

# STOCK PRICE REACTION TO STOCK DIVIDEND ANNOUNCEMENTS AND INFORMATION EFFICIENCY IN SRI LANKAN STOCK MARKET

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## ABSTRACT

*Recognizing the requirement of a comprehensive analysis of stock market response to the publicly available information, this study investigates the effect of information content in stock dividends, on stock returns in Colombo Stock Exchange (CSE). The empirical knowledge on this regard is limited as most of the previous studies concentrate on either very few numbers of events or they are limited by the method implemented. The event study method is frequently used with Market Model, Mean Adjusted Model, and Market-Adjusted Return Model previously. However, this study enlightens the event study method even by incorporating stock volatility clustering phenomenon to the Market Model. It is further extended with the application of time series modelling techniques. Taking the fact which is, especially availability of data this study has selected 27 stock dividends announcements for the period from 2004 to 2014 for this study. Results indicate that stock returns react positively to the stock dividend announcements in CSE. This is consistent with the information content theory. Further, presence of earlier or/and delayed significant abnormal returns indicates that stock prices do not reflect the publicly available information instantly and accurately. Therefore, CSE is not consistent with the semi-strong form efficiency hypothesis. Thus, this study intensifies the requirement of Securities and Exchange Commission's intervention for the efficient information dissemination in the CSE.*

**Keywords:** Event Study, Information Content Theory, Market Model, Stock dividend, and Semi-Strong Form Efficient Market Hypothesis.

## 1. INTRODUCTION

The published information in a capital market is very important for investors in their decision makings. Listed companies publish often their significant material information over the capital market in order to make aware the public. When the companies announce this information to the public, it is considered as valuable information for the investors to choose their investment portfolios. The investors' judgment on these information changes the stock prices and as a result they may react positively or negatively in making trading decisions. Although there are several theoretical and empirical researches on this area yet it is inconclusive. And also, it is evident that much of the studies on stock price reaction to publicly available information for testing the efficiency of the stock markets based on developed stock markets and there is a lack of such studies in emerging capital markets. In Sri Lanka a small number of attempts have been made to test the relevance of corporate public announcements in assessing stock prices hence, an investigation of the different types of corporate public announcements and shareholders' responses becomes relevant to Colombo Stock Exchange (CSE). Thus, this paper attempts to find answer for the following questions. How the stock

price reacts, as soon as the information of stock dividend announcement is published over the CSE and how the Semi-strong Form Efficient Market Hypothesis<sup>1</sup> acts according to the information of stock dividend announcements. The objectives of this study are to examine how the stock market reacts, as soon as the information of stock dividend is published over the CSE. Then, it examines information efficiency of Sri Lankan Capital market.

The rest of the paper is organized as follows. Section 2 reviews the prior studies on the dividend announcements in brief. Contribution of the study is provided in section 3. Section 4 details the data and the sample and methodology used in the paper. Section 5 elaborates the analyzing procedure and empirical results of the study, and Section 6 provides the concluding remarks.

## 2. PRIOR STUDIES

A pioneering study, Aharony and Swary (1980) examined the stock price reactions to quarterly dividend

<sup>1</sup> Security price reflects the publicly available information immediately and accurately (Fama.1970).

announcements of 149 industrial firms from those listed on the New York Stock Exchange (NYSE) for the periods of 1963 to 1973. Findings show that dividend increase announcements were associated with positive abnormal returns and dividend decrease announcements were associated with negative abnormal returns surrounding dividend announcements day. In addition, the study supported the semi-strong form of the efficient capital market hypothesis; that is, on the average, the stock market adjusts in an efficient manner to new quarterly dividend information. Asquith and Mullins (1983) investigated on market response to both initial and subsequent announcements of dividend in US market; the study analyzed a sample of 168 companies that initiated a dividend to equity shareholders. They found large, significantly positive two-day abnormal returns (the average abnormal return increased by 3.7 percent in response to dividend initiation announcements. In addition, they found that the average market response to initiation was larger than the average effect of large subsequent dividend increases analyzed here. This study also supported the semi- strong form efficient market hypothesis.

