Effect of Dividend Declaration on Stock Price: A Study on Selected Companies Listed in NSE

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Abstract—*The investments in the best traded companies are most important choice of investors. Stock price reactions to the announcement of dividend of the NSE index companies. The reactions on daily, monthly, quartly and yearly basis are the expected outcomes in stock prices when announcements are floated on the trading floor. However, the magnitude of variation may vary with the type of news, company, industry, stock etc. The present study focuses on stock price reactions of listed 26 companies out of 50 companies on NSE index surrounding 1st April, 2011 to 31st march, 2012 for finding out significant change in the normal and abnormal stock returns before and after dividend announcement by 26 companies which are listed at NSE India. The major objective of this study is to study the effect of dividend declaration on stock price and to seek opportunity for short term investment return. Out of 26 listed companies, 57. 59% company's stock price has decreased after dividend announcement and it was positive before announcement. However, 57. 59% is not sufficient to bet strongly on the point that after dividend announcement.*

Keywords: *announcement effect, dividend, normal, abnormal stock return.*

1. INTRODUCTION

The word 'dividend' comes from the latin word '*dividendum*'. Dividends are payments made by a corporation to its shareholder members. It is the portion of corporate profits paid out to stockholders when a corporation earns a profit or surplus, that money can be put to two uses: it can either be re-invested in the business (called retained earnings), or it can be distributed to the shareholders. There are two ways to distribute cash to shareholders; share repurchase or dividends. Many corporations retain a portion of their earnings and pay the remaining portions as a dividend. Normally, two generic effects can be associated with cash dividend declaration – a wealth transfer effect and a signaling effect (Woolridge; 1983)[1]. In the absence of a perfect me-first principle, a financing decision like cash dividend payoff will certainly result in wealth transfer among various clusters of security holders. Long ago, Modigliani and Miller (1958, 1961)[2,3] had postulated that given information symmetry, perfect capital market and production-investment decision preset, the value of a firm reflected in stock price is totally independent of any sort of financing decision like cash dividend payoff.

The most awaited type of regular return for an investor who invests into equity stocks are dividends. Corporate announcements refer to information provided by company officials time to time in the stock markets. These announcements are generally communicated through annual financial reports of the companies and the same are floated in stock exchanges for the information of investors. However, before formal release of annual report if need be companies might provide relevant and material information through a press release. The investments in the best traded companies are most important choice of investors. Stock price reactions to the announcement of dividend of the NSE index companies. The reactions on daily, monthly, quarterly and yearly basis are the expected outcomes in stock prices when announcements are floated on the trading floor. However, the magnitude of variation may vary with the type of news, company, industry, stock etc. The present study focuses on stock price reactions of listed 26 companies out of 50 companies on NSE index surrounding 1st April, 2011 to 31st march, 2012 for finding out significant change in the normal and abnormal stock returns before and after dividend announcement by 26 companies which are listed at NSE India.

2. REVIEW OF LITERATURE

Numbers of studies have been conducted for measuring effect of dividend declaration on stock price in India and abroad. Brief ideas of previous studies given below:

Below and Johnson (1996) examined the differential share price reaction to change in dividend announcements with respect to market phase. The study found that market phase has a significant impact on abnormal returns around the announcement and it appears that more information is conveyed by dividend change announcements which run counter to market phase and these results are consistent with the information content of dividends hypothesis.

Abdullah and Abdul Rashid and Ibrahim (2002) analyzed stock market reactions to the change in the announcements of final dividend in an emerging market environment. A standard event study methodology is adopted to examine the price reactions of 120 listed companies surrounding sixty days of the announcement dates. The evidence nevertheless showed that increase in dividend leads to positive abnormal returns, supporting the Informational Content Hypothesis, Jensen K. Free Cash Flow Hypothesis and Agency Cost Theory.

Saleh (2007) examined investor's behavior prior to dividend announcements. The ordinary least squares estimation method (OLS) has been employed in most extent research. The results indicate that the daily abnormal returns depart considerably from normality and that Theil's estimation procedure produces higher standardized abnormal returns than that of the OLS estimation procedure. Furthermore, the results confirm that investors achieve positive abnormal returns in the pre-announcement period.

Zhu PengCheng (2008) examined the short term stock performance of a sample of Indian firms who acquired U. S. firms in the period 1999-2005. The event study showed that Indian stock market reacted positively to the acquisition announcement. Authors found out that the positive abnormal return lasted for only three days after which the returns became negative.

Easton and Sinclair (1989) had found statistically significant negative stock market return after cash dividend announcement. The negative relationship between stock market return and cash dividend announcement is attributed to income tax effect and the positive relationship between stock market return and cash dividend announcement is attributed to information effect of dividend.

