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Stock Price Reactions to the Dividend Announcement in the Emerging Market: Case in the Colombo Stock Exchange Sri Lanka

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Abstract
Stock price reaction to the dividend announcement is a topic that discuses in number of empirical research in the developed and emerging stock markets over the last several decades. This study examined the stock price reactions to the dividend announcement in the Colombo Stock Exchange (CSE), Sri Lanka for the period of 2008 to 2012.The main objective of this paper to examine the information content of dividend announcement and provide the test of the semi-strong form market efficiency of CSE. Standard event study methodology also applied in this study to analysis the stock price reaction for dividend announcement. The study reveals that dividend announcement has information contain and market response it positively on the event day. However it is also reveals that market response before and after the announcement which is means that CSE not confirm the semi-strong form of market efficiency.
Keywords: dividend announcement, emerging market, Colombo Stock Exchange

1. Introduction

Dividend significant plays a prominent role in corporate theory. Prior research in the develop market reveals that dividend announcement and stock market reactions are positive correlation. If dividend increases it considered as good news where as dividend decrease as bad news. However the question remains whether payment of dividend would create the value for the share holders. In this regard we can find two schools of thoughts. They are dividend irrelevance and dividend relevance theory. However these schools of thought conflict each other and not provide the satisfactory guidelines.

The main intension for this paper is extend and expand the work of Miller and Modigliani (1961), Bhattacharya (1979) Kalay and Loewenstein(1985) . Miller and Rock (1985) by examine the current data set in the emerging market.

Even though a number of empirical studies can be find in the area of market reactions to the dividend announcement in the developed and emerging market it is few studies can be found in context of CSE. Therefore this study is going to fill this gap by analyzing the stock price reaction to dividend announcement in the CSE. Further this study also provides evidence that the information efficiency of the Sri Lankan stock market.

2. Literature Review

2.1 Theoretical background

In the financial literature there are several theories in relation to the dividend polices and stock return. However theories are found not full in conveying the thoughts. According to the Brealey(1984) “these theories are to incomplete and the evidence is too sensitive to monitor changes is specification to warrant any dogmatism” Miller and Modigliani(1961) introduce the Dividend Irrelevance Theory which says that there is no connection between the stock value and dividend payment. MM's dividend-irrelevance theory says that investors can affect their return on a stock regardless of the stock's dividend. For example, suppose, from an investor's perspective, that a company's dividend is too big. That investor could then buy more stock with the dividend that is over the investor's expectations. Likewise, if, from an investor's perspective, a company's dividend is too small, an investor could sell some of the company's stock to replicate the cash flow he or she expected. As such, the dividend is irrelevant to investors, meaning investors care little about a company's dividend policy since they can simulate their own. However the validity of this theory is question in the real world because dividend irrelevance theory is crucial for the formulation of further theories that account for various imperfections

According to the Signaling theory which also introduced by the Miller and Modigliani referred to as the information content of dividend hypothesis. According to this theory dividend announcement are hypothesized to have information content explaining that managers use cash dividend announcement to signal changes in their expectations about the future prospect of the company when the markets are imperfect. The change in dividend payment is to be interpreted as a signal to shareholders and investors about the future earnings prospects of the firm. Generally a rise in dividend payment is viewed as a positive signal**,** conveying positive information about a firm's future earnings prospects resulting in an increase in share price. Conversely a reduction in dividend

payment is viewed as negative signal about future earnings prospects, resulting in a decrease in share price.
The essence of the bird-in-the-hand theory of dividend policy by Linter (1956), Gordon (1959), Brigham and Gapenski(1993) is that shareholders are risk-averse and prefer to receive dividend payments rather than future capital gains. Shareholders consider dividend payments to be more certain than future capital gains because "a bird in the hand is worth more than one in the bush"
Bhattachary (1979) , John and Williams (1985) and Miller and Rock(1985) has developed the cash flow signaling theory which says that firms change their dividend payout to signal future performance. According to them, cash dividend payment is normally associated with a company's operating cash flow assuming the amount of investment and external financing is constant. Company announce the dividend which greater than the expected leads to increase the of the company future cash flow which brings to movements of the stock price. This further explains that increase dividend will lead to increase the stock price and decrease in dividend will lead to decrease the stock price.
Free cash flow theory another theory which introduced by Jensen (1986) says that stock price will increase if there is unexpected dividend payment.