In a parallel study, Brickley (1983) tested a sample of 165 specially designated dividends announcements of stocks traded on US stock markets covering the year 1969 to 1979. Findings show that 2.1% percent of positive average abnormal returns due to announcements of specially designated dividends on US Market. Dielman and Oppenheim (1984) examined a sample of US firms that paid largely changed dividend in the 1967-1977 periods. The general observations of this study were that (1) firms that increased dividends announce special or extra dividends or initiate dividend payments or the first time experienced positive abnormal returns and (2) firms that cut or omitted dividend payments experienced significant negative abnormal returns during the announcement period. Finally, they concluded that stock market used dividend announcements as a signal from management to investors about the future earnings prospects of the firms. Beer (1993) conducted a study to record the stock market reaction to dividend changes on Brussels Stock Exchange. He took Belgium Companies for sampling test of which, one sample has 135 companies and paying regular dividend (Regular dividend sample) and second has 48 companies restarting after 3 years' gap of consecutive years (Resumption of Dividend Sample). It was 10 years' period from January 1977 to 1986. The results of the regular dividend sample showed that Shareholders obtained positive abnormal return from increased dividends during 20-day window. The dividend

decrease sample (Negative Unexpected Dividends) showed positive abnormal return. In a subsequent study, Scott and Keith (1996) examined the differential share price reaction to dividend increase, decrease announcements with respect to bull, and bear market phase. They found that market phase had a significant impact on abnormal returns around the announcement, and it appeared that more information was conveyed by dividend change announcements that run counter to market phase. Finally, they concluded that these results were consistent with the information content of dividends hypothesis. Bessler and Nohel (1996) examined a sample of 81 dividend reductions by 56 commercial banks Listed on the NYSE, AMEX, and NASDAQ for the period 1974-1991. The study suggested that dividend was cut by banks were perceived by the market as negative information and subsequently result in immediate negative valuation effects.

Lonie et al. (1996) investigated the stock market response to interactive dividend announcements by a sample of 620 UK companies over the six-month period 1 January to June 1991. They found that the average abnormal returns for the dividend-increasing group of companies on average, earned a positive abnormal return of 2.03 percent during the dividend announcement period where as the average abnormal returns for the dividend-decreasing group of companies on average, earned a negative abnormal return of 2.35 percent during the dividend announcement period. Hu Zuguang and Ahmed (2010) analyzed the effect of dividend announcement on stock price in Shanghai Stock Exchange (SSE). They have selected the announcement dates made by the stocks listed in SSE 180 index during the period from January 2005 and December 2009. They have found that on the day of dividend increase announcement, stock prices increased and investors gained abnormal returns. However, as for the effect of dividend decrease on the announcement day, market did not experience any negative abnormal returns implying that investors in SSE did not regard dividend decrease as unfavorable information. Moreover, significantly large dividend increase announcement has much higher effect on the value of abnormal returns implying that size of the dividend increase was an important consideration to the investors. In a similar way, Dasilas and Leventis (2011) investigated the market reaction to cash dividend announcements for the period 2000-2004 employing data from the Athens Stock Exchange (ASE). In particular, they examined both the stock price and trading volume response to dividend distribution announcements. Findings showed that there was

significant market reaction to dividend change announcements and it supported to the information content of dividends hypothesis.

