Impact of Dividend Announcement On Share Price: An Evaluation Study

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INTRODUCTION

An efficient and integrated financial market is an important infrastructure that facilitates savings, investments and consequent economic growth. The financial markets include money market and capital market. Capital market is the market for trading long-term securities whereas, money market is for short-term securities. It is a universally accepted fact that the financial system and the capital market in particular act as the barometer of the health of an economy. Free and efficient capital markets ensure that the resources are allocated wisely and faster. The event study is an important research tool in economics and finance. The goal of an event study is to measure the effects of an economic event on the value of firms. Event study methods exploit the fact that given rationality in the marketplace, the effects of an event will be reflected immediately in security prices. Thus, the impact can be measured by examining security prices surrounding the event. There are various types of events like Mergers & Acquisitions, Quarterly Earnings, Dividend Issue, Bonus Issue, Stock Split, Buyback of Share, etc. that have a reaction over the prices of securities in the capital market. Bonus shares are free shares of stock given to current shareholders based upon the number of shares that a shareholder owns. While this stock action increases the number of shares owned, it does not increase the total value. This is due to the fact that as the total number of shares increase, the ratio of number of shares held to the number of shares outstanding remains constant.

REVIEW OF LITERATURE

The empirical studies conducted in India as well as abroad are presented to discern the impact of announcements on share prices and to form a theoretical base.

Agarwal (1991) in his study, **"Dividend and Stock Prices: A Case Study of Commercial Vehicles Sector in India 1966-1987"** studied market efficiency to analyze the behaviour of dividends and share prices of selected automobile companies. In this study, it is observed that the current dividend behaviour is explained by current level of net profits and past two years dividends. Three and four years lagged dividends were also tried to explain the current stock prices but are found to be statistically insignificant.

A study entitled, **"The Effect of Dividend Changes on Stock and Bond Prices",** by **Dhillon and Johnson (1994)** observed 131 announcements of stocks, resulting in 61 dividend increases, and 70 dividend decreases and concluded that markets were efficient.

Chaturvedi (2000) in his article, **"Half Yearly Financial results and Behaviour of Share Prices in India"** discussed P/E ratios in the pre-and-post announcement period of 90 stocks listed in the Bombay stock exchange. The author observed that two-thirds of the post-announcement cumulative abnormal returns occurred in the control period of 21 days to 40 days, implying that stock prices do not adjust rapidly to the P/E information.

Gupta, Pradeep (2001) in his paper, **"A Study of Stock Market Efficiency in India"** studied the semi-strong form of efficient market hypothesis with the help of selected accounting variables. It was found that the dividend per share had significant correlation with the market prices. However, the returns on equity did not show significant influence and the growth in the ratio of price earnings showed little evidence. Likewise, the growth in earnings per share and leverage had negligible influence in explaining the underlying share prices.

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Kakati. M (2001) in **"The study on Price Performance of Bonus Issues"** discussed the pre and post announcement period of 115 stock issues bonus between January 1995 and March 1999. This study tries to identify the factors influencing performance of bonus issues and unearths two factors, equity base and sales performance as the most important influencers of bonus performance. The industry performance, floating stock level, current EPS, P/E ratio, dividend, net profit and book value are found to have least influence on the bonus performance.

Sponholtz, C. (2005) in his **"Separating the Stock Market's Reaction to Simultaneous Dividend and Bonus Announcements"** found that stock market reaction to the simultaneous announcement can be explained by the component of surprise contained in the current dividend and the management's forecast of next year's earnings.

Karamjeet Kaur and Balwinder Singh (2005) in their study, **"The Stock Price Reaction to Dividend Increase Announcements"** examined the Stock Price reaction with the help of weekly observations. It gives similar positive stock price reaction to dividend increase announcements. Further, the positive stock price reaction is analyzed for information signalizing theory. But empirical results are inconsistent with information signalizing hypothesis.

Amitabh Gupta (2006) in his work entitled, **"The Share Price Behaviour Around Buy- back in India"** studied the listed companies in India during the period January 1999 to March 2004. In this study, it is observed that the announcement of share buy backs significantly increases the prices of shares around the time of announcement and large companies generate lower abnormal returns than small companies. The findings have important implications for corporate financial and investment strategies.

A study entitled, "**Impact of Dividend Announcement on Share price**" by **Ramesh Chander, Renuka Sharma and Kiran Mehta (2007)** infers that the dividend income does not inspire the over-enthused investors in the rising capital markets. Under these conditions, market participants are more destined to abnormal returns by devising investment strategies on the fundamentals, rather than on technical analysis.

STATEMENT OF THE PROBLEM

The information on financial statement such as Dividend and Bonus, Buyback, Earnings announcement (quarterly, half-yearly) etc. announced by the companies is extensively used in valuing the securities. That is, how quickly and correctly the security prices reflect this information shows the efficiency of the capital market. If the prices reflect the information contained in these announcements immediately, then the market may be termed efficient, where no investor will be able to make superior returns consistently. If the prices do not impound the information immediately, then there is scope for investors to make superior returns. This reflects the inefficiency of the market.Thus, capital market efficiency and information content of Dividend reports are of great importance to the investors, fund managers, analysts, and market regulators, accounting standards setters, policy makers and planners and a host of other parties as well. The present study is an attempt to test the efficiency of the Indian capital market with respect to Dividend announcement by the companies listed on BSE 500.

NEED OF THE STUDY

Many studies have been made in the developed market to test their efficiency. The study has mostly used the event study methodology. But very few studies have been made in India to test the information content of dividend announcement and the efficiency of the market with regard to the industrial classification. Further, most of the studies have used very small samples and used either monthly or weekly data which are not suitable for the event studies, to test the market efficiency in India. The present study makes an attempt to find the impact of Dividend Announcement on share prices of listed companies of BSE 500.

OBJECTIVES OF THE STUDY

The following are the objectives of the present study,

- To examine the announcement effect of Dividend on sample equity shares during the period from 1st January 2007 to 31st December 2007.
- To study whether information disclosure through Dividend announcement causes discernible movement in share prices of sample companies during the study period.
- To summarize the findings and suggestions of the study.

HYPOTHESIS OF THE STUDY

The following forms the Hypothesis of this study,

H0: There is no significant influence on share prices of sample companies due to dividend announcement.

METHODOLOGY OF THE STUDY

SAMPLE DESIGN

For the purpose of this study, all the companies of BSE 500 which declared dividend in 2007 were selected under complete enumeration method. Only 35 companies have declared dividend during the study period and they were chosen for this study. The details of sample companies are given in the **Table - 1**.