2.2 Empirical evidence

There are numbers of studies have been carried out to determine the stock market reactions to the dividend announcement. Among them Pettit(1972) has given useful information about "signaling effect of dividend" declaration on market price using the event study method. This research was carried out to show the changes in dividends levels gives better information to the investors. Daily and monthly data were used announcement dates of all dividends changes and investment data.
Aharony and Swary(1980), found a strong interaction between quarterly cash dividend and stockholders return beyond the information provided by the correctively earnings number based in quarterly dividends and earnings announcement and the shareholders return. The main purpose of this study was to find out whether quarterly dividend changes give information other than whole quarterly earnings number gives.
Asquit and Mullines(1986), a sample of U.S market found that the event day abnormal returns were positively related to the size of the initial dividend payment. Moreover the above empirical researchers confirmed that announcement of cash dividends do convey useful information and in an efficient capital market this information is fully and instantaneously reflected on share prices subsequent to a public announcement of dividends. Therefore their findings clearly support the informational content of dividend hypothesis and the findings are coincided with the semi-strong form of the efficiency market hypothesis as published widely available dividend information fully and instantaneously reflected on share prices.
Brickley (1983), tested a sample of specially designated dividends specified as 'extra', 'special', or 'year end' by the management of the companies. This sample was included 165 specially designated dividends announcement of stocks traded on US markets covering the year 1969 to 1979.
Dielman and Oppenheiman(1984), examined a sample of US firms that paid largely changed dividend in the 1967-1977 period. The general observation of this study is that firms that increased dividends announce special or extra dividends or initiate dividend payments or the first time experience positive abnormal return and firms that cut or omitted dividend payments experienced significant negative abnormal returns during the announcement period. These results reveal that stock market uses dividends announcements as a signal from management to investors about the future earnings prospects of the firms.
Claudio and David (1992), investigated whether managers rely on dividends to obtain a higher price in stock offering and whether the stock prices reaction to dividend and offering announcements justifies such coordination. The evidence did not support either conjecture. Issuing firms not more likely to pay or increase dividend than non-issuing forms.
Chew and Liang(1993), confirmed that the market respond to dividend decrease much more than to dividend increases. They interpreted that the market reaction to dividend decrease and to dividend increase are basically.
Beer(1993) , conducted study to record the stock market reaction to dividend changes on Brussels stock exchange and to connect it to company's information release. The results of the regular dividend sample showed that shareholders obtained positive abnormal return from increased dividend during 20 day window. But dividend decrease sample showed positive abnormal return which goes against empirical findings by Kalay (1985) and Aharony and Swary(1980).
DeAngelow , DeAngelo , Skinner (1996) argued that no evidence that earnings increase following dividend increase. The findings of Grullon ,Michaely (2002) were entire different from the findings of DeAngelo (1996) explained that firms that increase dividends experience increase in earnings during the same year, but no increase thereafter, which firms that decrease dividends experience decrease in earnings during the same year and increase thereafter.
Fukudu (2000)in Japan explained that operating efficiency declines following a dividend increase and picks up following a dividend decrease. In considering the study of Dewenter and Warther(1998) and Fukuda (2000) providence evidence of a positive market reaction to dividend increase and negative market reaction to dividend

decrease.

In considering the studies of the dividend announcement and stock price behavior of the Sri Lankan stock market, Abayadeera(1998) examined the relationship between dividend policies of Sri Lankan companies and macro economic variables namely GDP, money supply, inflation, and treasury bills rates are positively , significant related to dividend policies. Money supply growth, current GDP growth and projected GDP growth also have positive significant relationship with dividend policies.

