



Stock Price Reaction to Announcements of Right Issues and Debenture Issues: Evidence from Colombo Stock Exchange

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ABSTRACT

This study investigates the stock market reaction for right issues and debenture issues of Colombo Stock Exchange (CSE) during the period of 2005 to 2011 while providing evidence for the research question “how do stock prices react to the debt and equity issue announcements of listed companies in CSE?” In investigating the ex-ante and ex-post market reactions the study employs event study methodology, while predicting abnormal returns, based on three alternative normal/expected returns modeling methods, namely Mean Adjusted Model, Market Adjusted Model, and Capital Asset Pricing Model. When testing the alternative hypothesis, whether stock prices significantly reacts to the announcement of right & debenture issues, results of all models show positive market reaction during the 30 days prior to the announcement and react negatively from 2 days after the announcements for right issues, but for debenture issues market reacted negatively during the period prior to debenture issues and continue to do the same during the post event period. Although the magnitude and significance of abnormal return generated through three alternatives methods differ, the pattern of the CAAR of all models are similar. Thus, as far as the speed of the price adjustment is concerned it seems that the CSE is not efficient.

Keywords: Abnormal returns, debenture issue, event study, right issue.

JEL Codes: G1, G120, G140, G320.

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1.0 INTRODUCTION

Theory of Market Efficiency introduced by Fama (1970) is a concept which has been empirically tested by many scholars with providing evidences from stock markets around the world. In his study Fama (1970) defines a market as “efficient” when security prices fully reflects all available information, and information is freely available for all market participants. If market is efficient the investors would neither

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overreact or under react to the new information announced to the market and the reaction would be very quick and correct. Security issue announcements is one type of the information which market participants are very sensitive to react since it has a direct impact on capital structure of the firm.

The main focus of the current study is to analyze the nature in which security prices react to the announcement of right issues and debenture issues utilizing event study methodology because inference of previous studies show that market participants' reactions to security announcements vary upon, security been debt favored or equity favored. When securities are equity favored reactions tends to be negative (Korajczyk90, 1990; Schadler & Manual, 1994; Brounen and Eichholt, 2001; Chen & Sheu, 2009; Dutordoir & Hodrick, 2012). But for debt favored security issues some studies show negative reaction where as some show positive reaction (Dann and Mikkelson, 1984; Mikkelson and Patch, 1986; Brounen and Eichholtz, 2001; Kang & Strulz, 1996). Also in CSE right issues and debenture issues get high prominence as sources of new finance because almost all listed firm raise equity through right issues as the secondary issue and with respect to debt sources debentures are the only listed debt security trading in the CSE.

The contribution of the current study to the literature is twofold. Firstly, there are no previous studies could be found to investigate price reaction to debenture issues announcement based on CSE. Although price reaction to right issue announcement was measured by Bandara (1997) the study was only based on 18 announcement during the year 1994, whereas this study considers 96 right issues. Secondly, rather than limiting to one abnormal return generating model this study employs three alternative models to ascertain robustness of the results, because across alternative models both the bias and precision of the expected return measure can differ, affecting the properties of the abnormal return measures (Khotari & Warner 2006).

Thus the current study addresses this research gap with the objective, to investigate stock prices reaction to the right and debenture issue announcements of listed companies in the CSE.

Remainder of this paper is structured in to four main sections. Starting with a brief review of past literature related to the issue under discussion followed by a description of the data and methodology. Next section will represent the interpretation of results and findings of the study and the last section will provide a summary while concluding with the findings of the study.

2.0 Literature Review

When investigating on stock market reaction for equity issues and debt issues literature unfolded from 1978 with the study of Masulis on "impact of capital structure changes on security prices". The most commonly observable empirical findings through literature survey are that there is a significant negative reaction for seasonal equity offerings. The abnormal return of early studies shows a similar trend, resulting negative abnormal returns for equity issue announcements. For example, 2 Days abnormal returns of Asquith and Mullins (1986) are -2.7% for both types of equity issues primary and secondary, -3.0% returns for primary issue and -2.0% for secondary issues. Later study by Korajczyk et al, (1990) finds -3% and even more recent studies such as Schadler & Manual (1994), -0.023%, Brounen and Eichholt (2001), -0.707%, Chen & Sheu (2009), -2.60%, Dutordoir & Hodrick (2012), -1.76%, confirms this nature of reaction to the equity issues.

