

# Reaction of Stock Price to Dividend Announcement and Market Efficiency in India

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## Abstract

*The announcement of dividend can be seen in two perspectives: if the dividend that is announced is up to expectations of shareholders, the market price of the shares will be positively affected. Whereas, if the dividend that is announced is not up to expectations of the equity investors, the market price of the shares will be negatively affected. Market efficiency is defined as the amount of time it takes for the stock market to react to announced public information. Finally, when a market is strong-form efficient, investors are unable to earn above normal returns by relying on both public and private information. This research is an attempt to find out the relationship between dividend announcement and the market efficiency.*

**Keywords:** Dividend, Market Efficiency, Return

## I. Introduction

Investment means commitment of funds or money to gain a return. However, this commitment of capital also has a price in terms of blocking of money and that too with a risk of losing it. The concept is applied while investing in common stock in a more precise manner. Stock means purchasing a share in the company's business which entitles the investors to share profits generated by the company. Stocks are more volatile and risky than debt securities. Before investing into common stock, an investor should keep three factors in mind i.e., nature of business, quality of management and price to be paid. These three factors will help together to decide the proportion and time of investment. In addition to these factors there are so many points to be considered before an investor finally takes a decision to invest in a particular security. These factors can be knowledge of share market, trading at stock exchanges, risk and return analysis, dividend expectations, news announcements especially dividend announcements etc. 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 paid to the shareholders as a dividend. Many corporations retain a portion of their earnings and pay the remainder as a dividend. The variation in the stock prices would be more if dividend policy is frequently changed. It happens due to the frequent reactions of investors in lieu of announcements at stock exchanges by the companies

Dividend is an amount, which is provided by the company after receiving its annual profit. This is an amount, which is equally divided among company's shareholder. You will get the dividend only if the shares are in your name on the dividend payout date. If the purchaser had got transferred the shares in his/her name than you will not get the dividend. Dividend announcements are one of the most highly studied and meaningful events for investors to research. They can be used as a direct signal of strength regarding a company's liquidity in today's market. A dividend can be thought of as the cost of equity capital to equity shareholders.

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Market efficiency depends on the ability of traders to devote time and resources to gathering and disseminating information. Markets that are more efficient attract more investors, which translate into increased market liquidity (Osei, 1998). Investors care about market efficiency because stock price movements affect their wealth. More generally, stock market inefficiency may affect consumption and investment spending and therefore influence the overall performance of the economy.

## **2. Objectives of the Study**

The dividend announcement has an impact on the market price of the shares. Generally, the market will react positively, if the dividend is in line with the expectations of equity investors. At the same time, if the dividend announcement is not meeting the equity investors' expectation level, the market reaction will show a bearish trend for that particular scrip.

The specific objectives of the study are:

- (i) To test the market efficiency with the announcement of dividend by a company.
- (ii) To measure the excess or abnormal return that the shareholders expect at the time of dividend announcements.

## **3. Review of Literature**

Muhammad Aamir and Syed Zullfiqar Ali Shah (2011) studies dividend announcement and the abnormal stock returns for the event firm and its rivals. The study found that there were some firms whose abnormal return were negative on the dividend announcement date but became positive immediately after the dividend announcement date. There were some other companies, whose abnormal returns were positive on the dividend announcement date and some days before and after the announcement date. There are instances where dividend announcement day return was negative but it was positive before and after the dividend announcement date. Overall results indicate that impact of dividend on dividend announcement date and few days after were positive. These results confirm the theoretical background regarding the impact of dividend on the stock prices

Olatundun Janet Adelegan (2010) assessed the speed with which share prices adjust to the information contained in dividend announcements in the Nigerian stock market and to investigate market reactions to announced changes in dividend policies by Nigerian companies and determine whether there is an overreaction or a drift. The author found that it has been found that the study reveals that the mean excess returns are generally negative for all the dividend omission subsamples both before and after the date of the announcement. They are also negative for the dividend paying subsamples before the day of the announcement, but positive after the announcement date. This could be because stock returns are generally low in Nigeria. Earnings and dividend announcements are found to be normal concurrent events in Nigeria as the two are always announced together, whereas in developed stock markets such announcements are made separately. Price reactions to dividend announcements using daily stock prices around the announcement dates are consistent with the findings of Oludoyi (1999) on price reactions to earnings announcements around the AGM dates using weekly data.