Dissabandara(2001) examined the information content of the dividend announcement in the CSE. The sample consists 123 events relating to 37 companies for the period of 1993 to 1998. This study used the standard event study methodology. The results reveals that changes in annual cash dividends provide information about changes in managers' assessment of future estimates of the firm.

Gunasekara (2000), investigated the relationship between profitability and dividend policies of Sri Lankan companies. The study used ten year data and used the regression analysis methodology to measure relationship. The study reveals that a significant relationship between dividend policy and profitability. It also reports all contemporaneous, lag and lead EPS are significantly positively related to dividend variables only the contemporaneous ROI is significantly related to dividend cover and ROI seems to have a very weak impact on dividend policies.

Nandana and Samanthi (2001), investigated the Impact of company specific factors in setting the dividend policies of Sri Lankan companies and the applicability of various theories of dividends policies in Sri Lankan context. The study reveals that the main company specific factors that would influence the dividend policies of Sri Lankan companies are profitability, investment opportunities available, financing choice made, DPS(lag) and liquidity position of companies. Further , the companies are highly concerned about investors preference for high dividend yield and the information content of dividend announcement when dividend policies are formulated.

3. Objectives of the Study

1. To examine the stock price reactions to the dividend announcement in the Colombo Stock Exchange(CSE)
2. To examine the informational content of the dividend announcement and test the semi-strong form of market efficiency of the CSE.

4. Methodology

4.1 Hypothesis

The theoretical literature of finance has developed three different hypotheses to predict the price effect of new information on outstanding shares.(Asquith and Mullins,1986). These three hypotheses can be put into three group namely, positive price effect, negative price effect and no price effect. However in this study researcher develop the following hypothesis based on the literature to achieve the stated objectives of the study

Ho: Dividend announcement does not impact on the stock price of CSE

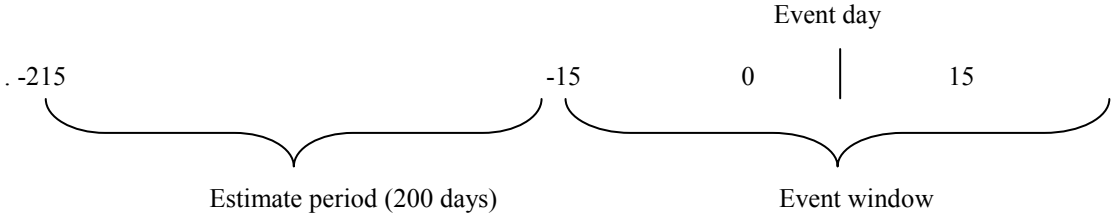
H1: Dividend announcement impact on the stock price of CSE

4.2 Event Study Methodology

The methodology employed in this study is the standard event study methodology. Event study focus on the behavior of security prices in order to investigate whether their stochastic behavior is affected by the disclosure of company specific events, such as information content, dividend announcement, and earnings news (Strong 1992).

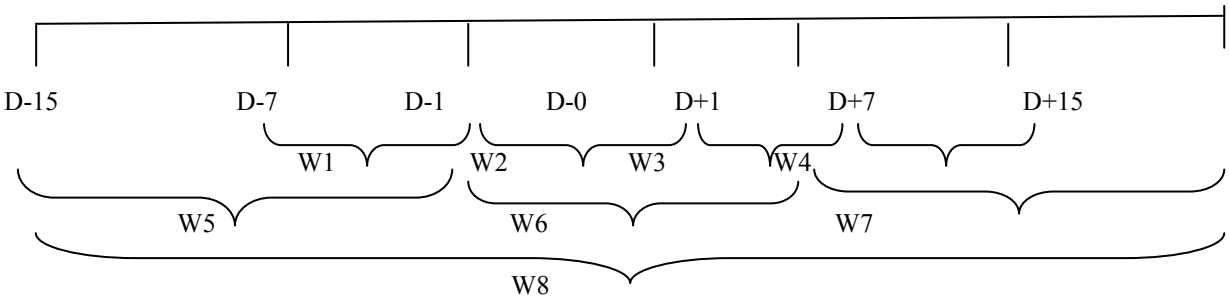
Most of the research related in the emerging markets test the market reactions on dividend announcements by using the event study methodology. However studies are pertaining to measuring the market efficiency on the release of the dividend and bonus announcement (Ramesh and Nimalathasan 2011, Gunasekara 2004) using the short event window. Therefore this study also used a short window of 31 days to measure the market reactions to the dividend announcement in the Colombo Stock Exchange.