Table – 1: List of Companies That Declared Dividend in 2007

Sl. No.	Name of the Companies
I	**MANUFACTURING INDUSTRY**
1	Banco Products (India) Ltd.
2	Bharat Seats Ltd.
3	Bosch Chassis Systems India Ltd.
4	Elecon Engineering Co. Ltd.
5	Gemini Communication Ltd.
6	Gujarat Apollo Inds. Ltd.
7	Jaybharat Textiles & Real Estate Ltd.
8	Kanoria Chemicals & Inds. Ltd.
9	Kirloskar Oil Engines Ltd.
10	Modern Steels Ltd.
11	Moser Baer India Ltd.
12	Motherson Sumi Systems Ltd.
13	Opto Circuits (India) Ltd.
14	Parenteral Drugs (India) Ltd.
15	Rasi Electrodes Ltd.
16	Suraj Stainless Ltd.
17	Suven Life Sciences Ltd.
18	Unitech Power Transmission Ltd.
19	Vinati Organics Ltd.
II	**SERVICE INDUSTRY**
20	3I Infotech Ltd.
21	Bampsl Securities Ltd.
22	Bank Of Rajasthan Ltd.
23	Geodesic Information Systems Ltd.
24	Karuturi Networks Ltd.
25	Manappuram General Finance & Leasing Ltd.
26	Northgate Technologies Ltd.
27	Ushdev International Ltd.
28	Yashraj Securities Ltd.
III	**CONSTRUCTION INDUSTRY**
29	Ansal Properties & Infrastructure Ltd.
30	Valecha Engg
IV	**MINING INDUSTRY**
31	Ashapura Minechem Ltd.
V	**OTHER INDUSTRIES**
32	JBM Auto Comp
33	NIIT
34	NIIT Tech.
35	Sun TV Network

Source: PROWESS

SOURCES OF DATA

The information regarding the date of dividend announcement, and daily share price of sample companies of BSE -500 was obtained from the following sources.

- PROWESS
- www.bseindia.com
- www.moneycontrol.com

PERIOD OF THE STUDY

The present study examines the impact of dividend announcement on share prices of sample companies listed in BSE-500 from 1st January 2007 – 31st December 2007.

TOOLS USED

The returns are being generated in the investment literature from various pricing models, such as Capital Asset Pricing Model (CAPM) and Market Model. The following tools were used to study the information content of dividend announcement and their impact on share price.

1. Capital Asset Pricing Model (CAPM),
2. Market Model, and
3. T-test

1. CAPITAL ASSET PRICING MODEL (CAPM)

The Capital Asset Pricing Model (CAPM) is a mathematical model that seeks to explain the relationship between risk and returns in a rational equilibrium market. CAPM has been widely accepted as the most appropriate technique of evaluating the share price.

The CAAR under CAPM is calculated as detailed below.

a) Daily Returns
b) Abnormal Returns
c) Average Abnormal Returns (AAR)
d) Cumulative Average Abnormal Returns (CAAR)

a) Daily Returns

The daily returns were calculated for both individual securities as well as Market Index, using the following equation.

$$R_{i,t} = 1n \ (P_t \ / \ P_{t-1})$$

Where, $R_{j,t}$ = Returns on security j on time t,

P_t = Price of the security at time t and P_{t-1} = Price at time t-1.

b) Abnormal Returns

The formula for calculating abnormal returns on CAPM Model is given below.

$$AR_{jt} = Rf + \beta* \ (R_m – Rf)$$

Where, $AR_{j,t}$ = Abnormal Returns on security j on time t , R_f = Risk free rate 7.5% (364 day's Treasury Bill Rate), R_m = Market risk and β = Average Co-Variance / Variance.

c) Average Abnormal Returns (AAR)

The Average Abnormal Returns is calculated by the equation

$$AAR_{j,t} = 1/n \sum_{t=1}^{n} AR_{j,t} \quad \text{------------------------- (1)}$$

Where, $AAR_{j,t}$ =Average Abnormal Returns for securities j on time t,

$AR_{j,t}$ =Abnormal Returns for securities j on time t and n = Number of samples

d) Cumulative Average Abnormal Returns (CAAR)

The CAAR is calculated as

$$CAAR_{j,t} = \sum_{t=1}^{n} AAR_{j,t} \quad \text{------------------------- (2)}$$

Where, $CAAR_{j,t}$ = Cumulative Average Abnormal Returns for securities j on time t,

$AAR_{j,t}$ = Average Abnormal Returns for securities j on time t.

2. MARKET MODEL

The market model says that the returns on a security depend on the returns on the market portfolio and the extent

of the responsiveness of the security as measured by beta. The returns also depend on the conditions that are unique to the firm.

The CAAR under Market Model is calculated as detailed below.

a) Daily Returns
b) Abnormal Returns
c) Average Abnormal Returns (AAR)
d) Cumulative Average Abnormal Returns (CAAR)

a) Daily Returns

The AAR is the average value of Abnormal Returns as calculated in **1.a**.

b) Abnormal Returns

The formula for calculating abnormal returns on Market Model is

$$AR_{j,t} = R_{j,t} - \alpha - \beta_j R_{m,t}$$

Where, α is the average returns of the firm compared to the market average, β is the sensitivity of this firm's returns to the market returns, i.e., the market risk of this stock.

c) Average Abnormal Returns (AAR)

The Average Abnormal Returns is calculated in **1.c**.

d) Cumulative Average Abnormal Returns (CAAR)

The CAAR is calculated in **1.d.**

3. T-TEST

Statistical tests of significance such as T – test were applied for testing the significance level of results arrived at by analyzing the data related to dividend announcement.

a) The significance of the AAR_t was tested using the t statistics

$$\text{T-test} = ARR_t \times \sqrt{n}/S$$

Where, 'S' is standard deviation of abnormal returns.

b) The significance of the $CAAR_t$ was tested as

$$\text{T-test} = CARR_t \times \sqrt{n}/S$$

Where, 'S' is standard deviation of average abnormal returns.

ANALYZING THE IMPACT OF DIVIDEND ANNOUNCEMENT ON SHARE PRICE

The aim of the study is to investigate the Indian Stock Market behaviour in response to the announcement of dividend, using the Event Study Methodology. The Event Study method is a powerful tool that helps research to assess the financial impact of changes in corporate policy. The researcher can determine whether there is "abnormal" stock price effect associated with an unanticipated event. The returns measurement framework like CAPM model and Market Model are used in this study to derive Average Returns on account of new information disclosure regarding sample stocks of 35 companies which are listed under BSE - 500. An attempt has been made to analyze the impact of Dividend Announcement on share price in order to observe the daily stock price reaction to the Event period of 15 days before and 15 days after official announcement (-15 to +15). The Average Abnormal Returns and Cumulative Average Abnormal Returns for all the industries during event days were calculated by means of two models (CAPM and Market Model).