Another interesting observation is seasonal equity issues in many countries such as United Kingdom, Netherland, France, Greece, Switzerland and Finland are mostly rights issues. Main reasons for high preference for right issue by corporations can be explained as stock exchange listing requirements make it obligatory for firms to use rights offerings, ownership dilution effect and issue cost efficiency. This is common in Sri Lankan context. Empirical evidences for the reaction to right issues are similar to the reaction to equity issues. In USA, Scholes (1972) observes positive Cumulative Average Abnormal Return (CAAR) one day before the right issue announcement and fall by 0.3% in the month of the issue. White

and Lusztig (1980) observe the price reaction is significantly negative from zero. Also Hansen (1989) reports excess decline of -2.6%, Eckbo and Masulis (1995) document an excess decline of around 1%. Evidence from the UK market, Levis (1995) finds reaction of -1.3%. Gajewski and Ginglinger (1998) also report significant negative excess stock returns associated with rights offerings in France. In Norway, Bohren et al. (1997) document an insignificant abnormal return of -0.4%. In contrast to these findings, Kang and Stulz (1996) observe a significant positive announcement effect (2.2%) and Tsangarakis (1996) finds a significant excess return of as much as 4% in Greece. Thus there is a possibility that the nature of the price reaction in Colombo Stock Exchange to right issues different from the result observed in developed markets.

On the other hand, literature related to debt issue announcements reveals that effect of debt financing decision on stock price is mixed, but the overall average stock price reaction happened to be not significantly different from zero. For Example Dann and Mikkelson (1984) observe -0.37% reaction, Mikkelson and Patch (1986) evidence -0.23% and Brounen and Eichholtz (2001) results indicates a 0.102% of positive reaction to the straight debt announcement. The contribution of the current study to the literature is twofold. Firstly, there are no previous studies could be found to investigate price reaction to debenture issues announcement based on CSE. Although price reaction to right issue announcement was measured by Bandara (1997) the study was only based on 18 announcement during the year 1994, whereas this study considers 96 right issues and this is the first study which investigates the reaction to debenture issues. Secondly, rather than limiting to one abnormal return generating model this study employs three alternative models to ascertain robustness of the results, because across alternative models both the bias and precision of the expected return measure can differ, affecting the properties of the abnormal return measures (Khotari & Warner, 2006).

3.0 DATA AND METHODOLOGY

During the sample period (2005-2011) there were 138 right issues and 30 debenture issues announcements of CSE. From these only 96 right issue announcements and 20 debenture issue announcements were qualified for the study, because in order to qualify for the study, the issuing company's average monthly trading days should be more than 10 trading days per month on average (or 120 trading days per year) during the event window.

In event studies the announcement date is one of the critical data which determines the quality of the findings. The earliest date which issue was appeared under the news & info heading of each listed companies profile in CSE official website or CSE weekly publications has been considered as the event date. Similar approach was considered as the point which information conveys to the public by past studies such Masulis (1980), Dann & Mikkelson (1984), Mikkelson & Partch (1986)³.

According to Serra (2002) most prominent choices/decisions to be made in event studies are, (1) the determination of the estimation window over which to measure the stock's normal movements (2) the determination of the event window to measure the stock's abnormal return; (3) the index or indices to be used to measure normal movements in the estimation window; and (4) the model for abnormal return measurement. As the first decision the estimation period for the current study ranges from day -231 to day -31 a period of 200 days. In past, different studies have utilized different estimation periods, 99 days by Bandara (1997), 200 days in the study of Dissabandara (2001) and 250 days by Fernando and Gunarathne (2009). As the event window, abnormal returns around the sample events were calculated for the 61 trading days (day -30 to day +30) around the event date for each event in the sample for both equity issues and debt issues. The average daily return for the 60 trading days immediately preceding and following the announcement date has been considered by studies such as Masulis (1980), Masulis and Korwar (1986), Kang yet Stulz (1996). Studies related to CSE, Bandara (1997) considers 21 trading days and Fernando and Gunarathne (2009) consider -20 to +30 days as their event window

³ The studies have considered the event date as the earliest date in which issue appeared in The Wall Street Journal.

Abnormal returns are the difference between the observed return of firm i and the expected return generating by a benchmark model.

$$AR_{it} = R_{it} - E(R_{it})$$

AR_{it} = Abnormal Returns of Firm $_i$ on event t

R_{it} = Normal Returns of Firm $_i$ on event t

$E(R_{it})$ = Expected Return/Normal Returns of the Firm $_i$ on event t

Study considers three alternative forecasting models for prediction of expected returns during the event period of $D -30$ to $D +30$ and calculates abnormal return for the same.