Figure: 01- Event window



Further to test the reaction of stock price to the announcement of dividend Cumulative Average Abnormal Return (CAAR) calculated over multiple subs event windows as given in the figure 2 . Analyzing the reaction for different sub event windows enables to find out whether stock price reaction to the dividend announcement happen immediately, gradually or over different days

Figure 02- Multiple Sub Event Windows



4.3. The Study Period

The study period covers five years from 2008 to 2012 including both years. Based on the studies of Firth (1976), daily share price data used to detect the presence or absence of abnormal share performance in an event window is 31 days. The daily share price data from 2008 to 2012 was used to analyze the relationship between the behavior of the share price and the dividend announcements.

The day of the announcement of dividend was treated as t=0 and Day t=-1 considered as the day immediately preceding the dividend announcement. . Day t=+1 is conceded as the day immediately following the day of dividend announcement.

4.4 Data Collection

Data were collected from the publications of the CSE and the annual reports of the companies. The daily stock price and market index were obtained from the data library of the stock exchange.

4.5 Selection of the Sample

Sample consists with 30 companies which announced the dividends throughout the study period. A company is selected as eligible for the study only when the following selection criteria are satisfied.

1. The company should have been listed in Colombo Stock Exchange throughout the study period.
2. The daily and monthly stock price should be available and the companies share were actively traded in the market
3. There is no other distribution announcement such as bonus issues, stock splits in a one month window period.

4.6 Data Analysis Model

4.6.1 Market Model

There are several benchmarks for calculating abnormal returns, Strong(1992),viz, means adjusted returns , market adjusted returns, CAPM(capital asset pricing model) bench mark, the match/control portfolio bench mark and the market model. Among them market model benchmark was most widely used one. For example Pettit(1972) and Aharony and Swary(1980) used the market model in their studies to measure abnormal performance. Further Nasar(2002), Dissa Bandara and Samarakoon.(2002), Javid and Faraz (2011), Opong (1996), Ramesh and Nimalathasan (2011) also used the market model to measure the abnormal return. This study used the market model to measure the impact of dividend on share price of the company. Firstly we used the market model to estimate α and β using data for the estimation period. The market model is estimated through ordinary least square regression. Market returns during the estimate period are treated as independent variable while dependent variable is the returns of the firm for the purpose of running the regression. Regression analysis produced estimation of regression intercept (α), and regression slope (β) which will be used in computing expected returns.

Daily share return of each company is calculated according to the following equation

$$R_{it} = P_{it-} P_{it-1}/P_{it-1} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (1)$$

Where

R_{it} = return on share i on day *t*

P_{it} = price of share i on day *t*

P_{it-1} = price of share i on dat *t-i*

Daily expected return is estimated using the Market Model for each share as follows.

$$E(R_{it}) = a + b(R_{mt}) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (2)$$

Where

$E(R_{it})$ = expected return on share *i* on day *t*

R_{mt} = return on the market on day *t*

a, b, = are parameters of the market model

In order to test the market reaction to announcement the abnormal return was calculated at the time of the

announcement and before and after the announcement. It calculated as the difference between the actual return on share i on day t and the expected return on share i on day *t* according to the following equation

$$AR_{it} = R_{it} - E(R_{it}) \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3)$$

Where

AR_{it} = abnormal return on share i on day *t*

R_{it} = return on share i on day *t*

$E(R_{it})$ = expected return on share i on day *t*

To generate the expected return by the market model, the Ordinary Least Square(OLS) technique was employed. A regression was run on the daily share return for each firm in the sample surrounding the release of its dividend announcement against the daily market return, as proxied by the market index for the corresponding calendar day. The parameters of the market model were estimated over 200 day estimating period, from day t-215 to day t-15. This 200 day period is in the range recommended by Strong (1992) and the previous studies in this area.