For the purpose of this study, the analysis is organized as below:

(i)   AAR and CAAR on Dividend Announcement for Manufacturing Industry.
(ii) AAR and CAAR on Dividend Announcement for Service Industry.
(iii) AAR and CAAR on Dividend Announcement for Construction Industry.
(iv) AAR and CAAR on Dividend Announcement for Mining Industry.
(v)   AAR and CAAR on Dividend Announcement for Other Industries.

I. AAR AND CAAR ON DIVIDEND ANNOUNCEMENT FOR MANUFACTURING INDUSTRY

Table-2 presents the Average Abnormal Returns and Cumulative Average Abnormal Returns on Dividend Announcement for Manufacturing Industry based on CAPM Model and Market Model. From the result, it is found that the Average Abnormal Returns under CAPM model give positive return of 2.08 per cent on the 0 day

and significant at 1 percent level. The ARRs were positive for the entire period of 31 days. But it showed the highest return of 2.5 per cent on the 8th day and the lowest return of 1.1 per cent on the 15th day of post announcement day during the study period. Moreover, it is clear that there is a positive reaction in Cumulative Average Abnormal Returns throughout the event period with 1 percent significant level. The returns are significant at 10 per cent level for the 13th day and 5 per cent level for the 11th and 12th day of the pre event period and 1 per cent significant level from -10th day to +15th day of the announcement period.

Table - 2: AAR and CAAR On Dividend Announcement For Manufacturing Industry

| Days	CAPM Model				Market Model			
	AAR	T-Test	CAAR	T-Test	AAR	T-Test	CAAR	T-Test
-15	0.019	28.1078*	0.019	0.466	0.002	1.264	0.002	0.530
-14	0.015	22.1528*	0.035	0.832	0.002	1.143	0.004	1.009
-13	0.021	30.5992*	0.056	1.3392***	0.001	0.534	0.005	1.232
-12	0.019	27.8512*	0.075	1.8004**	-0.003	-2.0966**	0.001	0.354
-11	0.021	30.1388*	0.096	2.2996**	-0.004	-2.3864**	-0.003	-0.646
-10	0.020	29.0604*	0.116	2.7809*	-0.010	-6.1549*	-0.013	-3.2251*
-9	0.019	27.1813*	0.135	3.2310*	0.002	0.906	-0.011	-2.8454*
-8	0.025	36.4331*	0.160	3.8344*	0.004	2.1660**	-0.008	-1.9378**
-7	0.021	30.2646*	0.180	4.3357*	0.012	7.6175*	0.005	1.254
-6	0.018	26.3368*	0.199	4.7719*	0.012	7.0722*	0.016	4.2175*
-5	0.024	34.2743*	0.222	5.3395*	-0.002	-0.940	0.015	3.8238*
-4	0.024	34.0351*	0.246	5.9032*	0.010	6.3554*	0.025	6.4869*
-3	0.022	31.9111*	0.268	6.4317*	-0.001	-0.407	0.025	6.3163*
-2	0.017	24.9789*	0.285	6.8454*	-0.004	-2.3897**	0.021	5.3150*
-1	0.021	29.9101*	0.306	7.3407*	0.008	4.7636*	0.028	7.3111*
0	**0.021**	**30.1577***	**0.326**	**7.8402***	**0.019**	**11.8360***	**0.048**	**12.2706***
1	0.022	31.4608*	0.348	8.3612*	-0.007	-4.0925*	0.041	10.5558*
2	0.015	21.7538*	0.363	8.7215*	-0.007	-4.3063*	0.034	8.7513*
3	0.022	31.3969*	0.385	9.2415*	-0.003	-1.9451**	0.031	7.9363*
4	0.023	33.1179*	0.407	9.7900*	-0.001	-0.581	0.030	7.6930*
5	0.016	23.7802*	0.424	10.1838*	0.006	3.9613*	0.036	9.3528*
6	0.020	29.1278*	0.444	10.6663*	-0.001	-0.715	0.035	9.0531*
7	0.016	22.9487*	0.460	11.0463*	-0.001	-0.818	0.034	8.7105*
8	0.018	25.4396*	0.477	11.4676*	-0.001	-0.616	0.033	8.4524*
9	0.021	29.6838*	0.498	11.9593*	0.001	0.577	0.034	8.6940*
10	0.019	27.0507*	0.516	12.4073*	-0.015	-9.0820*	0.019	4.8884*
11	0.019	27.5391*	0.535	12.8634*	-0.010	-6.0012*	0.009	2.3738**
12	0.018	25.5960*	0.553	13.2873*	-0.004	-2.6296*	0.005	1.272
13	0.023	32.7281*	0.576	13.8293*	-0.006	-3.5198*	-0.001	-0.203
14	0.021	30.5085*	0.597	14.3346*	0.001	0.708	0.000	0.094
15	0.011	15.2662*	0.607	14.5874*	0.000	-0.224	0.000	0.000

Source: PROWESS

* = Significant at 1% level, ** = Significant at 5% level, *** = Significant at 10% level

On the other hand, the Average Abnormal Returns calculated with Market Model were negative for 6 days and 12 days in the 15 days time interval before and after official announcement of dividend. During the event period from -15 to +15, the investors of sample companies suffered heavy negative returns with -1.5 per cent (v = -9.0820, t <0.01) on the 10th day of post announcement period and gained highest positive returns of 1.9 per cent (v = -9.0820, t <0.01) on the 0 day. However, Cumulative Average Abnormal Returns were positive for 25 days and negative for 5 days and zero for 1 day. It shows that there is negative returns at 5 per cent significance for 8th day (-0.8per cent) and 21 per cent at 10th and 9th day at -1.3 and -1.1 per cent for the post announcement and positively significant at 1 per cent from -6 to +10 and 5 per cent significant on 11th day at 0.9 per cent of the event

window. All the returns have been significant except from the 15th to 11th day of pre announcement period and 12th to 15th day of post announcement period.

The CAAR under CAPM and Market Model on Dividend Announcement for Manufacturing Industry are graphically represented in **Chart-1**. Under CAPM Model, CAAR gradually increases from 0.019 to 0.607 during the study period. CAAR of post announcement period recorded upward trend compared with pre announcement period. In the Market Model, CAAR curve moved from 0.002 to 0.000 and fluctuated during the period of pre event and post event.