Mean-adjusted returns (MAR) model assumes the normal return as the average return of the security over the estimation period would prevail constantly during the event period. Thus expected return for the security is assumed to be constant over time, though returns will vary among securities. Therefore the expected returns are defined as,

$$E(R_{it}) = \frac{1}{T} \sum_{S=T_1}^{T_2} R_{it}$$

Market Adjusted Return Model (IM) calculates normal return for the event period by calculating the average return of All Share Price Index during the estimation period. The expected return for the security is assumed to be constant among securities, though returns will vary over time.

$$E(R_{it}) = \frac{1}{T} \sum_{S=T_1}^{T_2} R_{mt}$$

Market and Risk Adjusted Returns (CAPM) presumes the Capital Asset Pricing Model to generate expected return. In general, security returns are assumed to be linearly related to market returns through stock betas. Thus estimate Stock betas over firm estimation periods. These risk adjusted returns vary across securities and over time.

$$E(R_{it}) = \alpha_i + \beta_i R_{mt}$$

For modeling normal returns some past studies consider only one of the above specified methods where as some authors use more than one method. When two or more methods are using to model normal returns allows observing the difference in outcomes depending upon the method utilized. [Korajczyk, et al., \(1990\)](#) have observe that basic pattern of abnormal returns around the announcement of equity issues are similar across all methods of calculating abnormal returns, although the magnitudes of abnormal returns cumulates over long periods differ substantially across methods. Findings of [Fernando and Gunarathne \(2009\)](#) also confirm this with their study on bonus issue in CSE.

Further the results of the analysis can greatly improve by averaging all the firms subjected to the analysis, Thus we calculated the un-weighted cross-sectional Average of Abnormal Returns (AAR) & Cumulative (CAAR). The statistical significance of the event period abnormal return was assessed for the sample based on each model used for predicting abnormal return.

The null hypothesis and the alternative hypothesis for AARs and CAAR are set as follows;

H_{a0} = Mean day 'o' Average abnormal return is equal zero

H_{a1} = Mean day 'o' Average abnormal return is not equal to zero

H_{b0} = Mean day 'o' Cumulative Average abnormal return is equal zero
 H_{b1} = Mean day 'o' Cumulative Average abnormal return is not equal zero

The approach to calculate standard is, AAR or CAAR divided by standard error (standard deviation divided by square root of N)⁴. This method of statistical significance test has been widely used in previous studies such as Masulis (1980), Brown and Warner (1985), Khotari and Warner (2006).

The test statistic of AAR at any event day t is,

$$\frac{ARR(t_1, t_2)}{\sigma(t_1, t_2) / \sqrt{n}}$$

Test statistic of CAAR for event period t₁ to t₂:

$$\frac{CARR(t_1, t_2)}{\sigma(t_1, t_2) / \sqrt{n}}$$

Once, the AAR and CAAR are significant it is necessary to test whether the frequency of positive abnormal return occurring in the period is equal to the frequency of negative abnormal return occurring in the period to ascertain the direction of abnormal returns (positive or negative) by calculating sign t statistic. The null hypothesis and the alternative hypothesis were set as follows:

H_0 : the frequency of positive abnormal return and negative abnormal return is equal.
 H_1 : the frequency of positive abnormal return and negative abnormal return is not equal.

Test statistic:

$$t_{sin} = \left| P - \frac{1}{2} \right| \left[\frac{\left(\frac{1}{2}\right)^2}{N} \right]^{-\frac{1}{2}}$$

Where,

P = the percentage of positive abnormal return in the period
 N = the total number of event examined in the t period

If the frequency is equal then it implies that the event does not give rise to significantly positive or negative abnormal return.

4.0 RESULTS AND FINDINGS

As discussed previously the abnormal returns analysis according to three alternative normal returns modeling techniques revealed wide variety in results. Table 1 represents the summary of the reaction to from all three methods for right issue announcements for the comparison purposes. Table 1 reports CAAR of each event window and their t standard t statistics (t stat) & sign t statistic (Sign t Stat).

The summarized results of event window (-30, -1) reports all CAAR are significant at 95% confident level, but their direction differs among the method used for the analysis. IM & CAPM methods reports a negative CAAR but the sign of returns are not significant. The alternative hypothesis for both results can be accepted. For the event window (EW) day -10 to -1 the sign of results of the three methods are more similar to previous window apart from the fact that all methods reveal statistical significant CAAR that accept the H_1 that confirms the returns are not equal to zero.

⁴There are alternative ways for test statistics that aggregates standardized abnormal returns, which means each observation is weighted in inverse proportion of the standard deviation of the estimated abnormal return.