Kalay and Loewenstein (1985) had found evidence that the daily stock returns surrounding announcement dates (three day) were statistically significant from the return predicted by market model and from the recent realized average daily return.

Eades, Hess and Kim (1985) had found evidence that the average daily return around cash dividend declaration date was abnormal, even though the researchers did not find any confirm evidence of sluggish market reaction.

Kim and Verrocchio (1991) had predicted statistically significant price volatility and trading volume during the cashdividend announcement period because upon the release of the public information, both traders and investors would revise their prior beliefs. The aforementioned researchers had also predicted that expected increases in trading volume and price volatility were function of precision needed on a positive tone and function of the volume of preannouncement public and private information on a negative tone.

Jais and Karim and Funoka and Abidin (2009) examined the effect of dividend announcements on stock market reaction in Kuala Lumpur Stock Exchange. Using an event study approach, the evidence showed that dividend increase announcements are greeted positively by investors, while there are some evidences suggesting that the investors react negatively prior to dividend decrease announcements.

Dividend announcements in particular have been studied by various eminent scholars yet they have not brought in a common conclusion in relation to the impact of dividend announcements on stock returns or stock volatility before and after declaration of dividends. Thus, the present study focuses on effect of dividend declaration on stock price and to seek opportunity for short term investment return.

3. OBJECTIVES OF THE STUDY

1. To find out significant change in the normal and abnormal stock returns before and after dividend announcement.
2. To Study the effect of dividend declaration on stock price and to seek opportunity for short term investment return.

4. METHODOLOGY

The study has focused on 26 companies randomly selected from the NSE's nifty- fifty stock for analyzing dividend announcement effects. The present study addresses its objectives by using event study methodology. Event study is concerned with how to measure the effects of takeovers, restructuring transactions and other events on the firm. An event study is concerned with the impact of a particular firm-specific corporate event on company security prices. This methodology to study the impact of event is extended for the present study. The relevant event here is dividend announcements. This event is taken as the base for conducting an event study to find out the impact of dividend announcements. The dividends declared by the sample companies in the financial year 2011-12 starting from 1st April, 2011 to 31st march, 2012 are taken as the main event to the study.

Event window refers to the total time period revolving around the event which is taken as the main time frame to study the impact of the respective event. The present study has taken an event window of 21 days in total including the event date, i. e. , the date on which dividends were announced for the respective sample stocks of the companies. So, the total event window was broken into two parts. First part was composed of stock prices before the dividend was announced and the second part was composed of stock prices after the dividend was announced. The event date, i. e. , the date when dividend was announced was termed as t=0, middle of the event window. First part of the event window was composed of 10 days stock prices (-10) and the second part of the event window was also composed of 10 days stock prices (+10).

Thus, the total event window was (-10) – t – (+10) where -10 represented pre announcement phase, t represented the event date and +10 represented post announcement phase.

The event study has been used to find out the impact of dividends announcements on the respective stock prices of the 26 selected companies. The present study here has focused on daily stock prices of the sample companies stocks. The daily stock prices of all the 26 companies included in the sample are taken from the NSE website (www. nseindia. com) for further processing. The returns are further calculated in detail with normal, abnormal returns, and mean CAR with the help of Microsoft- Excel.

4. 1 Defining Normal Returns

Normal returns are simply the estimates of the stock return in absence of the dividends. A mode of normal returns must be specified before abnormal returns can be calculated. Normal return can be estimated by several different methods like mean return, market model and capital asset pricing model.

The most widely used method in event studies is the single index market model, which estimates the normal return parameters by regressing the sample stock against the period. The Ordinary Least Squares (OLS) method is commonly used to estimate the parameters.

OLS market model: $R_{it}=\alpha+\beta_i R_{mt}+\mathcal{E}_{it}$

Where,

R_{it}= Expected normal rate of return on stock
R_{mt}= Return on the market index at time t
α and β= the ordinary Least squares estimators of the market model
$\mathcal{E}_{it}$= the error term of the model at time t

4.2 Defining Abnormal Returns

Abnormal return is a direct measure of the change in the stockholder wealth which is associated with the event. Abnormal returns are calculated as the difference between the actual return and the estimated normal return for each stock in the event window.

The estimated equation: $\mathcal{E}_{it}= R_{it}-\alpha-\beta R_{mt}$

Where,
$\mathcal{E}_{it}$= the abnormal return on stock i at time t
R_{it}= Estimated normal rate of return on stock i at time t
α and β= the ordinary Least squares estimates for the stock i. the estimates are calculated from a regression
R_{mt}= Return on the market index at time t

The abnormal returns calculated are further converted into cumulative abnormal returns for application of statistical

techniques with the help of constant mean return model. The cumulative abnormal returns are calculated for both before and after the event date. The mean CAR is calculated as:

$$\text{Mean CAR} = \frac{\sum_{1}^{n} CAR_i}{n}$$

Where, mean CAR= Mean of Cumulative Abnormal Returns, CAR_i= Cumulative Abnormal Returns, n= number of days.