Chart - 1: CAAR On Dividend Announcement For Manufacturing Industry
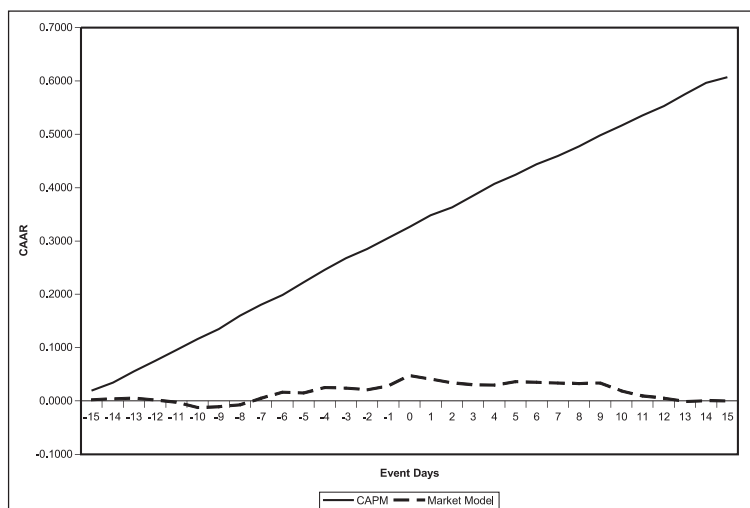
II. AAR AND CAAR ON DIVIDEND ANNOUNCEMENT FOR SERVICE INDUSTRY

The Average Abnormal Returns and Cumulative Average Abnormal Returns (CAPM and Market Model) on Dividend Announcement for Service Industry are given in **Table-3**. The outcome of the Average Abnormal Returns calculated with the CAPM Model showed positive significant returns throughout the study period of 31 days. The event day showed the positively significant reaction at 4.7 per cent ($v = 31.9556$, $t < 0.01$). The highest returns of 5.7 per cent on 1st day of pre announcement and the lowest returns of 4.1 per cent on 4th day of the post announcement period were recorded. Similarly, Cumulative Average Abnormal Returns have been insignificant for 4 days from 15th to 12th day of the pre announcement. It shows 10 per cent significant level on 11th day at 24.6% and 5 per cent significant from 10th to 8th day at 30% and 34.3% of the pre announcement period. The remaining days were at 1 per cent significant level, including the '0' day.

Table - 3: AAR and CAAR On Dividend Announcement For Service Industry

Days	CAPM Model				Market Model			
	AAR	T-Test	CAAR	T-Test	AAR	T-Test	CAAR	T-Test
-15	0.051	34.5850*	0.051	0.339	-0.001	-0.115	-0.001	-0.040
-14	0.046	31.3488*	0.098	0.646	-0.005	-1.158	-0.005	-0.445
-13	0.055	36.8231*	0.152	1.006	-0.006	-1.4489***	-0.011	-0.952
-12	0.046	30.8713*	0.198	1.309	0.002	0.453	-0.009	-0.793
-11	0.048	32.6756*	0.246	1.6287***	-0.029	-6.9771*	-0.038	-3.2325*
-10	0.054	36.5491*	0.300	1.9866**	-0.003	-0.807	-0.042	-3.5145*
-9	0.043	28.8421*	0.343	2.2691**	-0.010	-2.3590**	-0.051	-4.3392*
-8	0.054	36.5868*	0.397	2.6274**	-0.011	-2.6483**	-0.062	-5.2650*
-7	0.052	35.1479*	0.449	2.9716*	0.018	4.2770*	-0.045	-3.7698*
-6	0.043	28.9791*	0.492	3.2554*	0.014	3.2653*	-0.031	-2.6283**
-5	0.054	36.4771*	0.546	3.6126*	0.015	3.7289*	-0.016	-1.325
-4	0.057	38.3751*	0.603	3.9884*	-0.001	-0.293	-0.017	-1.4271***
-3	0.047	31.9966*	0.651	4.3018*	-0.010	-2.3439**	-0.027	-2.2465**

|							
-2	0.051	34.2401*	0.701	4.6371*	0.013	3.1950*	-0.013	-1.130
-1	0.057	38.6842*	0.759	5.0160*	0.021	4.9578*	0.007	0.604
0	**0.047**	**31.9556***	**0.806**	**5.3289***	**0.030**	**7.2873***	**0.037**	**3.1512***
1	0.044	29.7059*	0.850	5.6198*	0.005	1.238	0.042	3.5841*
2	0.048	32.5183*	0.898	5.9383*	0.005	1.265	0.048	4.0263*
3	0.053	35.5801*	0.951	6.2867*	0.008	2.0085**	0.056	4.7285*
4	0.041	27.4314*	0.991	6.5554*	-0.006	-1.4304***	0.050	4.2284*
5	0.049	32.9347*	1.040	6.8779*	0.012	2.8237**	0.062	5.2156*
6	0.049	33.2146*	1.089	7.2032*	-0.015	-3.6089*	0.047	3.9540*
7	0.044	29.8890*	1.134	7.4959*	-0.005	-1.112	0.042	3.5653*
8	0.055	37.1973*	1.189	7.8602*	-0.011	-2.6883**	0.031	2.6255**
9	0.049	33.0617*	1.238	8.1840*	0.000	0.099	0.031	2.6601**
10	0.053	36.0796*	1.291	8.5373*	0.005	1.206	0.036	3.0816*
11	0.054	36.3837*	1.345	8.8936*	-0.006	-1.338	0.031	2.6137*
12	0.055	36.8578*	1.400	9.2546*	0.004	0.899	0.035	2.9282*
13	0.054	36.4262*	1.454	9.6113*	-0.010	-2.3711**	0.025	2.0992**
14	0.050	33.7543*	1.504	9.9419*	-0.016	-3.9277*	0.009	0.726
15	0.052	35.2584*	1.556	10.2872*	-0.009	-2.0771**	0.000	0.000

Source: PROWESS

* = Significant at 1% level, ** = Significant at 5% level, *** = Significant at 10% level

The Average Abnormal Returns, calculated with the Market Model, shows that the AAR was positive at 3 per cent and significant at 1 per cent level. The AAR was negative for 17 days and positive for 14 days, including 0 day. It showed the highest negative returns of 0.1 per cent on 4th day of the post announcement period and showed highest positive returns of 3 per cent on the 0 day for the entire period. The Cumulative Average Abnormal Returns were positively significant for 14 days, including 0 day and negatively significant for 8 days. All the negative significant levels were recorded in the pre announcement period and positive significant level in the post announcement period.

Chart – 2 shows the curve of CAAR of Service Industry for Dividend Announcement of both CAPM and Market Model. Under CAPM Model, the curve of CAAR steadily increased from 0.051 to 1.556 during the study period. Similar to pre announcement period, the CAAR for the post announcement period also recorded upward trend. In the Market Model, CAAR curve moved between -0.001 and 0.0000. In the pre announcement period, all the days were under negative direction but post announcement shifted towards positive trend.