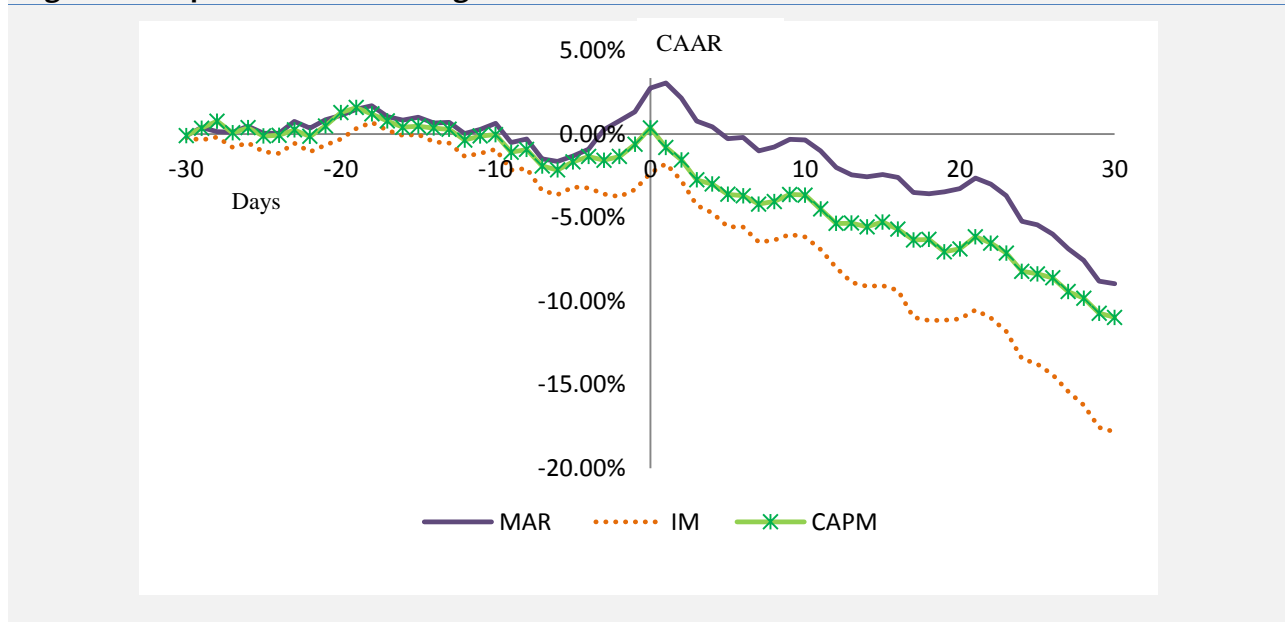
Table 1: Comparison of CAAR of right issue announcements

Event Window		(-30,-1)	(-10,-1)	(-1,0)	(0,+1)	(-1,+1)	(+1,+10)	(+1,+30)
	Critical T Value	+/-2.045	+/- 2.045	12.706	12.706	4.303	+/-2.045	+/-2.045
MAR	CAAR	1.34%	1.05%	1.95%	1.73%	2.26%	-3.11%	-10.14%
	t- stat	13.927	5.717	4.444	3.169	6.785	-17.803	-86.503
	Sign t-stat	2.191	0.000	1.414	1.414	1.732	-0.632	-1.461
IM	CAAR	-3.32%	-2.16%	1.41%	1.55%	1.98%	-3.81%	-14.24%
	t- stat	-36.73	-12.797	5.114	7.445	11.911	-19.924	-117.684
	Sign t-Stat	-3.286	-2.530	-1.414	-1.414	-1.732	-2.530	-4.382
CAPM	CAAR	-0.62%	-0.50%	1.71%	-0.18%	0.54%	-4.02%	-11.34%
	t- stat	-7.146	-3.387	7.579	-0.723	1.989	-22.514	-108.656
	Sign t-Stat	0.365	0.000	1.414	0.000	0.577	-1.897	-2.921

H_1 denotes that alternative hypothesis of CAAR not equal to zero has been accepted