In context of Sri Lankan Capital Market, Bandara (2001) investigated the informational content of dividend announcements with a sample of 123 events relating to 37 companies, from 1993 to 1998, in CSE. He found that the market reacted positively to announcement of dividend increase and negatively to announcement of dividend decrease. For constant announcements, it did not show any significant reaction in CSE. Further, the results showed that some important differences between CSE and develop markets. The results of the overall sample clearly supported dividend-signaling hypothesis. Finally, their findings showed that CSE did not support semi-strong form efficient market hypothesis. Similarly, Bandara and Perera (2011) expanded upon the work of Bandara by enlarging the sample of 264 events from 1993 to 2008 in CSE and found similar results. In addition, Dharmarathna (2013) attempts to examine stock price reaction to subsequent dividend announcements and information efficiency in Sri Lankan Stock Market with a sample of 61 major companies from those listed on CSE, which have made 137 dividend announcements for the period of 1999-2005. Findings show that the stock price reacts positively to subsequent dividend announcements in CSE. Thus, dividend increase announcements support the information content of dividend hypothesis. Moreover, dividend decrease announcements and dividend no change announcements against with the information content of dividend hypothesis. In addition, the study supported the semi-strong form of the efficient capital market hypothesis; that is, on the average, the stock market adjusts in an efficient manner to new dividend information. Subsequently, Fernando, and Guneratne, (2009) have examined the stock price performance on and around stock issue announcements in CSE over the period from 1991 to 2007 using alternative return generating models; market-adjusted model, mean-adjusted model and risk-adjusted model with the intention of providing a methodological triangulation in the context of event studies. They found that all the three models suggest that the market responds significantly on stock issues with a large price appreciation on the announcement day itself. Positive reactions started well prior to the event and continued up to about further six market days creating both statistically and financially significant arbitrage opportunities. Similarly, Ramesh and Nimalathasan (2012) attempted to examine the impact of stock issues announcement on share prices in Sri Lankan Share Market. The study selected thirty-seven events (37) in

CSE for the period from 2003 to 2007. They employed the market model in generating abnormal returns around the events. The results revealed that 43% of Abnormal Returns (ARs) were positive and 57% of ARs were negative on the event day "0" (announcement day). In addition, they found that the bonus issue announcements had insignificant impact on the share price of the Sri Lankan Share Market. These findings are contradictory to the findings of Guneratne and Fernando (2009). Apart from that, Aydogan and Muradoglu (1998) investigated the market reaction to stock dividend announcements by the firms listed on the Istanbul Stock Exchange. They divided their sample into two sub periods: 1988-1990, when firms did not have to inform the exchange immediately after corporate decisions; and 1991-1993, when the market became more mature and all listed firms were obliged to make timely public disclosures of all significant corporate decisions. They found that significant positive price reactions were in the first sub period but not in the second sub period. They interpreted as a sign of market efficiency as the market matured. The price reactions in the initial sub period were attributed to the absence of timely information about company fundamentals, so that stock dividends conveyed information about the future profitability or confirmed that previously realized earnings were permanent.

Vandana, (2003) tested the semi-strong efficiency of the Indian Stock market over the period 1995 to 2000 by employing event study. The study involved a sample of 145 issue issues, in order to examine the announcement effects of stock issues on equity share prices in India. He employed the market model in measuring the abnormal returns around the bonus issues. The study concluded that the Indian Stock Market was consistent with semi-strong form efficient market hypothesis. In a subsequent study, Dhar and Chhaochharia (2008) examined the impact of the information relating to the announcement of bonus issue on stocks listed on National Stock Exchange (NSE) by employing event study. They also employed the market model in measuring the abnormal returns around the bonus issues. The results revealed that share price reacts positively to the event, which is a bonus issue. For a bonus issue, the abnormal return was about 1.8 percent and thereby the study supports the view that Indian Stock Market is efficient in semi-strong form. Then they confirmed the findings of Vandana, Gupta (2003). Similarly, Raja and Sudhahar (2010) tested the efficiency of the Bombay Stock Exchange (BSE) in India with respect to information content of bonus issue announcements of the IT sector. The study selected 43 IT Companies listed in the BSE for the period from year

2000 to 2007. They also employed the market model in measuring the abnormal returns around the bonus issues. The results of the study showed that the share prices react positively subsequent to the announcement of the bonus issue and the Indian capital market for the IT sector, in general, is efficient, but not perfectly efficient, to the announcement of bonus issue. In a study, Campbell and Ohuocha (2011) examined whether stock dividend announcements create a value for the companies traded on the Nigerian stock market and to ascertain the nature of the information such announcements convey. They used a sample of 99 stock dividend announcements from 60 companies for the period of 2002–2006. They also employed the market model in measuring the abnormal returns around the bonus issues. The findings suggested that companies that choose their own announcement date outside the Nigerian stock exchange announcement window experience positive abnormal returns if their stock is more frequently traded and negative abnormal returns if their stock is less frequently traded.

