of stock i at day $t-1$.

Regarding to the daily market returns, we also use series from Vn-index closing figure.

In the next step, we will calculate the daily cross-sectional Average Abnormal Return (AAR) for the certain event day, t , with the formula:

$$AAR_t = \frac{1}{N} \times \sum_{i=1}^N AR_{it},$$

where:

AAR_t – the average abnormal returns on day t ;

AR_{it} – the abnormal returns of company i on day t ;

N – the total number of companies in sample for each day in the period.

Then, T-test will be used to determine the standardized AAR_t . There are a number of empirical tests about information-content hypothesis such as Lonie et al (1996) show that, on average,

the shares of firms that their directors have announced dividend payment increases could earn positive abnormal returns.

Furthermore, the Cumulative daily Abnormal Returns (CAAR) for the stocks are computed with in the event window, for example, day -10 to day +10, day -3 to day +3, day -2 to day +2, day -1 to day +1 relative to the event day (day zero). The purpose of this event window is to test how sensitive the stock price is towards the appearance of new relevant information. With the formula:

$$CAAR_m = \sum_{t=1}^m AAR_t,$$

where:

$CAAR_m$ – the cumulative average abnormal returns of the m period; AAR_t – Abnormal returns.

3.3. Tested hypotheses

To test the effect of annual dividend payments and earnings announcements on stock prices, we will formulate the following hypotheses:

With the event windows are: (-1, +1), (-2, +2), (-3, +3), (-10, +10),

H1: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends increase and earnings increase announcements in the Vietnam stock market.

H2: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends increase but earnings decrease announcements in the Vietnam stock market.

H3: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends decrease but earnings increase announcements in the Vietnam stock market.

H4: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends decrease and earnings decrease announcements in the Vietnam stock market.

H5: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends unchanged, earnings increase announcements in the Vietnam stock market.

H6: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends unchanged, earnings decrease announcements in the Vietnam stock market.

To test the reaction of capital market with dividends and earnings news, we use the parametric t-test to assess the significant of CAAR to examine the hypotheses which mentioned above. The 5% level of significant with appropriate degree of freedom is used to test the null hypothesis that there is no abnormal return during the event days. This is assumed that if the market is efficient, CAAR values should be close to 0.

The t-test statistic for CAAR is calculated as:

$$t = \frac{CAAR}{\alpha(CAAR)},$$

where:

$\alpha(CAAR)$ is the standard error of cumulative average abnormal return.

The standard error is followed the formula:

$$S.E = \frac{\sigma}{\sqrt{N}},$$

where:

$S.E$ – Standard error;

σ – Standard deviation;

N – The number of observations.

4. RESULTS AND DISCUSSION

In the first step, we investigate the impact of dividend change announcements on stock price behavior as the result of Table 1. In detail, it shows the reaction of stock market to dividend announcement days in three cases: dividend increases, dividend decreases and dividend unchanged. The fluctuation of CAAR for each type of announcements is also illustrated in Figure 1. It is clearly from the Table 1 that, in the day of dividend increase announcement, the AARs for all 247 firms show a positive number of 0.074% with the corresponding t-value is 0.427. This small amount of AARs implies that the new information is not reflected fully by the market.

The significant abnormal returns are showed on day +6, day +7, day +8 and day +9 post-announcement days. More specify, the highest figures of AAR happen on day +9 and day +6,

Table 1. Stock Market Reaction to Dividend Announcements

DAY	Dividend Increase			Dividend Decrease			Dividend Unchanged		
	AAR	t-Value	CAAR	AAR	t-Value	CAAR	AAR	t-Value	CAAR
10	-0.2563	-1.0435	-1.6709	-0.4997	-1.9758	-1.2830	-0.1478	-0.4859	-1.0438
9	-0.7943	-4.0110	-1.4146	-0.4284	-1.6180	-0.7833	-0.4941	-1.1763	-0.8959
8	-0.6304	-2.9813	-0.6203	-0.6173	-1.7128	-0.3549	-1.0369	-1.6065	-0.4019
7	-0.6831	-2.8634	0.0101	-0.1780	-0.3682	0.2623	-0.4498	-1.0579	0.6351
6	-0.7909	-3.2595	0.6932	-0.8780	-2.9662	0.4404	-0.2506	-0.5295	1.0849
5	-0.4370	-2.0589	1.4840	-0.3661	-1.3404	1.3183	-0.2560	-0.7393	1.3354
4	-0.2442	-1.3088	1.9211	-0.4548	-0.9169	1.6844	0.2405	0.6168	1.5915
3	0.0218	0.1398	2.1652	0.1618	0.7386	2.1391	-0.0781	-0.2215	1.3510
2	-0.1039	-0.6348	2.1435	-0.0037	-0.0123	1.9773	-0.0480	-0.1424	1.4290
1	0.2336	1.4561	2.2474	0.7561	2.7472	1.9810	0.4969	1.7174	1.4771
0	0.0742	0.4272	2.0138	0.1945	0.7687	1.2249	0.0690	0.2133	0.9802
-1	0.2018	1.3318	1.9396	0.1893	0.9193	1.0305	0.0955	0.2646	0.9112
-2	0.3775	2.5131	1.7378	-0.1438	-0.5489	0.8412	0.0024	0.0073	0.8156
-3	0.2496	1.5653	1.3603	0.3246	1.1091	0.9851	0.6708	1.9079	0.8133
-4	0.3585	2.2203	1.1107	0.1070	0.4382	0.6604	0.3116	1.0252	0.1424
-5	0.1906	1.1651	0.7522	-0.0644	-0.3129	0.5534	-0.2070	-0.7527	-0.1691
-6	-0.0872	-0.5310	0.5615	0.2032	0.8543	0.6179	-0.0539	-0.1998	0.0379
-7	0.0491	0.3051	0.6487	0.2018	0.8901	0.4147	0.1052	0.4828	0.0918
-8	0.2657	1.7009	0.5996	0.0561	0.2116	0.2129	0.2139	0.6768	-0.0135
-9	0.2883	1.8941	0.3340	0.1922	0.8113	0.1568	-0.3543	-1.0193	-0.2274
-10	0.0456	0.3134	0.0456	-0.0354	-0.1500	-0.0354	0.1269	0.4502	0.1269