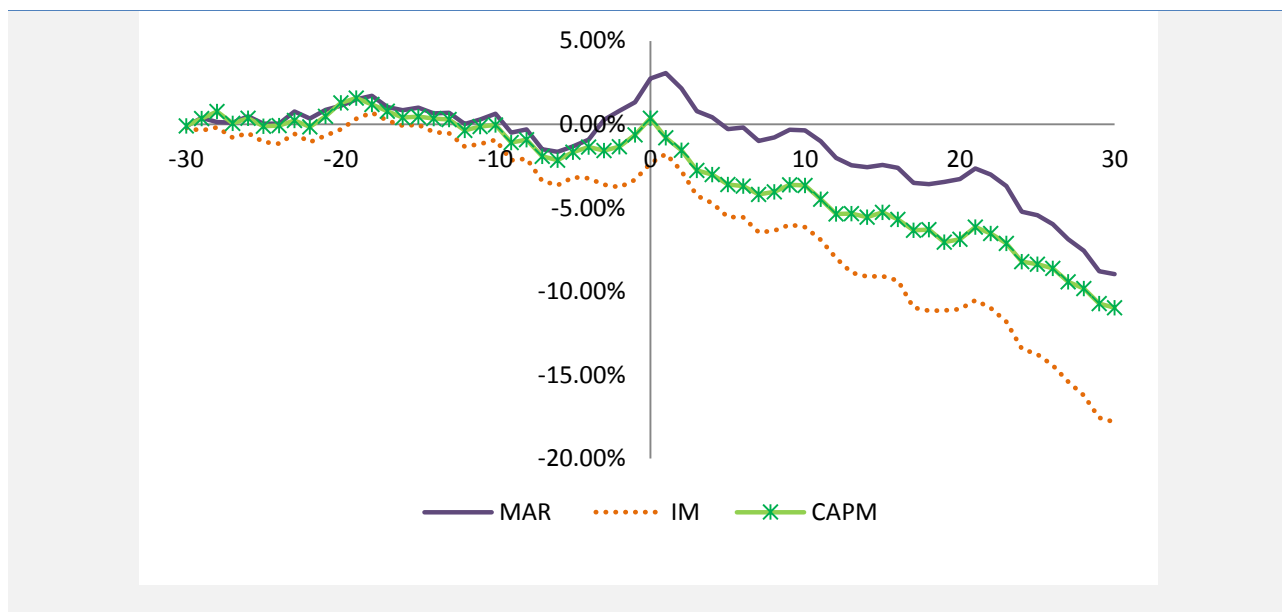
H_0 denotes the null hypothesis of CAAR equal to zero has been accepted

Only returns of IM method confirm statistical significance of the sign of the returns. It is possible to witness insignificant results in EW of -1, 0 and +1. All post EW of (+1 +10) reveals clear non zero returns and again only returns of IM method proves statistical significance for the sign of the returns confirming that the price reaction for right issues of 10 days post event window are negative. Finally the 30 days post EW confirms that the returns are significantly negative in all three methods.

Figure 1: Comparison of CAAR of right issue announcements

The comparisons of the results of three models were extended to evaluate the trend of CAAR during the 61 days around the announcement day as illustrated in

Figure 1: Comparison of CAAR of right issue announcements



1. Though results generated by three models are different in terms of value of returns, all three models show a similar trend in terms of behavior of CAAR throughout the period as shown in Figure 1.

Most of the returns according to MAR, IM, and CAPM are positive during the pre-event window and remain negative till the end of the post event window. The CAAR of all models have first increased from Day -6 to event day and a negative reaction occurs on day +1 .From day +2 the return clearly shows a gradual decline which prevails till the very end of the EW except for the temporary volatilities along the way. *Bandara (1997)* on right issue announcement of CSE has also observed significant negative abnormal returns on Day +2. This comparison of the results reveals that irrespective of the method used for the analysis the CAAR reveals a similar trend of price reaction in response to the right issue announcements.

The comparison analysis of the three models for the debenture issues illustrates in Table 2.

Table 2: Comparison of CAAR of debenture issue announcements

Event Window		(-30,-1)	(-10,-1)	(-1,0)	(0,+1)	(-1,+1)	+1,+10)	(+1,+30)
Critical T Value		+/- 2.045	+/- 2.045	+/- 4.303	+/- 4.303	+/- 3.182	+/- 4.303	+/- 2.045
MAR	CAAR	-4.53%	-2.81%	-0.51%	-0.43%	-0.91%	-0.62%	-0.88%
	t- stat	-44.038	-18.84	-2.260	-2.316	-6.550	-3.596	-6.271
	Sign t Stat	-1.826	-0.632	-1.414	-1.414	-1.732	-0.632	-0.365
IM	CAAR	-6.32%	-3.40%	-0.63%	-0.55%	-1.09%	-1.21%	-2.66%
	t- stat	-61.507	-22.829	-2.784	-2.953	-7.826	-4.952	-18.922
	Sign t stat	-2.191	-1.265	-1.414	-1.414	-1.732	-0.632	-1.461
CAPM	CAAR	-13.62%	-5.12%	-2.02%	-1.32%	-2.72%	-3.94%	-5.69%
	t- stat	-130.02	-31.49	-22.826	-2.803	-7.823	-16.421	-41.060
	Sign t stat	-3.286	-1.897	-1.414	-1.414	-1.732	-0.632	-1.095

H₁ denotes that alternative hypothesis of CAAR not equal to zero has been accepted

H₀ denotes the null hypothesis of CAAR equal to zero has been accepted.