### 3. CONTRIBUTION OF THE STUDY

Sri Lankan Capital Market is as an emerging capital market, and unique from the other in terms of geographical location, economic development, institutional and legal framework. Also it is currently attracting local and foreign investors. Therefore, this study is contributing in a number of ways. So far, the studies conducted to explore the stock dividend announcements in the CSE used only Market Model in generating abnormal returns in and around the dividend announcements. This study uses three standard methods to capture expected returns namely Mean Adjusted Model, Market-Adjusted Return Model, and Market Model. The market model enriches by including of the stock volatility clustering phenomenon which is excluded by the prior studies in CSE. In addition, it uses volatility time series modeling approach in generating abnormal returns in and around announcement of interim dividends which is novel approach for the event study methodology. Thus, the findings of this study give an opportunity to compare the findings of studies conducted on this phenomenon in the developed and other emerging markets with the CSE and it shows whether the behavior of stock returns in line with the other markets. It provides the investors including present and potential with valuable information about the share price behavior and an understanding about the state of the market. The findings are also useful for Securities Exchange commission (SEC) of Sri Lanka in carrying out their functions like setting plans, drafting

new legislation or amending existing legislation related to CSE, monitoring and controlling capital market activities. From the academic significance point of view, this study adds to the literature by providing evidence in the context of emerging markets. Apart from benefits and parties mentioned above the findings of this research would also be beneficial to other interested parties like stockbrokers, analysts, fund managers, government authorities, etc. who are attached to the capital market of Sri Lanka.

### 4. METHODOLOGY

This study employs the event study methodology. However, this study enriches the event study method even by incorporating stock volatility clustering phenomenon and information asymmetric effects to the Market Model. Also, the event study method is further extended with the application of volatility time series techniques instead of market model, mean adjusted model and mean adjusted models. Taking the fact which is, especially availability of data this study has selected the period from 2004 to 2014 for this study. The data is collected through the Daily Market Reports published by the CSE and Computerized Data Base System of them. The samples have been selected purposively assigning the applicable criterion. The samples have been selected purposively assigning the following criteria i.e. minimum number of trading days per year of the particular company should be at least 153 days out of the total market operating days of CSE. The next selection criterion is the availability of daily closing price data in the following circumstances. Daily closing price should be available at least 130 days out of the total period of 152 and at least 28 days during 31-day window period inclusive the following announcement date closing price. There should not be another published announcement during the event window. It is assumed that the event impact is limited to the 31 trading days. Thus, the total event period that is to be examined is 31 trading days. The event period starts with the day, immediately before the event date and goes back to 15 trading days. It closes with the day immediately after the event date and goes ahead to 15 trading days. This period is divided into three windows, namely pre-event window (-15 to -1), event window (0-day) and post-event window (+1 to +15). The event window represents immediate market reaction. Pre-event window and post-event window represent earlier and delayed market reactions respectively. Also, this study uses 120 of past returns over the pre-identified estimation window to estimate the return generating models.

**Model is used to calculate Actual Returns**

$$R_{i,t} = \mu^i$$

$$R_{i,t} = LN\left(\frac{P_t}{P_{t-1}}\right) \dots\dots\dots (1)$$

Where,

- $R_{i,t}$  = Rate of return of firm  $i$  on day  $t$
- $LN$  =Natural Logarithm
- $P_t$  = Closing share price on day  $t$  (current trading date)
- $P_{t-1}$  = Closing share price on day  $t-1$  (previous trading date)

**Models are used to calculate Expected Returns**

**1. Mean Adjusted Model**

$$\dots\dots\dots (2)$$

Where,

- $R_{it}$ = Expected return on company  $I$  on day  $t$
- $\mu^i$  = Average returns of 120 of past returns of company  $i$