The article "The Impact of Increased Dividend Announcements on Stock Price: A Test of Market Efficiency" written by Laabs, Douglas S. And Bacon, Frank W tested market efficiency theory by analyzing the impact of a sample of 15 increased dividend announcements on the firm's stock price. Specifically, how fast does the market price of the firms' stock react to the sample of increased dividend announcements examined? This research tests whether the announcement of increased dividends directly incorporates the strong form, semi-strong form, or weak form of the efficient market hypothesis based on the timing of the announcements and the modifications in stock price

that occur. At last the author found that Using standard risk adjusted event study methodology with the market model, the study analyzed 8,130 recent observations on the fifteen publicly traded firms and the SandP 500 market index. Appropriate statistical tests for significance were conducted. Results show a significant positive market reaction prior to the firms' announcement of increased dividends. Findings also support efficient market theory at the semi-strong form level as documented by Fama (1970). Similar to many other event study's findings in the finance literature (stock options, repurchase, dividend announcements etc.), apparently trading activity on the basis of this information surfaced prior to it being made public.

In another study on "Reaction of Stock Prices to Dividend Announcements and Market Efficiency in Pakistan" by Muhammad Akbar and Humayun Habib Baig tested the semi-strong form of market efficiency by investigating the reaction of stock prices to dividend announcements. At last he found that semi-strong form of market efficiency suggests that stock prices reflect all material past and public information. Therefore, an investment strategy based on public information should not result in above average returns. To investigate the semi-strong form of market efficiency in the KSE, we investigated stock prices (returns) around dividend announcements including cash, stock, and simultaneous cash and stock dividend announcements.

A study by Kenneth M. EADES, Patrick J. HESS, and E. Han KIM investigated stock market rationality by examining the timeliness and unbiased nature of the market's response to dividend announcements. At last they found that a lag in the market's response to dividend announcements. A closer examination reveals that this lag is due to the confounding of ex-dividend effects with announcement effects. When we control for the ex-dividend effect, there is no evidence of a lag in the market's response to dividend announcements.

Dr Amalendu Bhunia explored that any strategies found in dividend announcement could be used to outperform the market and to find correct path of future trends based on the announcement effect. At last the author found that It has been found that Dividend announcement data can provide a profitable guide to investment timing or improve a portfolio's rate of return .information is reflected in stock prices so rapidly that published data tells the investor virtually nothing about the future in stock price.

Neetu Mehndiratta and Shuchi Gupta examined the stock market reaction to dividend information. At last the author found that despite of investors do not gain significant value in the period preceding as well as on the dividend announcement day, yet they can gain value in the post announcement period. Investors do shift their security positions at the time of dividend announcement, which indicate that in post announcement period there is a possibility of information content in dividend announcement in NSE.

#### **4. Methodology**

All the data are collected from secondary sources.. As per the methodology a common event with different dates has been applied. The common event is the firm's announcement of share buyback. The event period is created taking the public announcement day as benchmark or day "0" 15 days prior to the public announcement date and 15 days after the date are taken into consideration. So the event period is of 31 days starts with -15<sup>th</sup> day and end with +15<sup>th</sup> days. These 31 days are referred as event period.

For the purpose of study, the stock prices of 30 companies are taken. The list of companies is displayed in table I below.

Table 1: List of Sample Companies

Sl. No	Name of the Company	Sl. No	Name of the Company
1	Bajaj Auto	16	Jindal Steel
2	Bharti Airtel	17	L and T
3	BHEL	18	Mahindra and Mahindra
4	CIPLA	19	Maruti Suzuki
5	Coal India	20	NTPC
6	DLF	21	ONGC
7	HDFC	22	Reliance Industries
8	HDFC Bank	23	SBI
9	Hero Motor Corporation	24	Sterlite Industries
10	HUL	25	Sun Pharmaceuticals
11	HINDALCO	26	TATA Motors
12	ICICI Bank	27	TATA Power
13	Infosys	28	TATA Steel
14	ITC	29	TATA Coutsultancy
15	Jaiprakash Associates	30	WIPRO

### 5. Analysis and Interpretation

For testing market efficiency, in this study Cumulative Average Annual Return (CAAR) of all the thirty companies are computed. For computation of CAAR, we need to first compute the Average Abnormal Return (AAR).