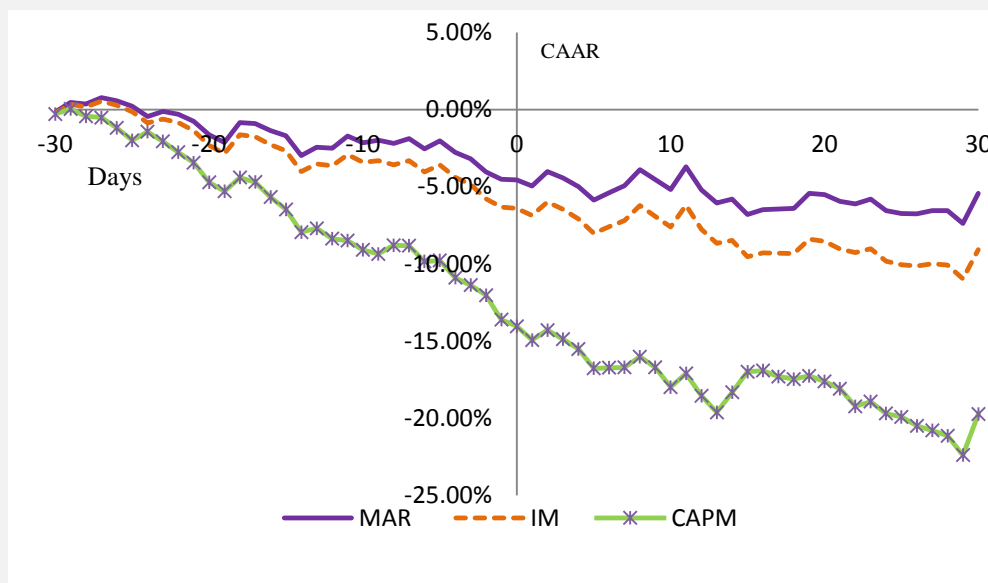
The results of Table 2 reveal that the returns of all sub event window according to all models are non zero. CAAR of event windows (day -30 to -10) and (day -10 to -1) are negative according to all three models and calculated t value of the CAAR's are more than the critical t value thus for the pre event window the H₁ hypothesis can be accepted confirming that price reaction during the 30 days pre-event window is significantly non-zero. But the negative sign of the returns are not significant thus cannot confirm the direction of the price reaction except for the EW (-30 to -1) of CAPM Methods. The abnormal returns of the EW day -1,0 and day 0,+1 according to all models are insignificant thus allows to accept null hypothesis of returns are according to CAPM method . The returns of the three day event window (-1, 0, +1) by all

three methods are negative and all are significant at 95% confidence level which means the price reaction immediately before and after the debenture issue announcement is non zero but due to the low significance of sign of the return the cannot confirm the direction of the reaction. The CAAR of three models during the post event window of +1 to +10 are negative and significant to be different from zero. The final window (day +1 and +30) also shows negative returns in all three models. Though all of them are significant at the 95% confirming the returns are non-zero the direction of the price reaction is not significant.

Figure 2 confirms that the magnitude of abnormal returns cumulated across different periods differs conditional to the method employed to model normal returns, yet the patterns of the abnormal returns generated through all three methods are similar in right issues and debenture issues. Korajczyk, et al., (1990) observes similar findings utilizing MM model and CAPM model for their analysis. Cable & Holland (1996) have proved that there is no universal normal returns modeling technique which is right in all time and they suggest a model selection framework for testing alternative models of normal returns to select the best model for the analysis. Fama (1991), Brav, et al., (2000), Kothari & Warner (2006) also address the issue of inferences being different depending upon the method used for the measurement of abnormal return. This finding opens up a researchable issue with special reference to the CSE, to investigate the most suitable modeling technique for the event studies in CSE which will ensure the robustness of results.

It is clear that the CSE reacts negatively to the right issue announcements regardless of the method used to generate abnormal returns. And these findings are concurrent with some of the theories justifying the nature of stock market reaction. According to information asymmetry theory this negative reaction may be due to investor presumption that managers announce right issues because of the overvalued stock price. And another explanation for this negative price reaction would be the price pressure (Scholes, 1972) which occurs due to the increased supply in stocks assuming firm's security as commodity with close substitutes. Mikkelson (1985), Asquith and Mullins (1986), Korajczyk, et al., (1990) have considered this argument to interpret their findings. Also Bayless and Chaplinsky's (1991) debt market accessibility hypothesis can also bring to the table to justify the current study findings interpreting that investors read equity issues negatively, since firm's access to the debt market is low due to higher leverage.