with the values are -0.7943% and -0.7909% respectively. In addition, after the announcement days, the abnormal returns are mostly showed the negative values, except in day +1 and day -3. This suggests that the dividend payment value may not satisfy the market's expectation.

It also shows in the Table 1 that, the AAR on day 0 of dividend decrease announcement day is 0.194% , t-value is 0.7687 and CAAR is 1.225% . The significant abnormal returns show clearly on day +1, day+6 and day +8, with the values are $+0.7561\%$, -0.8780% and -0.6173% respectively. Regarding to CAAR values, it is interesting to find out that, both three cases of dividend increase, dividend decrease and dividend unchanged have positive figures in CAARs. In case

of dividend decrease and unchanged, this may suggest that because of information leakage in firms' under the research, the market has reacted the bad news before the announcement days, therefore, in the day of information is released, although the market has the negative action into the post-day announcement, but with the low decrease level compared to the high positive abnormal return before the announcement. As a result, the cumulative abnormal returns show the positive values. Also, it can be explained that emerging markets have been operated with less transparency, then it is not clear whether management use dividends intentionally as a signal or not. To some extent, managers can use the increase/unchanged of dividends to signal that

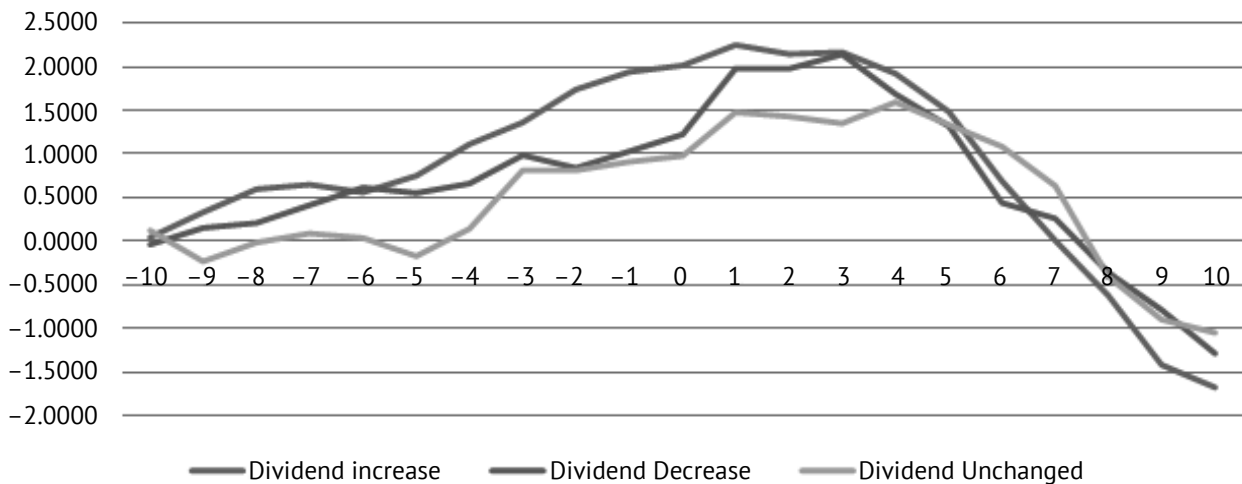


Figure 1. CAAR Surrounding the Announcements of Dividend Increase

(Dividend Decreases and Dividend Unchanged) (%)

the firm is undervalued, and because firms performing poorly cannot mimic the signaling due to their inability to sustain increased dividends, the signaling is credible. Thereby, investors are in doubt of any dividends announcements. In other ways, share price behaviors are mainly impacted by non-fundamental factors rather than fundamental factors such as dividends payout. It implies that dividend announcements do not really convey the important information to the public.

In the second step, we deeper examine the stock price behavior by combining information of dividend and earning changes. In specific, each group of Table 1 is subdivided into two further categories, including earning increase and earning decrease. The result consists of six groups that can be seen from Table 2.