**2. Market Adjusted Model**

$$MAAR_{it} = R_{it} - R_{mt} \dots\dots\dots (3)$$

Where,

- $MAAR_{it}$  = Market adjusted abnormal return for security  $I$  over time  $t$ ,
- $R_{it}$ = Time  $t$  returns on security  $i$ , calculated as  $LN(P_{it}/P_{it-1})$ . Where,  $P_{it}$  is the market closing price of stock  $i$  on day  $t$ .  $P_{it-1}$  is the market closing price of stock  $i$  on day  $t-1$
- $R_{mt}$ = Time  $t$  returns on the CSE all-share price index or total return index calculated as  $LN(I_t/I_{t-1})$ . Where,  $I_t$  is the market index on day  $t$ .  $I_{t-1}$  is the market index on day  $t-1$ .

**3. Market Model**

$$R_{i,t} + \alpha_i + \beta_i R_{m,t} + \varepsilon_{i,t} \dots\dots\dots (5)$$

Assumptions:  $E(\varepsilon_{i,t}) = 0$  and  $VAR(\varepsilon_{i,t}) = \sigma_{\varepsilon_i}^2$

Where,

- $R_{it}$ = Rate of return of security on day  $t$
- $R_{mt}$ = Rate of return on a market portfolio of stocks on day  $t$ .
- $\alpha_i$  = Intercept term (alpha)
- $\beta_i$  = Systematic risk of stock  $i$ (beta) and
- $\varepsilon_{it}$  = Regression error term

**4. Volatility Time Series Models**

**I. Developing Autoregressive (AR) Model**

$$Y_t = \Phi_0 + \Phi_1 Y_{t-1} + \Phi_2 Y_{t-2} + \dots + \Phi_r Y_{t-r} + \varepsilon_t \dots\dots\dots (6)$$

Where,  $Y_t$ = the expected returns for the period  $t$ ,  $\Phi_i$  = the autoregressive coefficients and  $\varepsilon_t$ = the residual in the forecasting equation

**II. Developing Moving Average (MA) Model**

$$Y_t = \theta_0 + \varepsilon_t - \theta_1 \varepsilon_{t-1} - \theta_2 \varepsilon_{t-2} - \dots - \theta_s \varepsilon_{t-s} \dots\dots\dots (7)$$

Where,  $Y_t$  = the expected returns for the period  $t$ ,  $\theta_i$  = the moving average coefficients and  $\varepsilon_t$  = the residual in the forecasting equation.

**III. Developing Mixed ARMA Model**

$$Y_t = \varepsilon_t + \sum_{i=1}^r \Phi_i Y_{t-i} - \sum_{j=1}^s \theta_j \varepsilon_{t-s} \dots\dots\dots (8)$$

**IV. GARCH (p, q) Model**

$$\sigma_t^2 = \omega + \sum_{i=1}^q \alpha_i \varepsilon_{t-i}^2 + \sum_{j=1}^p \beta_j \sigma_{t-j}^2 \dots\dots\dots (9)$$

**V. Exponential GARCH (EGARCH) Model**

$$Log(\sigma_t^2) = \omega + \sum_{j=1}^q \beta_j Log(\sigma_{t-j}^2) + \sum_{i=1}^p \alpha_i \left| \frac{\varepsilon_{t-i}}{\sigma_{t-i}} \right| + \sum_{k=1}^n \gamma_k \frac{\varepsilon_{t-k}}{\sigma_{t-k}} \dots\dots\dots (10)$$

**VI. Threshold GARCH (TGARCH) Model**

$$(\sigma_t^2) = \omega + \sum_{j=1}^q \beta_j \sigma_{t-j}^2 + \sum_{i=1}^p \alpha_i \varepsilon_{t-i}^2 + \sum_{k=1}^n \gamma_k \varepsilon_{t-k}^2 d_{t-k} \dots\dots\dots (11)$$



**5. Calculation of Abnormal Returns**

$$AR_t = R_t - Y_t \dots\dots\dots (12)$$

Where,  
 $AR_t$ = Abnormal Return at time  $t$   
 $R_t$ =Actual Returns at time  $t$   
 $Y_t$ =Normal Returns at time  $t$