Figure 2: Comparison of CAAR of debenture issue announcements



When comparing the price reaction of debenture issue announcements with past studies we consider the results related to both straight debt and convertible debt. Though findings of convertible debt

cannot directly be linked to the study findings of straight debt (due to its hybrid nature) the comparison would show the difference in the stock market reaction to “equity like debt”. The 10 days pre-event window of the current study shows significant negative returns by each model and similar results have been observed by Dann and Mikkelson (1984), Brounen and Eichholtz (2001) for both straight and convertible debt. The most familiar event windows considered by many researchers for debt issue is day -1,0 and -1.0.+1 and several studies have witnessed negative returns just as the current study yet unlike current study, previous studies provide significant results for this event window (Dann and Mikkelson 1984;Mikkelson and Partch, 1986; Dutordoir and Hodrick, 2012).

Even the CAAR of two days event window (day 0, +1) which shows the immediate post announcement effect proves to be negative by all three models but the results contradict with the previous studies such as Dann and Mikkelson (1984), Brounen and Eichholtz (2001), Dutordoir and Hodrick (2012). For the three day event window (-1, 0,+1) including immediate pre and post days of announcements is also negative, for this event window mixed results can be observed in previous literature. Dann and Mikkelson (1984), Cheng, et al., (2005) returns for this event window is negative but studies like Kang & Stulz (1996), (Brounen and Eichholtz 2001) shows positive returns. Dutordoir and Hodrick (2012) provide positive returns for issue of convertible debt and negative returns for the issue of straight debt. The 10 days post event window returns remains negative in all three methods thus the study findings contradicts with the past results, which confirms positive reaction for debt issue. Yet in current study a positive CAAR prevails during the 30 days post event window and results are significant according to all three models.

4.0 CONCLUSION

As duly stressed with viable justifications, the study provides evidence to accept the alternative hypothesis that stock price significantly reacts to the announcement of Equity (right) & Debt (debenture) issues in Colombo Stock Exchange during the period of 2005 to 2011. As revealed by many other studies carried out based on CSE such as Bandara (1997) and Fernando & Gunerathne (2009) current study supports the inference of Colombo Stock Exchange appear to be semi strong efficient market. Significant reaction at one day and two days after the right issue announcements indicates that Colombo Stock exchange is not informational efficient thus as also concluded by Bandara (1997) this findings have implications for investors, issuing firms, managers, and regulatory agencies. Investors have opportunity to use this delayed reaction in the market to make their portfolio management decisions thus to accelerate on arbitrage opportunities to make abnormal returns. This delay of reaction may be due to many reasons, investors being not attentive to the company announcements, or managers deliberately trying to limit the information sources accessible to the investors. The main sources which the security issue announcements get released are CSE web site and CSE weekly publication and these may not be the most accessible media to the general investors. Thus for market to be semi strong form the information should be more publicly available and more publicly accessible. And with regard to debenture issue the investor reaction in CSE appears to be contradictory with theories on capital structure and previous study findings. The behavior and interpretation for debt issue announcement by the investor in emerging market appear to be not similar to the developed markets. This may be due to the risk averse and pessimistic nature of the investor in developing countries, assuming that firms decision to increase the leverage level is considered as bad news. But this cannot be concluded as a finding of this study without further evidences.

REFERENCES

- Asquith, P., & Mullins, D.W. (1986). Equity issues and offering dilution, *Journal of Financial Economics*,15, 61-89.
- Bandara, W.M.G. (1997). Price reaction to rights issue announcements of emerging stock markets: a study using data from the Colombo Stock Exchange. *Sri Lankan Journal of Management*, 2(4), 225-349.
- Bayless, M., & Chaplinsky, S. (1991).Expectations of security type and the information content of debt and equity offers. *Journal of Financial Intermediation*, 1, 195-214.