Chart - 2: CAAR On Dividend Announcement For Service Industry
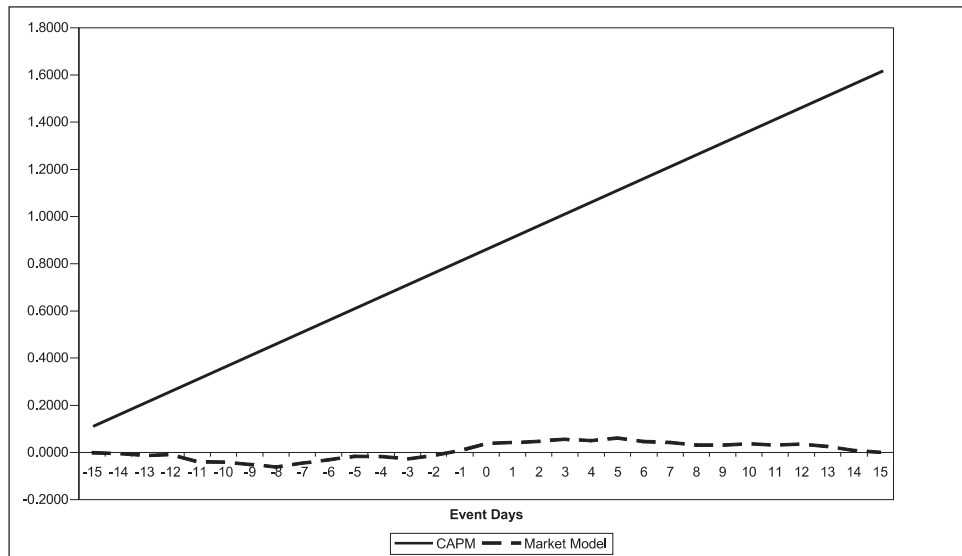
III. AAR AND CAAR ON DIVIDEND ANNOUNCEMENT FOR CONSTRUCTION INDUSTRY

Table – 4 exhibits the result of Average Abnormal Returns and Cumulative Average Abnormal Returns under CAPM and Market Model on Dividend Announcement for Construction Industry. From the result, it is understood that the calculated Average Abnormal Returns with CAPM model were negative for the 0 day at -4.6 per cent (v = 6.47766, t < 0.05). AAR recorded negative returns for the entire event period. The AAR depicted 10 per cent significant level on 8th and 10th day of the pre announcement period and on 12th and 13th day of the post announcement period. The returns on all other days were at 5 per cent significant level for the entire announcement period. The Cumulative Average Abnormal Returns showed negative returns for the entire period. It is insignificant for the first 18 days from -15th day to +3rd day (including'0' day) and 10 per cent significant over the following 13 days.

Table - 4: AAR and CAAR On Dividend Announcement For Construction Industry

| Days	CAPM Model				Market Model			
	AAR	**T-Test**	**CAAR**	**T-Test**	**AAR**	**T-Test**	**CAAR**	**T-Test**
-15	-0.052	-7.2203**	-0.052	-0.161	-0.024	-1.346	-0.024	-0.756
-14	-0.083	-11.5913**	-0.134	-0.418	0.016	0.922	-0.007	-0.238
-13	-0.052	-7.3231**	-0.187	-0.581	-0.015	-0.864	-0.023	-0.723
-12	-0.067	-9.3673**	-0.253	-0.789	-0.016	-0.885	-0.038	-1.219
-11	-0.058	-8.1395**	-0.312	-0.970	0.009	0.507	-0.029	-0.935
-10	-0.051	-7.1013**	-0.362	-1.128	-0.034	-1.938	-0.063	-2.022
-9	-0.060	-8.3754**	-0.422	-1.315	-0.005	-0.281	-0.068	-2.180
-8	-0.033	-4.6242***	-0.455	-1.417	0.005	0.274	-0.063	-2.026
-7	-0.056	-7.7784**	-0.511	-1.590	-0.013	-0.725	-0.076	-2.433
-6	-0.061	-8.5463**	-0.572	-1.780	-0.017	-0.975	-0.093	-2.980
-5	-0.037	-5.1494***	-0.608	-1.895	0.046	2.630	-0.047	-1.504
-4	-0.045	-6.3661**	-0.654	-2.036	-0.044	-2.523	-0.091	-2.920
-3	-0.046	-6.4136**	-0.700	-2.179	0.010	0.576	-0.081	-2.597
-2	-0.051	-7.1732**	-0.751	-2.339	0.012	0.676	-0.069	-2.217
-1	-0.053	-7.3825**	-0.803	-2.503	0.000	0.016	-0.069	-2.209
0	**-0.046**	**-6.4766****	**-0.850**	**-2.647**	**0.013**	**0.748**	**-0.056**	**-1.789**
1	-0.058	-8.1884**	-0.908	-2.829	0.004	0.217	-0.052	-1.667
2	-0.052	-7.3245**	-0.960	-2.992	-0.020	-1.158	-0.072	-2.317
3	-0.039	-5.5204**	-1.000	-3.1144***	0.013	0.743	-0.059	-1.900
4	-0.048	-6.7484**	-1.048	-3.2645***	0.027	1.557	-0.032	-1.027
5	-0.046	-6.4191**	-1.094	-3.4072***	0.087	4.9601***	0.055	1.757
6	-0.054	-7.5866**	-1.148	-3.5759***	-0.012	-0.703	0.042	1.363
7	-0.053	-7.4270**	-1.201	-3.7410***	-0.009	-0.522	0.033	1.070
8	-0.045	-6.2768**	-1.246	-3.8806***	-0.005	-0.261	0.029	0.923
9	-0.045	-6.3656**	-1.291	-4.0222***	-0.006	-0.336	0.023	0.735
10	-0.062	-8.6182**	-1.353	-4.2138***	0.009	0.539	0.032	1.037
11	-0.057	-8.0321**	-1.410	-4.3924***	0.000	0.011	0.033	1.044
12	-0.033	-4.6251***	-1.443	-4.4952***	-0.010	-0.591	0.022	0.712
13	-0.045	-6.2710***	-1.488	-4.6347***	-0.036	-2.084	-0.014	-0.458
14	-0.046	-6.4106**	-1.534	-4.7772***	0.000	0.018	-0.014	-0.448
15	-0.061	-8.4945**	-1.594	-4.9661***	0.014	0.798	0.000	0.000

Source: PROWESS

* = Significant at 1% level, ** = Significant at 5% level, *** = Significant at 10% level

Likewise, the Average Abnormal Returns values of Market model were negative for 8 days and 7 days in 15 days time interval before and after official announcement of dividend. The AAR was positively insignificant at 1.3 per cent on the announcement day and it showed positive returns of 8.7 per cent (v = 4.9601, t < 0.10). The Cumulative Average Abnormal Returns under this model were negatively insignificant for the 0 day. It proves

that the values were positively insignificant for 8 days and negatively insignificant for 22 days and insignificant at Zero for one day.

