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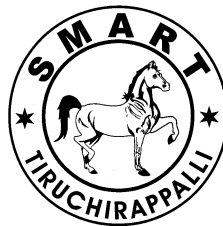
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# SIGNALING EFFECT OF DIVIDEND ANNOUNCEMENTS IN INDIA

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## *Abstract*

*A cash dividend is cash payment to a corporation's shareholders, distributed from current earnings or accumulated profits. An announcement of cash dividends would instantly seem to have some impact on a stock's returns. To move a stock's price, however, the amount of the dividend or the nature of the dividend must be a surprise. The dividend can be of almost any amount and shareholders have no guarantee of dividend payments. Decreasing or eliminating a dividend is tantamount to an announcement that the firm is financially distressed. Directors weigh dividend policies very carefully, rarely lowering dividends unless they have to, and not raising dividends unless they are confident that they can be sustained. Dividends are considered important because investors view them as a signal about a company's future profitability. When a company announces a larger than expected dividend or unexpectedly announces a dividend cut, the market reaction is dramatic and sudden. This paper investigates and tests the following: 1) Signaling effect of dividend announcements 2) The market reaction to dividend announcements. Standard event-study procedures were used to calculate the abnormal returns. The analysis uses data of 21 firms in the BSE 500 index, which announced dividends during the period 2002–2004. An examination of share price behaviour around dividend announcements proves the signaling effect of these announcements. Consistent with previous studies, the results show that dividend initiations have significantly positive effects on stock returns. Dividend announcements recorded high cumulative abnormal returns of 2.1 percent within one day of the event. Studies indicate that stock prices typically change to reflect dividend policy changes within the trading day of the announcement. With market reaction this quick, it is difficult, if not impossible, for investors to make extra money after the announcement has been made. The only way for an individual to take advantage of a positive or negative surprise dividend announcement is to be positioned prior to the announcement.*

## 1. INTRODUCTION

Dividend decision has remained one of the tough challenges for financial economists. The issue of dividend policy is important for several reasons. First, researchers have found that a firm uses dividends as a mechanism for financial signaling to the outsiders regarding the stability and growth prospects of the firm. Secondly, dividends play an important role in a firm's capital structure. Yet another set of studies have established the relationship between firm dividend and investment decisions. According to the "residual dividend" theory, a firm will pay dividends only if it does not have profitable investment opportunities, i.e., positive net present value projects. Further, a

firm's stock price is affected, among other things, by the dividend pattern. Firms usually do not like to reduce or eliminate dividend payments. They make announcements of dividend initiation or increases only when they are confident of keeping up with their good performance. Moreover, because the success of a financial manager is tied to the maximization of shareholder wealth (and firm value), one must understand the dynamics of dividend policy. Indeed, the market value of a firm is dependent upon its stock price. One of the most popular models for stock valuation (the dividends discounting model or DDM) relies upon the assumption that the firm will pay dividends until eternity.

Dividends are considered important because investors view them as a signal about a company's future profitability. As insiders, managers know more about the company than we do. Therefore, if the managers increase the dividend payout, it is perceived as a signal that the company is expected to do well in the future. Suppose the company does not do well the following year, the managers may be forced to cut dividends. The investors will then bring down the company's stock price because they do not like dividend cuts. The corporate managers know this. They do not, therefore, increase dividends unless they expect the company to do well in the future. The Dividend Irrelevance Proposition of Miller and Modigliani (1961) provides a benchmark for research on dividend policy. The rich theoretical development in modelling dividends, as signals of private managerial/entrepreneurial information, gave rise to empirical research seeking to determine the fit of the signaling theory to the real world data. Typically, the empirical literature attempted to test the signaling paradigm counterpoised against an alternative rationale for dividends advanced by Jensen based on the Principal-Agent framework. According to this framework, shareholders use dividends as a device to reduce over investment by managers. The managers control the firm and therefore they might invest cash in projects with negative net present values but which increase the personal utility of the managers in some way. A dividend reduces this free cash flow and thus reduces the scope for over investment. Economists have for a long time tried to identify the role of dividends, but have not reached a consensus.

This paper investigates market reaction to dividend announcements and its signaling effect. The analysis uses data on firms listed in the BSE 500 index in the sample period of 2002 to 2004.

## **2. REVIEW OF LITERATURE :**

Economists have for a long time tried to identify the role of dividends but have not

reached a consensus. The Dividend Irrelevance Proposition of Miller and Modigliani (1961) provide a benchmark for research on dividend policy. They demonstrate that in a perfect market, dividend policy does not affect a firm's value and is therefore irrelevant. Since then, several theories have been developed. Bhattacharya (1979), Asquith and Mullins (1986), Ofer and Thakor (1987), John and Williams (1985), and Miller and Rock (1985) propose a signaling hypothesis. They argue that dividends represent favorable signals about the future prospects of firms.

A positive stock price reaction to dividend initiations is widely accepted in the empirical literature in finance. Asquith and Mullins (1983) investigated 168 firms that initiated dividends during the period 1963 to 1980 and reported 3.7 percent cumulative excess returns over a two day announcement period. The results also show that the positive excess returns are positively related to the size of the initial payment. Healy and Palepu (1988) confirm the significantly positive impact of dividend initiations on stock returns and also find that firms that initiate dividends have significant increases in their earnings for at least the year prior to, the year of, and the year following dividend initiation. Mickaely, Thaler and Womack (1995) reviewed both short-run and long-run effects of dividend initiations on stock returns and reported 3.4 percent excess returns over a three-day horizon and a much larger excess returns in post-dividend initiation years.