To improve the informativeness of the analysis of abnormal returns, average the AR_s across the observations for all events, N, using the model

$$AAR_t = 1/N \sum AR_{it} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (4)$$

Then test the statistical significance using at the 5% of the two tail test.

In order to make generalizations and to draw on overall inference for the market reactions to dividend announcement, the cumulative abnormal returns was also analyzed for the 31-day event window, from the start of the event period t_{-15}(day -15) up to time t_{+15}(day +15)as follows.

$$CAAR_t = \sum_{i}^{k} AAR_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (5)$$

The null hypothesis to be calculated is that the mean abnormal return in the period the event day is zero. A mathematical explanation of the hypothesis is provided below:

Ho: AR = 0

H1: AR ≠ 0

Where; AR = Abnormal Returns

5. Results

In order to examine the stock price reactions to the dividend announcement of the CSE researcher selected 30 companies which have made 116 final dividend announcements during the selected sample period. The average abnormal return and the cumulative abnormal return of the event window are presented the table 1.

Table 1 reveals that the average abnormal returns and cumulative abnormal return of the event window. The abnormal return of the day 0 is .11 which is statistically at 1%. This could be due to that the dividend announcement carries the information content and investors react immediately to the dividend announcement. Hence the null hypothesis which dividend announcement does not impact on the stock price of CSE is rejected and the alternative hypothesis which is dividend announcement impact on the stock price of CSE is accepted.

However the results show that days -10 and -4 also statistically significant which mean that market react before the dividend announcement made. It implies that there was a leak in information relating to the dividend announcement. The leak of information may be occurring due to the close association between the market participants and the company official. Another way is publications and rough report which suggest the probability of a potential dividend announcement.

However during the post announcement period the days 5 and 9 is statistically significant. This indicates that market react few days after the dividend announcement. This is delayed reaction. It may be due to the delay in dissemination the information throughout the market. Lack of awareness of the investors is another factor to delayed reaction.

Table 1- AAR and CAAR

Day	AAR %	t-value	CAAR%	T value
-15	.041	0.25	.041	0.02
-14	.031	0.19	0.072	0.05
-13	.01	0.061	0.082	0.05
-12	.01	0.061	0.092	0.06
-11	.14	0.85	0.232	0.16
-10	.59	3.61*	0.822	0.60
-9	.20	1.22	1.022	0.74
-8	.059	0.36	1.081	0.79
-7	.05	0.30	1.131	0.82
-6	.06	0.36	1.191	0.87
-5	.12	0.73	1.311	0.95
-4	.35	2.14*	1.661	1.21
-3	.22	1.34	1.881	1.37
-2	.09	0.55	1.971	1.44
-1	.06	0.36	2.031	1.48
0	.11	3.07*	2.141	1.56
1	.039	0.23	2.18	1.59
2	.24	1.47	2.42	1.76
3	.10	0.61	2.52	1.84***
4	.05	0.30	2.57	1.87***
5	.72	4.41*	3.29	2.40**
6	.01	0.061	3.3	2.41**
7	.03	0.18	3.33	2.43**
8	.01	0.061	3.34	2.44**
9	.27	1.65***	3.61	2.64*
10	.07	0.42	3.68	2.69*
11	.14	0.85	3.82	2.79*
12	.11	0.67	3.93	2.87*
13	.16	0.98	4.09	2.99*
14	.02	0.122	4.11	3.00*
15	.06	0.36	4.17	3.04*