The first group shows the market reactions when dividend increase news is tested with earning increase news as a whole. Importantly, positive average abnormal return is realized around 10 days of announcement date, but not remained over the 20 trading days. It can be understood that the early good news come out, the market reacts more positively. This is strongly evidenced with 0.13% and 0.24% of AAR on day 0 and 1 respectively, meanwhile insignificant AAR can be seen on the next 2 days and negative returns are realized around 10 trading days of announcement date with average AAR of -0.0291% .

It is also noted that the result of DI-EI group provides higher abnormal return than DI test-

ing alone. Figure 2 presents an offsetting effect whereby when good news from dividend corroborates with good news from earnings, it accumulates the overall positive effect during the period of ± 3 trading days around announcement date. However, the results of over next 3 trading days are not quite similar. To some extent, the reaction of Vietnam stock exchange is not quite different with the conclusion of Kane et al (1984) and Easton (1991), where earnings and dividends are found to have an interaction on share prices.

Group 2 mixed the case of good news from dividend announcement and bad news of earning report and thereby price behavior is recorded. As can be seen from Table 2, negative abnormal return is observed on the most of trading day but insignificant. Specially, positive abnormal returns only happened on day 0 and 1 with much lower numbers (0.05% and 0.001% respectively) than the results of DI-EI group. It is clear that the market performs less favourably to lower earnings report. On the other hand, bad news from earning news are strong enough to offset the positive effect of good dividend issues.

Observations of the CAARs plotted in Figure 3 demonstrate the same trend manner for the whole testing period. In specific, both dividend increase together with earning increase (CARR of DI-EI) and earning decrease (CARR of DI-ED) move in uptrend until the announcement day. After that clear downward movements are shown. This implies that the market is indifferent to both earning increase and earning

Table 2. Stock Market Reaction to Dividends and Earnings Announcements
(Dividend Increase – Earning Increase/Decrease (DI-EI; DI-ED))

Day	-10	-9	-8	-7	-6	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7	8	9	10	
1. DIVIDEND INCREASE																						
A. EARNING INCREASE																						
AAR	-0.05	0.10	0.16	-0.03	-0.08	0.02	0.19	0.22	0.15	0.10	0.13	0.24	0.00	0.00	-0.10	-0.13	-0.38	-0.35	-0.33	-0.35	-0.13	
t-Value	-0.51	0.56	1.56	-0.41	-6.54	0.12	1.19	6.42	0.68	0.94	2.29	55.41	0.02	0.18	-0.72	-0.43	-0.93	-1.07	-1.07	-0.79	-1.06	
CAAR	-0.05	0.06	0.22	0.18	0.11	0.13	0.32	0.54	0.69	0.79	0.92	1.16	1.16	1.16	1.06	0.93	0.55	0.20	-0.13	-0.48	-0.61	
B. EARNING DECREASE																						
AAR	-0.03	0.13	0.08	-0.05	-0.17	0.03	0.14	0.14	0.17	0.06	0.05	0.00	-0.11	-0.13	-0.14	-0.20	-0.36	-0.38	-0.25	-0.42	-0.17	
t-Value	-0.41	0.82	0.43	-0.49	-2.08	0.19	0.65	1.28	0.86	0.47	2.87	0.01	-11.16	-0.86	-1.25	-0.81	-0.85	-1.28	-0.67	-1.13	-1.98	
CAAR	-0.03	0.10	0.18	0.13	-0.04	-0.01	0.13	0.27	0.45	0.51	0.57	0.57	0.46	0.32	0.19	-0.01	-0.37	-0.76	-1.01	-1.43	-1.60	
II. DIVIDEND DECREASE																						
A. EARNING INCREASE																						
AAR	-0.25	-0.17	-0.32	-0.10	-0.42	-0.10	-0.21	0.07	0.05	0.50	0.19	0.09	-0.11	0.25	0.07	-0.11	0.07	0.04	0.06	0.06	0.06	-0.09
t-Value	-1.03	-0.64	-1.07	-1.31	-0.94	-0.35	-0.84	0.83	0.93	1.94	71.87	0.94	-3.01	3.56	1.81	-2.50	0.52	0.26	58.08	0.41	-1.69	
CAAR	-0.42	-0.16	0.00	0.32	0.42	0.85	0.94	1.15	1.08	1.03	0.53	0.34	0.24	0.35	0.10	0.03	0.14	0.07	0.03	-0.03	-0.09	
B. EARNING DECREASE																						
AAR	-0.07	0.08	-0.03	0.03	-0.02	-0.10	0.02	0.18	-0.09	0.06	0.12	0.26	-0.06	-0.06	-0.24	-0.16	-0.41	-0.13	-0.25	-0.24	-0.29	
t-Value	-1.98	0.74	-0.31	0.17	-0.10	-2.96	0.17	1.21	-1.48	0.45	1.45	0.53	-1.06	-0.28	-1.13	-0.78	-0.86	-2.83	-0.66	-1.26	-1.40	
CAAR	-0.07	0.01	-0.02	0.01	-0.01	-0.11	-0.09	0.09	0.00	0.06	0.17	0.44	0.37	0.31	0.07	-0.09	-0.50	-0.63	-0.88	-1.12	-1.41	
III. DIVIDEND UNCHANGED																						
A. EARNING INCREASE																						
AAR	-0.01	-0.43	0.27	-0.01	-0.12	-0.36	0.34	0.85	-0.07	0.09	0.26	0.74	0.06	-0.09	0.28	-0.08	-0.22	-0.47	-1.06	-0.40	-0.15	
t-Value	-0.09	-3.18	3.49	-0.11	-23.28	-12.59	2.44	3.49	-1.87	1.75	4.30	5.80	0.77	-2.97	2.78	-0.37	-1.58	-2.23	-2.08	-1.37	-2.20	
CAAR	-0.01	-0.45	-0.17	-0.19	-0.31	-0.66	-0.32	0.53	0.46	0.55	0.81	1.55	1.61	1.52	1.80	1.71	1.49	1.02	-0.04	-0.44	-0.60	
B. EARNING DECREASE																						
AAR	0.01	-0.19	0.05	-0.02	-0.15	-0.17	0.12	0.35	-0.01	0.01	0.05	0.13	-0.09	-0.18	0.11	-0.11	-0.09	-0.27	-0.46	-0.27	-0.12	
t-Value	0.08	-1.18	0.33	-0.16	-1.55	-4.40	0.61	1.10	-0.84	0.14	3.16	0.37	-2.26	-1.73	0.80	-0.70	-0.59	-1.47	-0.79	-1.22	-3.63	
CAAR	0.01	-0.18	-0.13	-0.15	-0.30	-0.47	-0.35	0.00	-0.01	0.00	0.05	0.18	0.10	-0.09	0.02	-0.08	-0.18	-0.44	-0.90	-1.17	-1.29	