**6. Calculation of Average Abnormal Returns (AARs)**

$$AAR_t = \frac{1}{N} \sum_{i=1}^N AR_{it} \dots\dots\dots (13)$$

Where,  
 $AAR_t$ = Average abnormal return for day  $t$   
 $N$  = Number of events in the sample

**7. Calculation of Cumulative Average Abnormal Returns (CAARs)**

$$CAAR_p = \sum_{t=1}^p AAR_t \dots\dots\dots (14)$$

**Testing Significance**

Even though, a researcher had found large abnormal returns, it must be proved that the results are not gained by coincidentally or by biased time series. The assumption here is that the daily abnormal returns are distributed identically and independently. It is also assumed that over a long time stock prices have a tendency to approach the expectation value (mean value). This study uses t-test. The variables AR, CAR, AAR and CAAR are used to measure the informational content of the selected announcements and the efficiency with which this information is impounded into the share price. The null hypothesis is that AR, CAR, AAR and CAAR is drawn from a distribution with zero means; that means announcements of the events have a systematic effect on respective share prices on the particular event announcement date. The null hypothesis is rejected, if the t-values obtained from the calculations are higher than the critical values.

**1. Significance Testing (Parametric) for AAR**

$$T(AAR) = \frac{AAR_t}{SE(AAR_t)} \dots\dots\dots (15)$$

Where,

$AAR_{it}$ = Average Abnormal Return for Company  $i$  for a day of the event window.

$SE(AAR_{it})$  = Standard Error of Average Abnormal Return of a company  $i$  during the estimated period.

**2. Significance Testing (Parametric) for CAAR<sub>t</sub>**

$$T(CAAR) = \frac{CAAR_t}{SE(CAAR_{it})} \dots\dots\dots (16)$$

Where,

$CAR$  = Cumulative AAR for Company  $i$  for the selected event window.

$SE (CAR_{it})$  = Standard Error of Cumulative AAR of a company  $I$  during the estimated period.

**5. ANALYSIS AND DISCUSSION**

This section analyzes separately information content in and around stock dividend announcements thereby provides a test of information efficient of Sri Lankan Capital Market. As mentioned earlier, Mean Adjusted Model, Market Adjusted Model, Market Model and Volatility Time series models are used in return generating for this purpose. There are eighty-nine (89) public announcements in stock share during the period. However, it shows that 62 companies out of them are not satisfied with the aforementioned criterion. Therefore, 62 announcements are excluded and only 27 stock announcements are included for this analysis during the selected sample period. One hundred & twenty (120) of past returns over the pre-identified estimation window are used to estimate the mean adjusted model. The market returns during 31-day window period are considered as expected returns when generating abnormal returns using market adjusted model. One hundred & twenty (120) of past individual company returns and market returns over the pre-identified estimation window are used to estimate the market model. It is important to note that 13 of 27 events show ARCH effects when it is used market model. Because of that, GARCH, TARARCH and EGARCH models are used to address the ARCH effects. Subsequently, the analysis is done using the same samples applying different volatility time series models, which appropriate to each individual event. Thus, some events are fitted with ARMA models and some are fitted with ARCH family models.

The daily average abnormal returns (AAR) of 27 stock dividend announcements stocks over a window period

starting from day-15 to day +15 relative to the stock dividend announcement day (0-day) at overall portfolio level for each model are reported in table 1. Findings report that the AAR of all models on the day of stock announcement is positive and statistically significant at 5 percent level. Consequently, the results show that the AAR of day -1 of each model shows positive abnormal returns are also statistically significant at 5% level. This suggests that market reacts earlier than the actual announcement of stock dividend. It implies that there is a leak in information relating to stock dividend announcements. During the post announcement periods (day 1 to 15), AAR on the 2<sup>nd</sup> is statistically significant at 5 percent level. This indicates that the market reacts even a few days after the announcement of stock dividend is made.