4. 3 Statistical Techniques

In consonance to the objectives of the study and for testing the hypothesis t-test has been applied. T-test has been applied to test the impact of dividend announcement on abnormal stock returns of the sample companies both in pre announcement and post announcement of dividend. The total event window of 21 days stood 10 days prior to the announcement and 10 days after the announcement of dividends excluding the event date. The t-values are calculated with the help of Microsoft Excel.

4. 4 Research Hypothesis

H_0: There is no significance difference between pre and post dividend announcement on stock price of 26 sample companies.
H_1: There is significance difference between pre and post dividend announcement on stock price of 26 sample companies.

5.   RESULT AND DISCUSSION

The empirical results for the study have been interpreted with the help of mainly 4 tools i. e. Normal return, Abnormal return, t-test, and mean CAR, Mean CAR in two period's i. e. before and after dividend announcement has been compared with the other sample companies to find out that which company has maximum mean abnormal returns.

Table 1: The Normal and Abnormal Return of the Sample Companies

Sr. No	Sample Company	Normal Return	Abnormal Return	Eit
1	Acc	-4. 20745	1. 01138	1. 005674
2	Axis bank	-10. 4057	1. 457993	1. 207474
3	Bajaj auto	-5. 60012	1. 206071	1. 098213
4	BHEL	-7. 75833	1. 747664	1. 321992
5	Coal India	-3. 36251	1. 932847	1. 390269
6	DLF	-9. 82725	3. 636404	1. 906936
7	GAIL	-2. 21226	2. 539348	1. 593533
8	HUL	1. 726646	4. 714664	2. 171328
9	IDFC	-10. 8916	2. 426918	1. 557857
10	Infosys	-6. 79345	2. 588341	1. 608832

11	ITC	-2. 62362	1. 110582	1. 053842
12	Kotak bank	-7. 98855	1. 617386	1. 271765
13	L&T	-7. 91884	2. 2702224	1. 506726
14	M&M	-5. 955116	1. 501061	1. 225178
15	Maruti	-4. 18262	3. 334956	1. 826186
16	NTPC	4. 17847	1. 636648	1. 279315
17	ONGC	-2. 12732	3. 004106	1. 733236
18	Powergrid	-3. 64486	1. 575312	1. 255114
19	Ranbaxy	-1. 90755	4. 174445	2. 043146
20	Reliance	-9. 65249	1. 405689	1. 185618
21	SAIL	-9. 7454	3. 968544	1. 99212
22	SBI	-8. 35708	2. 627511	1. 62096
23	Sesagoa	-8. 3444	3. 19578	1. 787674
24	Sterlite	-11. 3583	1. 759311	1. 32639
25	Tatamotor	-10. 907	34. 8708	5. 90515
26	Wipro	6. 839014	1. 845754	1. 358585

(Source: Author own calculation)

From the table no:1 analysis of the normal and abnormal return of 26 stocks, we can find that in most of the companies' abnormal return in more than that of normal return, which means that there is heavy volatility and good opportunities for earning return during dividend announcement period. The abnormal return of the Tata Motor company is 34. 8708 is highest, followed by HUL at 4. 714664 and RANBAXY at 4. 174445 respectively. Normal return of the WIPRO company is 6. 839014 is highest, followed by NTPC at 4. 17847 and HUL at 1. 726646 respectively.

Table 2: The Mean CAR Values for the Sample Companies Before and After Declaration of Dividends

Sr. No	Sample Company	Mean CAR (Before)	Mean CAR (After)	Effect
1	Acc	4. 820761	-0. 64974	Decrease
2	Axis bank	5. 331528	0. 661906	Decrease
3	Bajaj auto	3. 679638	3. 176746	Decrease
4	BHEL	-6. 9168	-0. 40583	Increase
5	Coal India	4. 050822	-2. 59037	Decrease
6	DLF	2. 992958	-9. 92285	Decrease
7	GAIL	-3. 32632	4. 469799	Increase
8	HUL	15. 67559	1. 103231	Decrease
9	IDFC	2. 515244	-7. 19683	Decrease
10	Infosys	11. 47551	3. 794098	Decrease
11	ITC	3. 201905	2. 200105	Decrease
12	Kotak bank	4. 73193	-4. 93575	Decrease
13	L &T	-6. 28875	-1. 14865	Increase
14	M&M	2. 336515	0. 70027	Decrease
15	Maruti	-4. 435	-0. 66619	Increase
16	NTPC	6. 116775	6. 321335	Increase
17	ONGC	-2. 88102	-1. 45061	Increase
18	Powergrid	5. 503686	2. 193784	Decrease
19	Ranbaxy	2. 25392	4. 862325	Increase
20	Reliance	-7. 622745	-4. 14114	Increase
21	SAIL	12. 97405	-9. 81013	Decrease
22	SBI	-12. 3627	2. 789194	Increase
23	Sesagoa	3. 335712	4. 384575	Increase
24	Sterlite	11. 50294	-8. 27251	Decrease