$$\text{Average Abnormal Return (AAR)} = \frac{\text{Abnormal Return of all 30 Companies for a particular day}}{30}$$

$$\text{Abnormal Return} = \text{Expected Return} = \alpha + \beta.R_m$$

Where,  $\alpha$  is slope of the tangent,  $\beta$  is systematic risk and  $R_m$  is market return

$$\beta = \frac{\text{Cov}(S,M)}{\delta^2 M}$$

$$y = \alpha + \beta x$$

Table 2: Alpha and Beta Estimates of Sample Companies

Sl. No	Name of the Company	$\alpha$	$\beta$
1	Bajaj Auto	-0.0038	0.2278
2	Bharti Airtel	-0.0037	0.5343
3	BHEL	0.0008	1.4460
4	CIPLA	-0.0022	0.3976
5	Coal India	-0.0038	0.2278
6	DLF	-0.0015	1.4364
7	HDFC	0.0005	0.9568
8	HDFC Bank	0.0014	0.8627
9	Hero Motor Corporation	0.0016	1.5795
10	HUL	0.0012	0.1239
11	HINDALCO	-0.0006	1.1741

12	ICICI Bank	0.0003	1.4710
13	Infosys	-0.0087	1.9942
14	ITC	0.0012	0.8121
15	Jaiprakash Associates	0.0028	1.3095
16	Jindal Steel	0.0013	2.0663
17	L and T	0.0014	1.6210
18	Mahindra and Mahindra	0.0003	0.9549
19	Maruti Suzuki	-0.0010	0.6614
20	NTPC	-0.0029	0.5720
21	ONGC	-0.0019	1.0406
22	Reliance Industries	-0.0006	0.4872
23	SBI	-0.0005	1.0015
24	Sterlite Industries	0.0003	1.5191
25	Sun Pharmaceuticals	0.0038	0.6425
26	TATA Motors	-0.0069	0.8803
27	TATA Power	-0.0015	1.1761
28	TATA Steel	-0.0030	1.2644
29	TATA Consultancy	0.0052	1.7660
30	WIPRO	-0.0058	0.9947

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 shareholders. It increases wealth maximisation of share holders. In this research try to find out an average abnormal return on different 30 companies share holders which are listed in BSE.

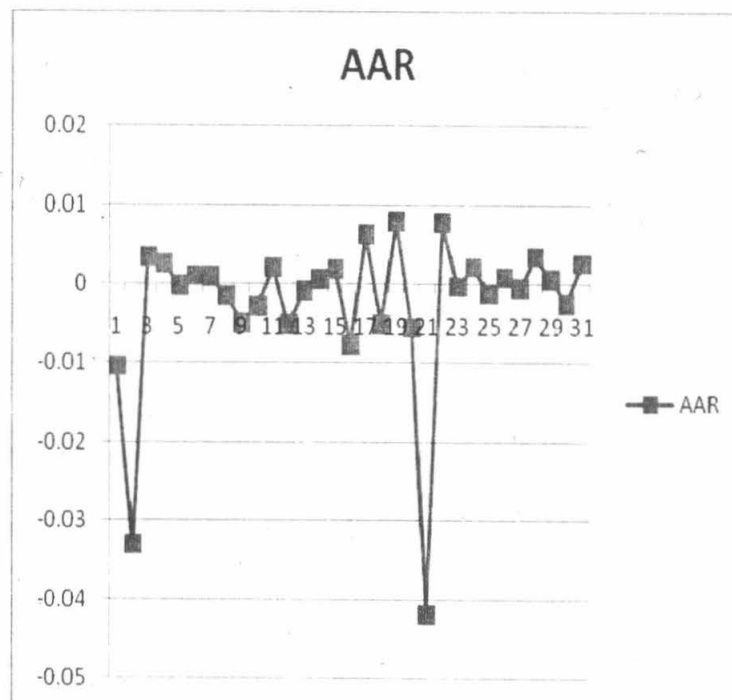
After completion of  $\alpha$  and  $\beta$ , the next step is to find out the average abnormal return of all the 30 companies for each day, i.e., fifteen days before and after the dividend is declared. The formula for computation of average abnormal return is already discussed above. The following table shows the average abnormal returns of thirty companies for thirty days.