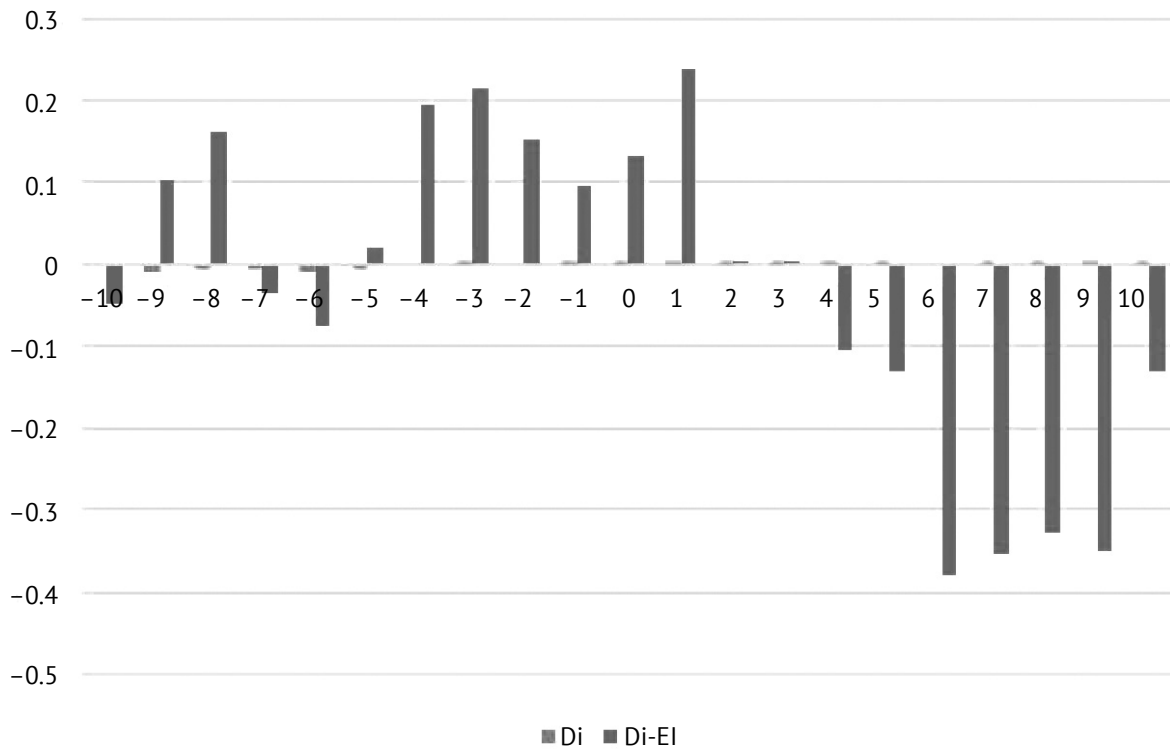


Figure 2. Average Abnormal return of DI and DI-EI group

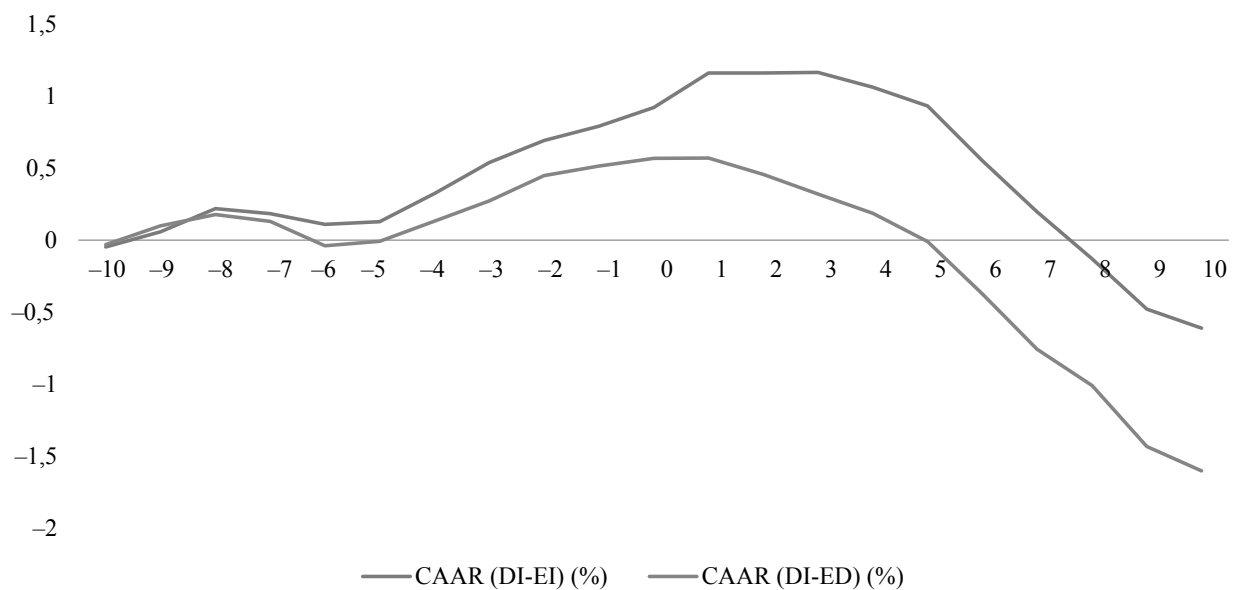


Figure 3. CAAR for Dividend Increase with Earnings Increase/Decrease Announcement

decrease news whenever the dividend increase news is announced to the public. Although, the slope of CAAR (DI-ED) curve is increasingly steeper than the CAAR (DI-EI) curve after announcement date. This proves that even earning results signal are not important news to the market but lower earnings results still received higher reactions.

Dividend Decrease – Earning Increase/Decrease (DD-EI; DD-ED)

Also from Table 2, we considered the combination of dividend decrease and earning increase as group 3 of DD-EI. The result shows a positive abnormal return of 0.33%, on average, over 20 trading days around news announcements. Compared with DI-ED group, the market participants

can earn higher positive abnormal return on announcement date of DD-EI. It means that when dividend decrease news is come up with earning increase, the stock market reacts quite positively. This contrast to the previous conclusion in the way good news from earning report play an important signal to the market. Specially, at the stage earlier, positive abnormal returns can be seen as the result of offsetting effect and much higher than the total sample of dividend decrease companies (See Figure 4). Thereby, although dividend payments are not as far as expected, the stock price is still uptrend due to good earning news.

In the case where both stock dividends and earnings per share decline, negative abnormal returns can be seen on most of the trading days surrounding announcement date. However, the market's reactions are significant positively on day 0 and 1 with the relative same number of DI-EI group. Logically, both dividend and earnings