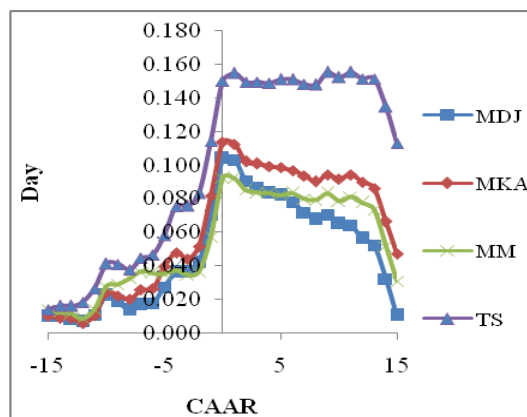
**Table 1: Results of Stock Announcements for each model.**

Date	MDJ	MKA	MM	TS
-15	0.010	0.010	0.008	0.014*
-14	0.001	-0.001	0.000	0.002
-13	-0.002	0.000	-0.005	0.000
-12	-0.002	-0.003	-0.002	0.002
-11	0.004	0.005	0.002	0.008
-10	0.012	0.014	0.017	0.015
-9	-0.004	-0.002	-0.010	0.000
-8	-0.005	-0.002	-0.002	-0.003
-7	0.003	0.006	0.002	0.007
-6	0.001	0.001	-0.001	0.002
-5	0.010	0.013	0.010	0.012
-4	0.009	0.008	0.008	0.017*
-3	0.000	-0.004	-0.003	0.000
-2	0.006	0.008	0.012	0.008
-1	0.029*	0.030*	0.019	0.031*
0	0.034*	0.032*	0.030*	0.036*
1	-0.001	-0.001	-0.001	0.005
2	-0.013*	-0.010*	-0.011*	-0.005
3	-0.004	-0.001	-0.002	0.000
4	-0.003	-0.002	-0.005*	-0.001
5	-0.001	-0.001	-0.002	0.002
6	-0.004	-0.002	-0.002	0.000
7	-0.006	-0.003	-0.004	-0.003
8	-0.004	-0.003	-0.004	0.000
9	0.003	0.004	0.002	0.007

10	-0.006	-0.003	-0.001	-0.003
11	-0.001	0.003	0.001	0.003
12	-0.008	-0.004	-0.005	-0.004
13	-0.004	-0.004	-0.005	0.000
14	-0.020	-0.020	-0.006	-0.017

Note: Asterisks in the columns denote that the corresponding AAR is statistically significant. The asterisks \*indicates the level of significance (based on the t values) at 5 percent level.

Further, the daily Cumulative Average Abnormal Returns (CAAR) of 27 stock dividend announcements stocks over a window period starting from day -15 to day +15 relative to stock announcement day (0-day) at overall portfolio level are plotted in Figure 1. Consequently, figure 1 shows that the stock price has positively reacted during the entire window period. It depicts that the CAAR had risen from 0.01 on the day -15 to a level of 0.104 on the day of announcement; it fluctuates slightly during post-dividend window period. Further, it shows that the highest positive trend is there on the event day. Then it is statistically significant.



**Figure 1; Behavior of CAAR within the 31- day period**

It suggests that the market reacts positively to the stock dividend announcement on the event day. This confirms that the stock dividend announcement is favorable news for the market participants. Further, it shows that there is quick response to the stock split announcements on day-0 and it is a positive response. It suggests that stock announcements have an important informational content. Apart from that, findings show that there is anticipated response subsequent to this event in the market and a delayed reaction in the market. It is a countable fact to be accounted for the information efficiency. Even though each model is based on different theoretical assumptions, results generated by them in terms of CAARs in this study shows similar