The curve of CAAR (CAPM and Market Model) of Construction Industry for Dividend Announcement is given in **Chart - 3**. Under CAPM Model, the curve of CAAR gradually decreased from -0.052 to -0.594 during the study period. The curve of CAAR in post announcement period recorded downward trend compared to pre announcement period. In Market Model, CAAR curve moved between -0.024 and 0.000. In pre announcement period, the curve of all days fell under negative direction, but in post announcement after 5 days of the official announcement, the curve shifted towards the positive trend.

Chart - 3: CAAR On Dividend Announcement For Construction Industry
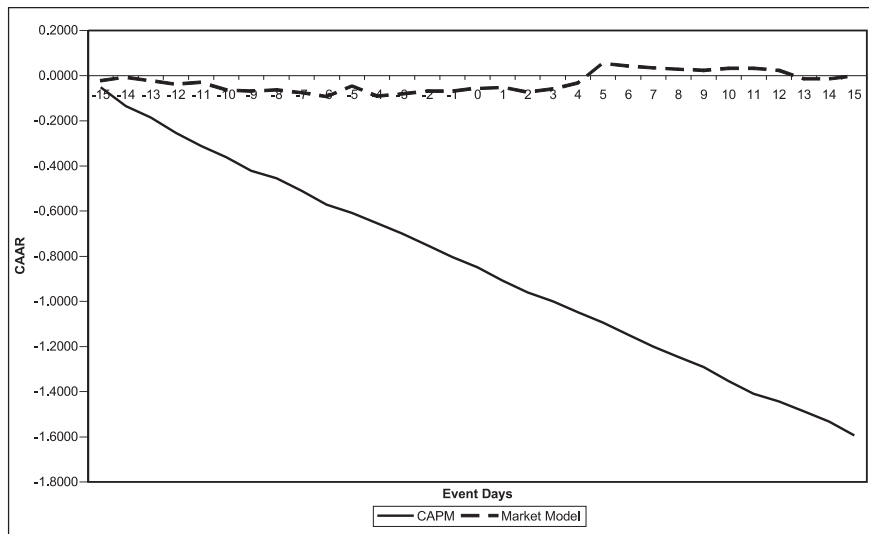
IV. AAR AND CAAR ON DIVIDEND ANNOUNCEMENT FOR MINING INDUSTRY

The Average Abnormal Returns and Cumulative Average Abnormal Returns under CAPM and Market Model on Dividend Announcement for Mining Industry are given in **Table - 5.** The result of Average Abnormal Returns calculated through CAPM Model, gave positive AAR at 2.1 per cent ($v = 3.8351, t < 0.10$). It is observed that the calculated AARs were positively significant at 10 per cent for 26 days and insignificant for 5 days for the entire event period (including 0 day). Moreover, Cumulative Average Abnormal Returns have been positively insignificant for first 27 days (including 0 day) and had been at 10 per cent significant level for 4 days from +12 to +15 throughout the entire event period of 31 days. It shows the highest positive returns of 67.9 per cent on the 15th day of post announcement period.

Table - 5: AAR and CAAR On Dividend Announcement For Mining Industry

Days	CAPM Model				Market Model			
	AAR	T-Test	CAAR	T-Test	AAR	T-Test	CAAR	T-Test
-15	0.027	4.8863***	0.027	0.136	0.013	0.402	0.013	0.267
-14	0.025	4.5138***	0.052	0.262	0.017	0.552	0.030	0.633
-13	0.026	4.7278***	0.077	0.394	0.076	2.423	0.106	2.241
-12	0.014	2.480	0.091	0.463	-0.043	-1.386	0.062	1.322
-11	0.027	4.9100***	0.118	0.600	-0.017	-0.550	0.045	0.957
-10	0.024	4.3111***	0.142	0.720	-0.036	-1.137	0.010	0.203
-9	0.017	3.070	0.158	0.805	0.038	1.225	0.048	1.016
-8	0.024	4.3057***	0.182	0.925	0.032	1.007	0.079	1.684
-7	0.007	1.252	0.189	0.960	-0.030	-0.958	0.049	1.049
-6	0.018	3.2486***	0.207	1.051	0.002	0.073	0.052	1.097
-5	0.014	2.524	0.220	1.121	0.040	1.285	0.092	1.950
-4	0.021	3.7658***	0.241	1.226	-0.037	-1.176	0.055	1.170
-3	0.019	3.5304***	0.260	1.324	0.001	0.017	0.056	1.181

| -2	0.015	2.784	0.276	1.402	0.031	0.981	0.086	1.832
-1	0.032	5.8583***	0.308	1.565	-0.004	-0.133	0.082	1.744
0	**0.021**	**3.8351***	**0.329**	**1.672**	**0.001**	**0.041**	**0.083**	**1.771**
1	0.017	3.1299***	0.346	1.759	-0.002	-0.056	0.082	1.734
2	0.031	5.5942***	0.376	1.915	-0.025	-0.785	0.057	1.213
3	0.028	5.0354***	0.404	2.056	0.028	0.880	0.085	1.797
4	0.025	4.5955***	0.429	2.184	0.000	0.006	0.085	1.801
5	0.020	3.6270***	0.449	2.285	0.035	1.129	0.120	2.550
6	0.021	3.8975***	0.470	2.393	0.009	0.272	0.129	2.730
7	0.023	4.2610***	0.494	2.512	-0.054	-1.729	0.075	1.583
8	0.018	3.3599***	0.512	2.606	-0.005	-0.145	0.070	1.486
9	0.024	4.3199***	0.536	2.726	-0.063	-2.024	0.007	0.143
10	0.029	5.2324***	0.564	2.872	-0.003	-0.109	0.003	0.071
11	0.023	4.2046***	0.587	2.989	-0.032	-1.036	-0.029	-0.616
12	0.027	5.0007***	0.615	3.1285***	-0.019	-0.607	-0.048	-1.019
13	0.022	4.0063***	0.637	3.2401***	0.006	0.194	-0.042	-0.890
14	0.018	3.3056***	0.655	3.3323***	0.006	0.195	-0.036	-0.761
15	0.024	4.4420***	0.679	3.4561***	0.036	1.147	0.000	0.000

Source: PROWESS

* = Significant at 1% level, ** = Significant at 5% level, *** = Significant at 10% level

Moreover, the Average Abnormal Returns calculated under Market Model gave positive returns of 0.1 per cent at the insignificant level. At the same time, the AARs showed negative returns for 14 days and positive returns for 18 days and zero returns for one day for the entire announcement period including 0 day at an insignificant level. The Cumulative Average Abnormal Returns with market model were positively insignificant for 26 days and negatively insignificant for 4 days and 0 for 'one' day for the entire period .The CAAR showed negative returns from 11th to 14th day only in the post announcement period.