decrease announcements should send a stock price down, but in reality the opposite happened. There are a number of reasons why the evidence documented for developed markets may not apply to emerging markets. Developed markets are highly sophisticated, closely regulated and considerable amount of resources is devoted to securities research and analyses as compared to emerging markets, which are characterized by a relatively large number of poorly informed and

unsophisticated investors, low liquidity levels, weak legal, regulatory and institutional framework, and operational bottlenecks (Osei 2002). The lack of understanding of the operations and mechanisms of the capital markets, and the poor state of communication to facilitate information flow also makes capital markets in Vietnam less efficient.

Besides, the phenomenon of positive AAR on and surrounding the DD-ED announcement day may be that, investors were uncertain or anticipated low earnings hence their confidence in the stock increase around the announcement days which caused the rise in the abnormal returns. The negative returns after the event day were recorded, confirms Dey and Radhakrishna (2008) study on earnings announcements where they found that individual investors do not only earn significant weak positive excess returns just after the announcements, but they also suffer significantly negative excess returns in the days after the announcement. Similarly, Cready and Gurun (2010) found that lower earnings results exhibit positive cumulative average abnormal returns (CAAR) and move market values higher. Hussin et al. (2010) from the study of market reaction to earnings announcements in the Malaysian stock exchange also found that earnings announcements affect the share prices with lower earnings leading to negative market reaction. However, these studies are silent on