- Bohren, O., Eckbo, B.E., & Michalsen, D. (1997). Why underwrite rights offerings? Some new evidence. *Journal of Financial Economics*, 46, 223-261.
- Brav, A., Geczy, C., & Gompers, P.A. (2000). Is the abnormal return following equity issuances anomalous?. *Journal of Financial Economics*, 56, 209-249.
- Brounen, D., & Eichholtz, P.M.A. (2001). Capital structure theory, evidence from European property companies' capital offerings. *Real Estate Economics*, 29(4), 615-632.
- Brown, S.J., & Warner, J.B. (1985). Using daily stock returns - the case of event studies. *Journal of Financial Economics*, 14, 3-31.
- Cable, J., & Holland, K. (1996). Modelling normal returns in event studies: a model-selection approach and pilot study. *The European Journal of Finance*, 5(4), 331-341.
- Chen, P., & Shehu, E. (2009). Stock price reaction to announcements of capital structure changes – from an industry leverage ratio perspective, published master thesis. School of Economics and Management, Lund University.
- Cheng, W., Visaltanachoti, N., & Kesayan, P. (2005). A stock market reaction following convertible bond issuance: evidence from Japan'. *International Journal of Business*, 10(4), 323-340.
- Dann, L.Y., & Mikkelsen, W.H. (1984). Convertible debt issuance, capital structure change and financing-related information - some new evidence. *Journal of Financial Economics*, 13, 157-186.
- Dissabandara, D.B.P., (2001). Dividend signaling, market response to dividend change and capital market efficiency: An empirical analysis, Annual research session, University of Sri Janyawardanapura.
- Dutordoir, M., & Hodrick, L.S. (2012). Self-selection and stock returns around corporate security offering announcements. Columbia Business School Research Paper.
- Eckbo, B.E., & Masulis, R. (1995). Seasoned equity offerings: a survey, in Jarrow R. A., Maksimovic, V., & Ziemba, W. T. Z. W. T. (Ed.), *Handbooks in Operations Research and Management Science* (pp. 1017-1072). Amsterdam. North-Holland.
- Fama, E.F., (1970). Efficient capital markets: a review of theory and empirical work. *Journal of Finance*, 25, 383-417.
- Fama, E.F., (1991). Efficient capital markets: II. *Journal of Finance*, 96, 1575-1617.
- Fernando, K.G.K., & Guneratne P.S.M. (2009). Measuring abnormal performance in event studies: an application with bonus issue announcements in Colombo Stock Exchange, <http://ssrn.com/abstract=1513320>
- Gajewski, J.F., & Ginglinger E., (1998). Seasoned equity issues in a closely held market: evidence from France, Working Paper.
- Hansen, R. (1989). The demise of the rights issue. *Review of Financial Studies*, 1, 289-309.
- Kang, J.K., & Stulz, R.M., (1996). How different is Japanese corporate finance? An investigation of the information content of new security issues. *The Review of Financial Studies*, 9(1), 109-139.
- Khotari, S.P., & Warner, J.B. (2006). Econometrics of event studies in Eckbo B. E. (Ed.) *Handbook of Corporate Finance: Empirical Corporate Finance*. (Ch. 1) Elsevier. North-Holland.
- Korajczyk, R.A., Lucas, D., & McDonald, R.L. (1990). Understanding stock price behavior around the time of equity issues, In Hubbard, R. G. (Ed.), *Asymmetric information, corporate finance, and investment*. (pp. 257 – 278). Chicago. University of Chicago Press.
- Levis, M., (1995). Seasoned Equity Offerings and the short and long-term performance of initial public offerings in the UK. *European Financial Management*, 1 (2), 125-146.
- Masulis, R.W., & Korwar, A.N. (1986). Seasoned equity offerings: An empirical investigation. *Journal of Financial Economics*, 15(1/2) 91-118,
- Masulis, R.W., (1980). The effects of capital structure change on security prices: a study of exchange offers. *Journal of Financial Economics*, 8(2), 139-178.
- Mikkelsen, W.H. (1985). Capital structure change and decreases in stockholders' wealth: a cross-sectional study of convertible security calls, In Friedman. B. M. (Ed.), *Corporate Capital Structures in the United States* (pp. 265 – 300) Chicago. University of Chicago Press.
- Mikkelsen, W.H., & Partch, M.M. (1986). Valuation effects of security offerings and the issuance process. *Journal of Financial Economics*, 15, 31- 60.
- Schadler, F.P., & Manuel, T.L. (1994). Underwriter choice and announcement effects for seasoned equity offerings. *Journal of Financial and Strategic Decisions*, 7(2), 53-65.

- Scholes, M.S. (1972). The market for securities: substitution versus price pressure and the effect of information on share prices. *The Journal of Business*, 45 (2), 179-211.
- Serra, A.P. (2002). Event study tests - A brief survey. *Working Papers da FEP*, 117.
- Tsangarakis, N.V. (1996). Equity right issues: signaling vs issue price irrelevance hypothesis. *European Financial Management*, 2, 209-310.
- White, R.W., & Lusztig, P.A. (1980). The price effects of right offering. *Journal of Financial and Quantitative Analysis*, 15, 25-40.