Chart -4 illustrates the curve of CAAR (CAPM and Market Model) on Dividend Announcement for Mining Industry. It is clear that under the CAPM Model, the curve of CAAR gradually moved upward for both pre and post announcement period. However, CAAR curve recorded upward trend after the official announcement. In the Market Model, CAAR curve moved from 0.013 to 0.000. But in pre announcement, the curve for all days fell under positive direction but in post announcement after 10 days, the curve declined negatively.

Chart - 4: CAAR On Dividend Announcement For Mining Industry
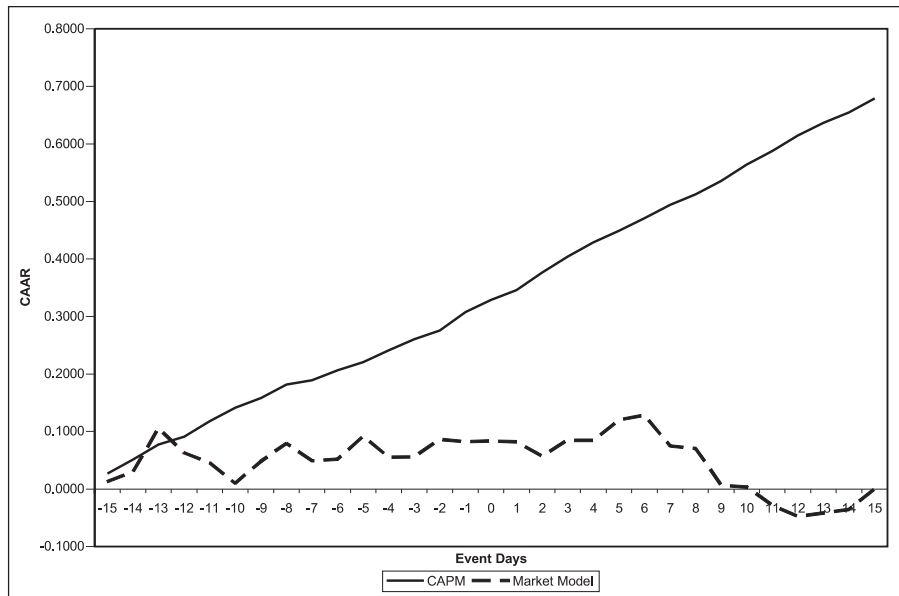
V. AAR AND CAAR ON DIVIDEND ANNOUNCEMENT FOR OTHER INDUSTRIES

The details about the Average Abnormal Returns and Cumulative Average Abnormal Returns under CAPM Model and Market Model on Dividend Announcement for Other Industries are given in **Table - 6.** The Average Abnormal Returns calculated with the CAPM Model clearly states that there is a negative reaction of -2.00 per cent on the '0' Day, and significant at 1 per cent level. It is observed that the calculated Average Abnormal Returns were negative for the entire period of 31 days and it showed 1 per cent significant level for all the 31 days(including t = 0). Similarly, the Cumulative Average Abnormal Returns shows that there were negative returns for the entire period. It is insignificant for 6 days from 15th day to 10th day of the post announcement period and it was significant for 25 days.

Table - 6: AAR and CAAR On Dividend Announcement For Other Industries

| Days	CAPM Model				Market Model			
	AAR	T-Test	CAAR	T-Test	AAR	T-Test	CAAR	T-Test
-15	-0.026	-9.8063*	-0.026	-0.277	0.006	0.940	0.006	0.659
-14	-0.024	-9.0790*	-0.050	-0.533	0.004	0.529	0.010	1.029
-13	-0.021	-7.9448*	-0.070	-0.757	-0.018	-2.6736**	-0.008	-0.845
-12	-0.025	-9.5405*	-0.096	-1.026	0.001	0.210	-0.007	-0.698
-11	-0.026	-10.0396*	-0.122	-1.310	0.024	3.4680**	0.017	1.7336***
-10	-0.009	-3.5853**	-0.131	-1.411	0.000	-0.032	0.017	1.7114***
-9	-0.025	-9.5098*	-0.156	-1.6793***	-0.003	-0.481	0.014	1.374
-8	-0.025	-9.3160*	-0.181	-1.9422***	0.003	0.477	0.017	1.7085***
-7	-0.007	-2.7651**	-0.188	-2.0202***	0.007	1.053	0.024	2.4465**
-6	-0.016	-6.1303*	-0.204	-2.1932***	0.012	1.7295***	0.036	3.6589**
-5	-0.013	-4.7831*	-0.217	-2.3282***	-0.001	-0.171	0.035	3.5392**
-4	-0.023	-8.8198*	-0.240	-2.5771**	0.007	1.059	0.042	4.2817**
-3	-0.022	-8.2959*	-0.262	-2.8112**	-0.030	-4.3170**	0.012	1.255
-2	-0.020	-7.4370*	-0.281	-3.0211**	0.012	1.7872***	0.025	2.5083**
-1	-0.024	-9.0070*	-0.305	-3.2753**	-0.006	-0.857	0.019	1.9075***
0	**-0.020**	**-7.5680***	**-0.325**	**-3.4888****	**0.009**	**1.287**	**0.028**	**2.8096****
1	-0.022	-8.3972*	-0.347	-3.7258**	0.003	0.363	0.030	3.0641**
2	-0.023	-8.6415*	-0.369	-3.9697**	0.013	1.8452***	0.043	4.3575**
3	-0.017	-6.5464*	-0.387	-4.1544**	-0.006	-0.861	0.037	3.7542**
4	-0.020	-7.4573*	-0.406	-4.3649**	-0.011	-1.610	0.026	2.6256**
5	-0.029	-11.0537*	-0.435	-4.6768*	0.030	4.3786**	0.056	5.6951*
6	-0.020	-7.4128*	-0.455	-4.8860*	-0.011	-1.599	0.045	4.5740*
7	-0.018	-6.9764*	-0.473	-5.0829*	-0.020	-2.9106**	0.025	2.5337**
8	-0.027	-10.2500*	-0.500	-5.3721*	0.001	0.079	0.025	2.5889**
9	-0.027	-10.1136*	-0.526	-5.6575*	-0.018	-2.6339**	0.007	0.743
10	-0.016	-6.1438*	-0.543	-5.8309*	-0.012	-1.7155***	-0.005	-0.460
11	-0.018	-6.8136*	-0.560	-6.0232*	-0.014	-2.0894***	-0.019	-1.9247***
12	-0.018	-6.6631*	-0.578	-6.2112*	0.013	1.8431***	-0.006	-0.633
13	-0.026	-9.7485*	-0.604	-6.4864*	-0.003	-0.383	-0.009	-0.902
14	-0.024	-9.2426*	-0.628	-6.7472*	-0.014	-2.0022***	-0.023	-2.3050***
15	-0.014	-5.1723*	-0.641	-6.8932*	0.023	3.2882**	0.000	0.000