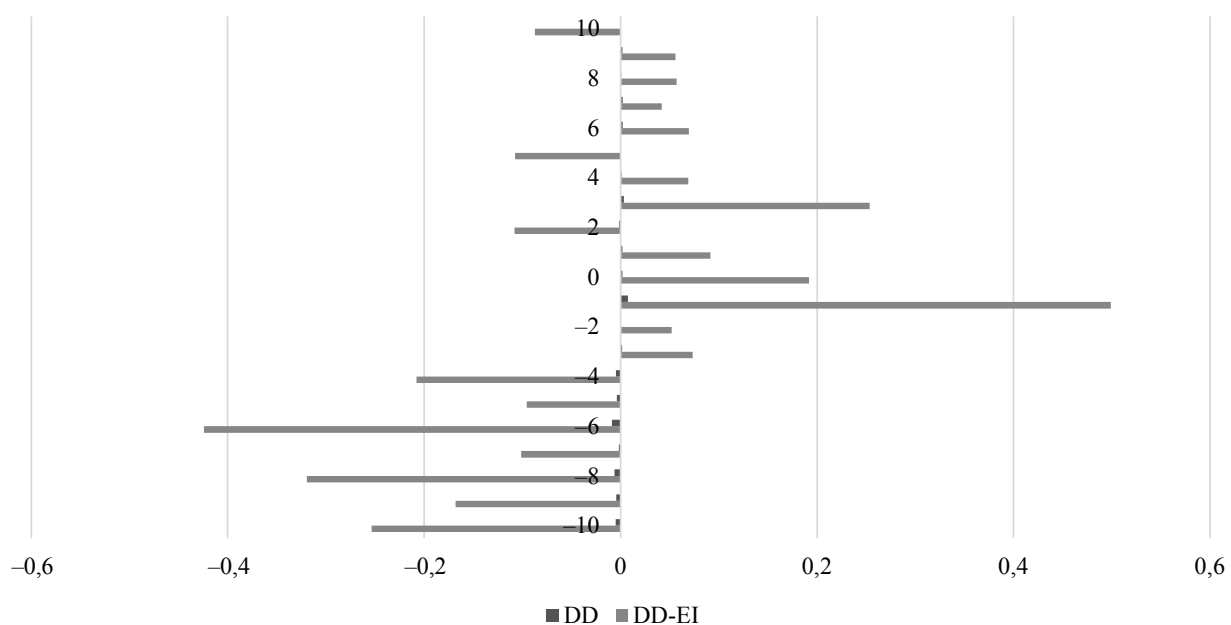


Figure 4. Average Abnormal return of DD and DD-EI group

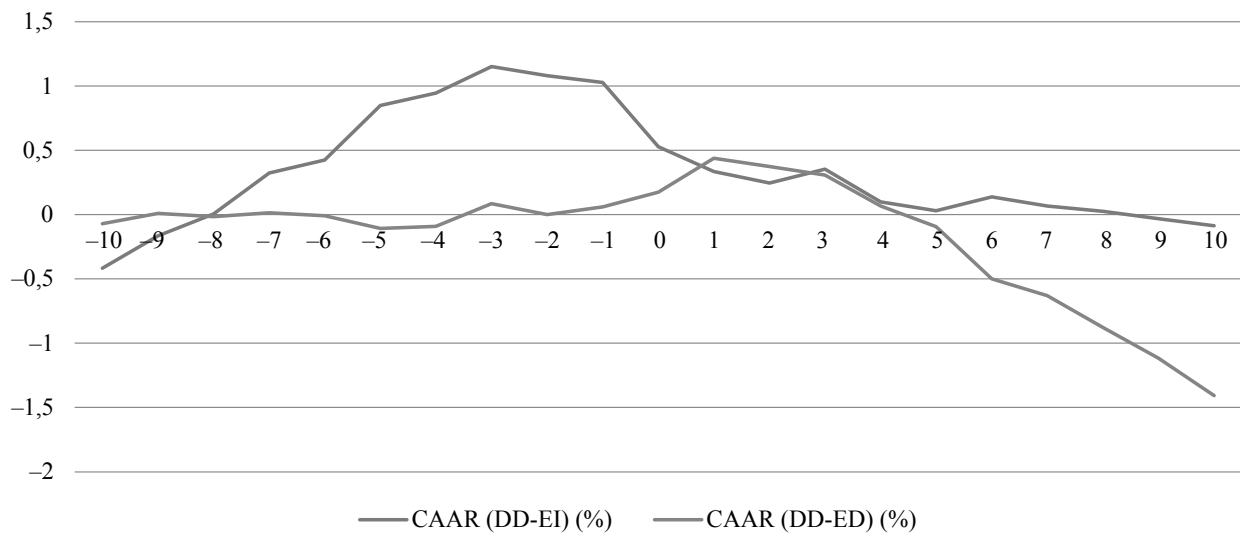


Figure 5. CARR of Dividend Decrease with Earnings Increase/Decrease Announcements

the state of the business cycle when the studies were conducted.

Figure 5 presents CAARs for both group of DD-EI and DD-ED. Until the announcement day, when dividend decrease news is accompanied by higher earning reports, the market reacts stronger positively to the announcement. After day 0, CAARs for both earnings increase and earnings decrease groups move in divergence with the earnings increase category which is moving upward, while the earnings decrease sample moves in the opposite trend. This follows the conclusion of Baharuddin (2010) that earnings results also provide an important signal to the uncertainty of the firm's future growth, where higher earnings results signal positive news to the market.

Dividend Unchanged – Earning Increase/Decrease (DU-EI; DU-ED)

To further clarify and draw conclusions on the effect of the earnings announcement on share prices, in Part III of Table 2, we subdivide the dividend unchanged category into earnings increase and earnings decrease groups. Both categories of earnings reveal a positive AAR on announcement day, and the CAARs are similar when the dividend unchanged group as a whole was tested until day -4. After that, negative and positive abnormal returns during the announcements period are not consistent for both events. In fact, earnings increase events support strongly for upward trend of CAAR within +/- 4 days

surrounding announcement day, meanwhile CAARs are maintained around 1% during the same period when negative earnings report is declared (See Figure 6). Bad earnings announcements, therefore, did not convey any important news to the companies. Clearly, we note that the market is quite different when the two signals move in different directions and when firms happen to pay the same dividends regardless of their differences in reported earnings figures.