**Table 3: Average Abnormal Returns and Cumulative Average Abnormal Returns of Sample Companies**

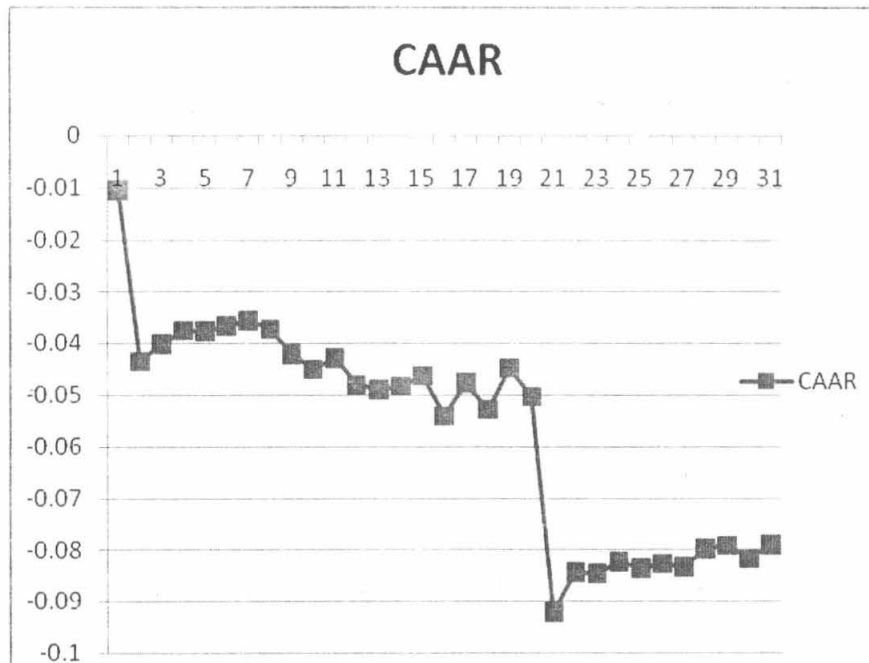
Days	AAR	CAAR
-15	-0.010420371	-0.010420371
-14	-0.033091553	-0.043511924
-13	0.003421874	-0.04009005
-12	0.002609228	-0.037480822
-11	-0.00017631	-0.037657133
-10	0.001068603	-0.03658853
-9	0.000923452	-0.035665078
-8	-0.00153042	-0.037195498
-7	-0.004989213	-0.042184711
-6	-0.002811601	-0.044996312
-5	0.002060992	-0.04293532
-4	-0.005101818	-0.048037138

-3	-0.000870925	-0.048908063
-2	0.000634831	-0.048273232
-1	0.001946401	-0.046326832
0	-0.007745485	-0.054072316
1	0.006350583	-0.047721733
2	-0.005124773	-0.052846506
3	0.008045078	-0.044801428
4	-0.005506849	-0.050308278
5	-0.041907173	-0.092215451
6	0.00788276	-0.084332691
7	-0.000263928	-0.084596619
8	0.002187829	-0.08240879
9	-0.001228889	-0.083637678
10	0.000882818	-0.08275486
11	-0.000547541	-0.083302401
12	0.003472981	-0.07982942
13	0.000610277	-0.079219143
14	-0.002536852	-0.081755995
15	0.002697862	-0.079058133

Graph I: Graphical Representation of Average Abnormal Returns of Sample Companies



**Graph 2: Graphical Representation of Cumulative Average Abnormal Returns of Sample Companies**



## 6. Findings and Conclusion

The diagram presented above indicates that AAR (Abnormal Average Return) does not vary significantly. It is very clear here that the AAR curve follows almost a linear pattern with very negligible deviation. This means, the dividend declaration does not have much impact on average abnormal return.

The CAAR (Cumulative Abnormal Average Return) presented here the 15 days before the declaration of dividend the CAAR was quite lower and it got much impact day on day basis after declaration of dividend.

In preannouncement period the 1<sup>st</sup> and 2<sup>nd</sup> day of that month was low and 3<sup>rd</sup> day to 15<sup>th</sup> day was having little bit of fluctuation. In post announcement period on the 19<sup>th</sup> day it was the largest positive abnormal return and on 21<sup>st</sup> day it was largest negative AAR and remaining day's abnormal returns follows the same trends.

CAAR (Cumulative average abnormal returns) have decreasing in the pre announcement and post announcement period.

After declaration of dividend the market return shows negative and it clear that the market is inefficient and does not affect on share prices.

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 shareholders. It increases wealth maximisation of share holders. In this research try to find out an average abnormal return on different 30 companies share holders which are listed in BSE. All the data are collected from the secondary sources like BSE websites. This study indicates



that investors do not benefit from dividend announcement over the 31 period of days. After declaration of dividend the market shows inefficient and that does not affect the stock holders.

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