Source: PROWESS
* = Significant at 1% level, ** = Significant at 5% level, *** = Significant at 10% level

On the other hand, the Average Abnormal Returns calculated with Market Model were positively insignificant at 0.9 per cent on the event day. The Average Abnormal Returns were positive for 16 days and negative for 14 days and zero for 15 days during the entire event period of 31 days. It showed the highest positive returns of 3 per cent on the 5th day of the post announcement period. Moreover, Cumulative Average Abnormal Returns were significant for 20 days (including the 0 day). But negative CAAR was visible in post announcement period at 10 per cent significant level. The Event Day gained positive returns at 2.8 per cent at 5 per cent significant level.

Chart - 5 demonstrates the curve of CAAR (CAPM and Market Model) on Dividend Announcement for Other Industries. In CAPM Model, the curve moved from -0.026 to -0.641. It is clear that when the pre event period is compared with the post event period, CAAR curve recorded downward trend after the official announcement. Under the Market Model, CAAR curve fluctuated between 0.006 and 0.000.

Chart - 5: CAAR On Dividend Announcement For Other Industries
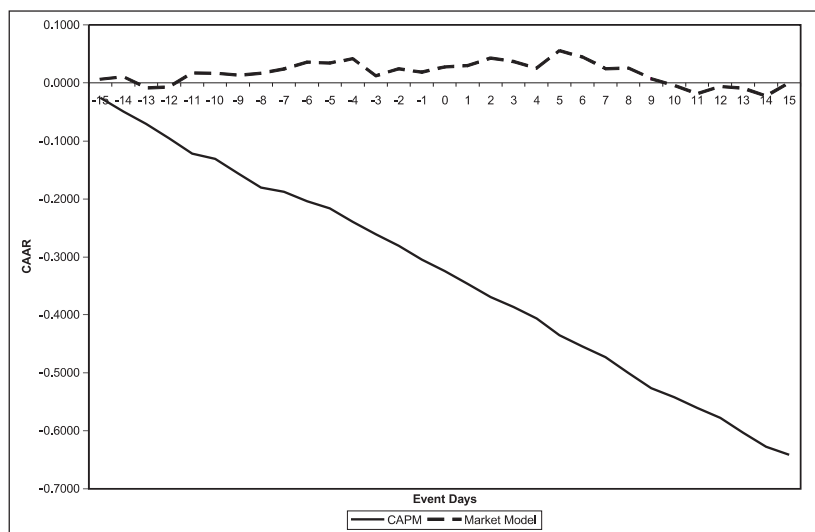
TESTING OF HYPOTHESIS

From the result of this study, it is clear that there is significant volatility of underlying share price due to the dividend announcement. Hence, the null hypothesis, **"H0: There is no significant influence on share prices of sample companies due to Dividend Announcement"** is rejected.

FINDINGS OF THE STUDY

The important findings are as follows:

• The market used the Dividend Announcement information for the valuation of securities.
• The average returns under CAPM and Market Model increased by 6.78 per cent and 2.08 per cent respectively after the official announcement of Dividend. Hence, investors of sample companies were benefited by means of excess returns.
• According to the present study, out of five industries, only three namely, Manufacturing, Service and Mining performed well during the study period.
• The significant reaction took place mostly on days 0,1and 2 (i.e) the market was eagerly waiting for the information and reacted immediately after the official announcement of both events.
• There has been reaction in the pre announcement period. It shows that the market captured the information before the official announcement.
• The post announcement reaction shows that the market is not able to capture the information immediately.
• There are differences in the behaviour of different industries around the Dividend Announcements. However, the behaviour of stock of other Industries is erratic and inconsistent under both models.

SUGGESTIONS

The following are important suggestions of the study gathered from the above discussions:

• The study suggests that companies not issuing the Dividend are advised to issue Dividend in order to give additional returns to their investors.
• The present study recommends that whenever companies come up with Dividend Announcement, the share holders should take immediate decision either to buy or to sell the shares.
• It is suggested that the company officials should study reasons behind the low performance of the industry.
• The study suggests that the regulatory authority must monitor the reliability or the truth in the information released by the companies.

- From the analysis of the share price movement, the period can be further reduced to intra- day activity at different times of buying and selling (trading).
- The analysis can be done on particular industries alone to know the impact of share price around Dividend Event.
- Trained professionals are scarce in the Indian market. Hence, there is need to promote training programmes that will produce professional analysts.

LIMITATIONS OF THE STUDY

All social science researches are affected by some limitations and this project is not an exception. It suffers from limitations as mentioned below:
- The study is based on secondary data and the inherent limitations of the secondary data may have affected the study.
- The results of the analysis are not permanent.
- This study is restricted only to the companies issuing dividend, listed under BSE – 500.
- This study is limited to one fiscal year (January to December 2007).
- This analysis can be used only for short term decision making.

SCOPE FOR FURTHER RESEARCH

There is scope for doing further research in the area.
- Other indices like NSE – represent the large and blue- chip stocks.
- Analyzing the efficiency of share price behaviour of the effects of other announcements like Buyback, and Stock splits etc., in Indian Capital market.
- The study can be extended to further researches in this field.

CONCLUSION

The present study proves that the Dividend Announcements (primarily) serve as a signalizing mechanism of management and statistically significant abnormal returns around the announcement date. The markets immediately signal an upward swing in the share price movement. But the positive signaling exists only for a day after the announcement after which, the extent of positivity of shares starts decreasing. However, the reaction after the announcement shows that the Market is not perfectly efficient. Thus, the study concludes that the dividend announcement makes a positive impact on the share prices of the companies that came for dividend announcement in the Indian stock exchanges and it gives the scope for intelligent investors to earn superior returns.

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