Overall, in the first part of table 2, we conclude that earnings information does not affect investor interpretation on dividend information since the market reaction is indifferent when dividend announcements go in opposite directions and when companies pay similar dividend despite the changes in the reported earnings series for the year. In the second part, the results are quite opposite since earnings events, specially good reported earnings convey important information to stock price given dividend decrease. The last part provides the idea that the market will be uptrend even unchanged dividend payments. From those arguments, it is clear that both corporate earnings and dividend change announcements have significant effects on the stock price. However, changes in cash dividends do convey more useful information to the market beyond that provided by corresponding reported earnings for the year, consistent with previous studies by Aharony and Swary (1980), Isa and Subramaniam (1992), Dasilas et al. (2008), and Baharuddin et al (2010).

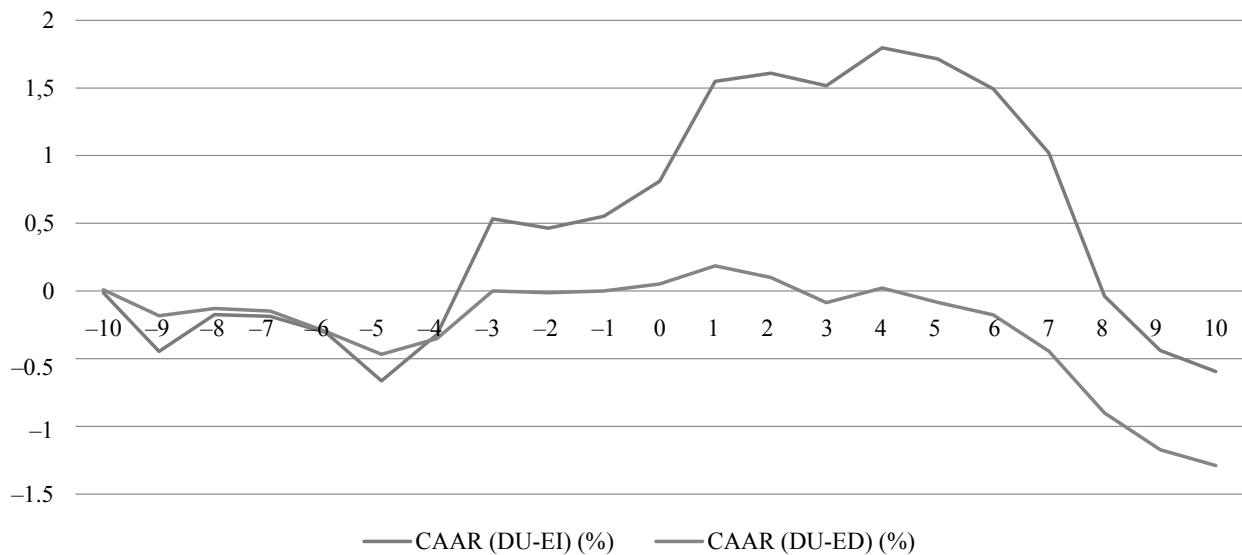


Figure 6. CARR of Dividend Unchanged with Earnings Increase/Decrease Announcements

Table 3. Summary of Results from Tests on Hypotheses

(with the event windows are (-1,+1), (-2,+2), (-3,+3), (-10,+10))

Hypothesis	Cumulative Average Abnormal Return (CAAR)				Results
	CAAR (-10,+10)	CAAR (-3,+3)	CAAR (-2,+2)	CAAR (-1,+1)	
H1: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends increase and earnings increase announcements.	x	x	x	✓	Marginal
H2: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends increase but earnings decrease announcements.	x	x	x	✓	Marginal
H3: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends decrease but earnings increase announcements.	x	x	x	✓	Marginal
H4: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends decrease and earnings decrease announcements.	x	x	x	x	Accept
H5: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends unchanged, earnings increase announcements.	x	x	x	✓	Marginal
H6: There is no significant difference between the Cumulative Average Abnormal Returns (CAAR) before and after dividends unchanged, earnings decrease announcements.	x	x	x	✓	Marginal

Note: Null hypotheses are rejected based on 5% level of significance.

Table 3 summarizes the overall results of our hypotheses with only one accept H4 at the 5% level of significance and marginally reject other hypothesis since there is at least one event window which is significant at the 5% level. Therefore, at a 95% confidence level, it could be concluded that regarding to price reaction to dividend and earnings announcements, Ho Chi Minh Stock Exchange has not fully achieved at its efficient level. There is still significant abnormal return within one month (20 trading days) surrounding the announcements date. In addition, the paper also expressed significant difference in CAARs between higher earnings news and lower earnings news when company reports a dividend decrease.