patterns during the investigation period under the overall Stock issue sample. In fact, it shows that each model shows slight different results. Abnormal returns generated by the Volatility Time Series Models (TS) are higher, then second, third and fourth higher are Market Adjusted (MKA), Market Model and Mean Adjusted Model (MDJ) respectively. This is because four approaches are communicating slightly different meaning through their abnormal returns. However, each model has been able to detect the availability of exploitable abnormal returns on and around the stock issue announcement. It is clear the figure 1 CAARs reported under Time Series Models (TS) and Market Adjusted (MKA) are somewhat large compared to the other two models. One reason could be that the firms issuing stock shares are the ones perform well in the market in terms of returns. When the stock returns are adjusted with their own historical mean, the over performance of CARRs disappears compared the CAARs reported under market adjusted model (MKA). This further implies that the firms issuing stock shares perform well for a reasonable period prior to the stock issue announcement, making their historical averages of returns higher. CAARs generated from Market Model are lower compared to the same returns reported under the other three models. This implies that not only the level of returns but also the level of risk is also higher for firms issuing stock shares.

These facts suggest that time series approach shows far better results when compared to other models. The results generated from the time series models clearly shows that CAARs show a growing trend on average, throughout the pre-event window growth momentum has been intensified closer to the event day. Further it clearly shows that CAARs appreciate greatly on the event day and the day before the event day. Hereafter, CAARs maintains a very small growth till +14<sup>th</sup> day. These empirical findings are somewhat different to Sri Lankan findings of Fernando, and Guneratne, (2007) and entirely contradictory to the findings of Ramesh and Nimalathasan (2011). The increased CAARs both on the event and day before the event day signify a substantial level of information efficiency in the pricing process of CSE relating to the event. CAARs behavior also suggests that the market reaction starts prior to the announcement day. CAARs have been positively significant within the pre-event window from -15<sup>th</sup> day to -1<sup>st</sup> day. This could be taken as a strong evidence for leakage of the board decision on stock issues prior to the formal announcement. Subsequently, CAARs have been positively significant event within the post-event window from +1<sup>st</sup> day to 14<sup>th</sup> day. This could be taken as a strong evidence for delayed reaction information

subsequent to a public announcement of declares a stock dividend in CSE. It confirms that stock dividend announcements have an important informational content. Also, it is favorable news for equity investors. In addition, the analysis shows that there are earlier reactions and delayed reactions information subsequent to a public announcement of declares a stock dividend. In terms of EMH criterion, the CSE appears to be inefficient in reacting to the public announcement of stock dividend announcements. These results do not support the semi-strong form EMH since the market reaction to stock dividend announcements continue for a period up to 14 trading days after the event.

## 6. CONCLUSION

The overall results confirm that all the analyzed on stock dividend of publicly available information contain valuable information to the market participants in setting their investment strategies. More specifically, the market response is positive for the events namely, stock announcements in CSE. It implies that the investors in CSE interpret the stock dividend as favorable news and assume that the stock price will increase and persist in future which in turn yields positive returns for the investors. Moreover, the results convince that stock dividend announcements have an important informational content which is favorable news for market participants and their reaction induce the market to move upward, creating more value in future. The result emphasizes that, information content of the stock dividend announcement is a message that the future earning capacity of the firm is stable and important piece of insider information for the investors. The results well establish the validity of the Dividend Signaling Theory and Cash Flow Signaling Theory in CSE. However, it showed earlier and delayed reaction. This finding is somewhat peculiar to CSE as compared to the other develop market counterpart. The overall results confirmed that the Sri Lankan Stock Market is not a Semi-Strong Form Efficient Market and contradicts with the EMH.

### *The Policy Implications*

The global classification of the CSE as an emerging market is reaffirmed by the results of the study. The results give some clues to investors in making investment decisions based on publicly available information. The investment decisions should be directed to some other superior analysis rather than relying on guise of EMH. Some policy guidelines are essentially important from regulators' point of view to



bring the market toward efficient market features. The early response of investors to new information arrival infers that it is required prompt intervention from the SEC to detect the leakage of information. On the other hand, the results can be attributable to information asymmetric of CSE. Thus, findings induce a need of a mechanism to free flow of information to the all the potential investors. One of the hallmarks of an efficient market is large number of buyers and sellers. Therefore, the inefficient nature of the market can be mitigated by attracting more investors to the market with wide publicity.

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