*- significant at 1%, **- significant at 5%, ***- significant at 10

Figure 1

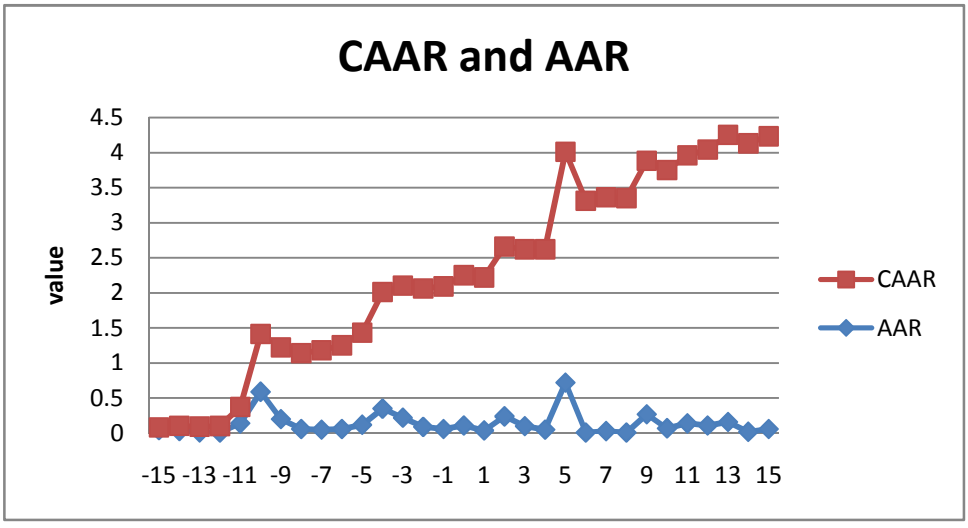


Figure 1 shows that the behavior of the Cumulative Abnormal Return and Average Abnormal Return during the event window. It shows that AAR and CAAR positive trough out the window period. This positive effect suggests that dividend announcement have information content. The figure show that that CAAR positively

throughout the period but it has dropped slightly on days 6, 7, 8. In considering the preannouncement period CAAR dropped on days -8,-7,-6. Considering the post announcement period CAAR rose sharply on day 5. It is obvious that dividend announcement is favorable news for the investors who react positively for the announcement.

Table 2 - Multiple Sub Event Windows

Wn	Event window	N	CAAR	t- value
W1	day -1 to day -7	7	0.95	2.48517*
W2	day -1 to day -0	2	0.17	2.185603**
W3	day 0 to day 1	2	0.149	5.403021*
W4	day 1 to day 7	7	1.189	2.434583**
W5	day -1 to day -15	15	2.031	2.786738*
W6	day -1 to day +1	3	0.209	2.704874*
W7	day 1 to day 15	15	2.029	3.081859*

The table 2 shows the CAAR results for the 7 sub event window. It shows that CAAR is positive value trough out the different window period and statistically significant at 1% level except window two (W2) and four (W4). Therefore it is further suggested that the release of the annual financial statements has positive impact on stock return on the stock price in the CSE.

Considering the above facts, it is obvious that AAR statistically significant on the event day. However market also reacted before the dividend announcement and after the announcement. This evidence suggests that share price does not seem fully and instantaneously reflect the information contained in the announcement of dividend. It is obvious that the CSE is not consisting with the semi-strong form of market efficiency.

6. Conclusion

This study investigated the stock price reaction to the dividend announcement of the companies listed in the Colombo Stock Exchange. This study specifically focused on the information content and measurement of the speed of investors' reaction to the information content of the dividend announcement. Primary data for the study collected from the Colombo Stock Exchange website, data library and other publications. The abnormal return was calculated by using market model .These abnormal returns and cumulative abnormal returns were then aggregated across firms for each of the date in the event window. However the results of this study show that the Average Abnormal Return (AAR) and CAAR are positive around the announcement. However the share price behavior upon the dividend announcement was significantly different from its behavior during the other time of the test period. Hence, announcement of dividend have had favorable information and investors have reacted positively to the dividend announcement. Therefore this response has the potential of generating abnormal returns based on publicly available information.

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