5. CONCLUSIONS

The study sought to investigate how Vietnam Stock Exchange reacts toward dividend and earning announcement and to test the semi-strong form level of the market efficiency. It is realized that there is no major correlation between the share prices and dividend announcement. It is also observed that there is insignificant reaction on the announcement day itself and also in the few days around it. Therefore, it is concluded that dividend announcement are not quickly and adequately reflected in stock prices and earnings announcements do not have any significant effects on share prices. Also whiles the results are inconsistent with the efficient markets hypothesis (EMH) which states that the price reaction to new information must be instantaneous and unbiased, the behavior of share prices is found to be inconsistent with the semis strong form of the efficient market hypothesis.

Additionally, from the market reactions to both dividend and earnings announcements, we conclude that both announcements have significant effects on the stock price. However, changes in cash dividends do convey more useful

information to the market. It is still witnessed significant difference in CAARs between higher earnings news and lower earnings news when company reports a dividend decrease.

As a sequel to the conclusions and based on the findings, the following recommendations are proposed:

First, it is essential to encourage listed companies release timely their financial statements. Accordingly, there are no opportunities for speculators earn abnormal returns surrounding dividend and earnings announcement date. By this way, it boosts liquidity and helps improve the informational efficiency of the stock market.

Second, the market should be made attractive to attract large institutional and foreign investors in order to improve liquidity of Vietnam stock exchange. In fact, institutional and international investors have greater security analysis capabilities; therefore, hooking them on board will help improve availability of quality and relevant financial information and the overall quality of the information environment in the market

Third, the stock market should also be encouraged to maintain modernized database of the various event dates in a way that make them easily accessible so as to aid in further event studies as opposed to the current way where a researcher has to search through so much information to extract the announcement dates.

Fourth, government should undertake policies to ensure macroeconomic stability since it is an important element that can boost investor confidence on the stock market and ensure firms to list on the market.

Last but not least, future research should consider a larger sample size and also broaden the scope of the research to cover more institutions as well. Also further studies should be conducted to establish the nature of the market reaction to good and bad news.

References

1. Adelegan O.J. (2003). Capital Market Efficiency and the Effects of Dividend Announcement on Share Prices in Nigeria. *African Development Review*, vol. 15, no. 2–3, pp. 218–236.
2. Aharony J. and Swary I. (1980). Quarterly Dividend and Earnings Announcements and Stockholders' Returns: An Empirical Analysis. *Journal of Finance*, vol. XXXV, no. 1, pp. 1–12.
3. Ball R. and Brown P. (1968). An Empirical Evaluation of Accounting Income Number. *Journal of Accounting Research*, vol. 6, no. 2, pp. 159–178.
4. Brown S. and Warner J. (1980). Measuring Security Price Performance. *Journal of Financial Economics*, vol. 8, no. 3, pp. 205–258.

5. Dasilas A., Lyroudi K. and Ginoglou D. (2008). Joint Effects of Interim Dividend and Earnings Announcements in Greece. *Studies in Economics and Finance*, vol. 25, no. 4, pp. 212–232.
6. Do Thi Thanh Nhan, Le Tuan Bach, Nguyen Thanh Trung (2014). Stock-market efficiency in emerging markets: evidence from Vietnamese stock market. Proceedings of the 7th International Scientific Conference Finance and Performance of Firms in Science, Education and Practice.
7. Easton S. (1991). Earnings and Dividends: Is there an Interaction Effect? *Journal of Business Finance and Accounting*, vol. 18, no. 2, pp. 255–66.
8. Fama F., Fisher K., Jensen M. and Roll R. (1969). The Adjustment of Stock Prices to New Information. *Journal of Finance*, vol. 10, no. 1, pp. 1–21.
9. Hussin B., Ahmed A. and Ying T. (2010). Semi-Strong Form Efficiency: Market Reaction to Dividend and Earnings Announcements in Malaysian Stock Exchange. *The IUP Journal of Applied Finance*, vol. 16, no. 5, pp. 36–60.
10. Isa M. and Subramaniam V. (1992). The Effects of Dividend and Earnings Announcement Stock Prices in the Malaysian Stock Market. *Malaysian Journal of Economic Studies*, vol. 29, no. 1, pp. 35–49.
11. Isa M. and Subramaniam V. (1992). The Effects of Dividend and Earnings Announcements on Stock Prices in the Malaysian Stock Market. *Malaysian Journal of Economic Studies*, vol. 29, no. 1, pp. 35–49.
12. Kane A., Lee Y.K. and Alan M. (1984). Earnings and Dividend Announcements: Is there a Corroboration Effect? *Journal of Finance*, vol. 39, no. 4, pp. 1091–1099.
13. Khoa Cuong Phan, Jian Zhou (2014). Market efficiency in emerging stock markets: A case study of the Vietnamese stock market. *Journal of Business and Management*, vol. 16, Issue 4, pp. 61–73.
14. Lonie A., Abeyratna G., Power D. and Sinclair D. (1996). The Stock Market Reaction to Dividend Announcements: A UK Study of Complex Market Signals. *Journal of Economics Studies*, vol. 23, no. 1, pp. 32–52.
15. Nhung Hoang (2015). Seasonality in the Vietnam Stock Index. *The International Journal of Business and Finance Research*, vol. 9, no. 1.