25	Tatamotor	-0. 11319	-1. 28503	Decrease
26	Wipro	3. 0355	3. 587177	Increase

(Source: Author own calculation)

From the table no: 2 can be interpreted by the sample of 26 companies. The maximum CAR was observed for HUL (15. 67559) in the pre-announcement, and the maximum CAR was observed for NTPC (6. 321335) in the post announcement period. HUL and SAIL these two companies have shown better performance as compared to the other sample companies before the announcement of dividends. NTPC and RANBAXY these two companies have shown better performance as compared to the other sample companies after the announcement of dividends. Negative indicates that the stockholders of these companies were not satisfied with the abnormal returns after the declaration of dividends. Out of 26 listed companies, 57. 69% company's stock price has decreased after dividend announcement and it was positive before announcement. However, 57. 69% is not sufficient to bet strongly on the point that after dividend announcement. Out of 26 listed companies, 42. 31% company's stock price has increased after the dividend announcement.

Table 3: T-test of 26 Sample Companies

Sr. No	Sample Company	T-Value	Result
1	Acc	0. 000461	significance difference
2	Axis bank	0. 704734	No significance difference
3	Bajaj auto	5. 32188	No significance difference
4	BHEL	0. 0001586	significance difference
5	Coal India	0. 631014	No significance difference
6	DLF	0. 007048	significance difference
7	GAIL	0. 06644	No significance difference
8	HUL	0. 002730	significance difference
9	IDFC	0. 020755	significance difference
10	Infosys	0. 000113	significance difference
11	ITC	0. 196376	No significance difference
12	Kotak bank	0. 088284	No significance difference
13	L&T	0. 000269	significance difference
14	M&M	0. 38098	No significance difference
15	Maruti	0. 00031	significance difference
16	NTPC	0. 000311	significance difference
17	ONGC	0. 000301	significance difference
18	Powergrid	4. 66607	No significance difference
19	Ranbaxy	0. 026637	significance difference
20	Reliance	1. 1684	No significance difference
21	SAIL	0. 021035	significance difference
22	SBI	0. 0006438	significance difference

23	Sesagoa	0. 008627	significance difference
24	Sterlite	0. 837060	No significance difference
25	Tatamotor	4. 02792	No significance difference
26	Wipro	9. 7723	No significance difference

The significance measure at 5% level
(Source: Author own calculation)

The results of the paired t-test have shown that there are no significant differences between AXIS bank, Bajaj auto, Coal India, GAIL, ITC, Kotak bank, M&M, Power grid, Reliance, Sterlite, Tata motor, and Wipro before and after announcement of dividend and remaining companies like ACC, BHEL, DLF, HUL,IDFC, Infosys, L&T, Maruti, NTPC, ONGC, Ranbaxy, SAIL, SBI, and Sesagoa Describes there is significance differences between before and after announcement of dividend.

6.   LIMITATION OF THE STUDY

1.   The assumption of event study poses a serious issue because it assumes that there is no other announcement during dividend announcement period. However, to get all the news and announcement data was not feasible.
2.   If the company given bonus and interim dividend it also affects the stock price.
3.   Time constraint was also an issue because of which we could not study further more stocks for event study.

7.   CONCLUSION AND SCOPE FOR FURTHER RESEARCH

The present study followed the same lines to find out the impact on individual companies when their management announced dividends. It may be interpreted from the results that we cannot generalize that there is impact of dividend announcements on the stock returns of the sample companies which got changes in stock returns during dividend announcement phase may be out of chance factor. The core reason for the same could be that all companies in general declare almost a constant dividend every year on the face value of the share. So, the dividend values are in general already known to the shareholders. Thus, stock returns because of this did not get a drastic changeover at the stock exchanges. But the amount of profit of the company and retained earnings after declaring the dividend do affect the stock prices. However it is notable that insiders, brokers and the exchange employees are the speculators of the market and as these informed speculators play their role in the market for short-term gain that causes dividend information ineffective. As a result announcement of dividend generates no significant impact on the movement of stock prices. 53. 85% companies describes that there is significant impact on price before and after declaration of dividend. Further to examine the impact, industry-wise study may be carried out for the selected event

and econometric models and multiple regression models may be used to measure the statistical significance of the abnormal returns.

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