This study examines the signaling effect of dividend announcements on share price behavior and the market reaction to it, with reference to Indian firms.

## **3. NEED AND SIGNIFICANCE OF THE STUDY**

Dividends are considered important because investors view them as a signal about a company's future profitability. In the real world, therefore, the level of dividends is relevant for

the value of the company and the wealth of shareholders. It follows that this “value of the company” has an impact on share prices, and the funds that can be attracted for further investment. One straightforward way of measuring the net benefit of dividends is by observing market reactions to dividend announcements, through signaling effects. The present study, based on signaling theory, is done to observe the signaling effect of dividend announcements on share price and its impact on the wealth of the shareholders. It is believed that the findings of the study will be of immense use to academia and managers because the success of a financial manager is tied to the maximization of shareholder wealth (and firm value). As the market value of a firm is dependent on stock price, managers must understand the dynamics of dividend policy to make competitive investments.

#### 4. HYPOTHESIS

Our objectives are two fold:

- (1) First, to compute cumulative abnormal returns around the announcement period and
- (2) Second, to analyze the signaling effect of dividend announcements and market reaction to it. The second objective leads to the hypothesis:

*Ho : There is no positive signaling in share price behaviour around dividends.*

To test the hypothesis, market adjusted cumulative abnormal returns (the BSE 500 index was used as the market reference) were calculated for each stock for a 5-day period, starting on the announcement date and then the average cumulative abnormal returns were calculated to assess the market reaction.

#### 5. SAMPLE

The sample consists of dividend announcements obtained from the on line database of Bombay Stock Exchange between

January 2002 and December 2004. A total of 55 dividend announcements were reported, of which 21 were taken in the final sample. The study is limited only to 21 firms because several firms were replaced in the BSE 500 index between 2002 – 2004. While detailed stock information was unavailable for a few, for others the announcement date was unavailable. Such firms were thus eliminated to avoid bias (See Table- 1). In addition, the data is free of day-of-the-week skew as the announcements were fairly evenly spread across all five trading days.

Table-1 provides description of the sample. The sample includes Indian companies that declared dividends over the period of 2002 - 2004.

#### 6. METHODOLOGY

Event-study methodology is used in this study to examine the reaction of investors to positive and negative news (also called events). Standard event-study procedures, as used by Comment and Jarrell (1991) and Stephens and Weisbach (1998), were used to calculate the abnormal returns. The methodology was based on the assumption that capital markets are sufficiently efficient to evaluate the impact of new information (events) on expected future profits of the firms. It involves the following steps: (1) identification of the events of interest and definition of the event window (2) selection of the sample set of firms to be included in the analysis; (3) prediction of “normal” returns during the event window in the absence of the event; (4) estimation of the abnormal returns within the event window, where abnormal returns is defined as the difference between the actual and predicted returns; and (5) testing whether the abnormal returns is statistically different from zero.

##### 6.1 Short-Term Abnormal Returns

The first step in the analysis of the signaling effect of dividend announcement

requires computing the market adjusted Cumulative Abnormal Returns (CAR) for the sample of 21 firms over a five-day trading period starting on the announcement date. By examining this shorter interval, the analysis investigates the abnormal returns just after the announcement to examine the reaction of investors. (The announcement date was included since the publication date would be normally a trading date and investors have the opportunity to respond to such announcements on the same date.)

The abnormal returns in any given period are based on the market model residual, which is the difference between the stock's actual returns and the predicted returns based on the market returns for that period. Hence the market adjusted abnormal returns were calculated as :

$$AR_{ij} = RT_{ij} - RM \quad (1)$$

Where  $AR_{ij}$  is the abnormal returns for firm  $j$  on day  $i$ .

$RT_{ij}$  is the actual returns for firm  $j$  on day  $i$ . The total percentage returns to shareholders ( $RT_t$ ) on day  $t$  is given by the expression :

$$(RT_t) = [(P_t - P_{t-1}) + D_t] / P_{t-1}$$

$RM_i$  is the returns on the BSE 500 Index on day  $i$ .

The market adjusted abnormal returns are calculated as in equation (1) above. The five-day cumulative abnormal returns for each firm is calculated as:

5-Day  $CAR_{ij} = \sum AR_{ij}$ , for days  $i = 0, 1, 2, 3, 4$  where the announcement day is day 0.

Cumulative abnormal returns are then averaged over the five-day period starting on the announcement date to obtain the five-day cumulative average abnormal returns as:

$$5\text{-Day CAR} = (\sum CAR_j) / n$$

for all firms  $j = 1, 2, \dots, n$

The average cumulative abnormal returns are then compared for statistical significance.

## 7. RESULTS

Most event studies use the market model to estimate normal performance of a given stock. The main focus of this study is to assess the signaling effect of dividend announcements by computing Cumulative Abnormal Returns (CAR).

A t- test for the pre and post abnormal returns accepts the null hypothesis that there is no significant difference between the two returns. Cumulative Abnormal Returns in Table- 2 for firms that have made dividend announcement is consistent with the expectations that the market reacts positively to dividend declarations. The computed CAR of dividends confirms the existence of positive signaling of share price behaviour in the market. Fig- 1 plotted with five day pre-CAR and five day post - CAR proves the positive signaling effect of dividend announcements.

Cumulative Abnormal Returns surrounding payout announcements in different periods centered on the announcement day (announcement day = 0) were calculated. All the analyses use the strongest abnormal returns of the five day announcement period. Table- 3 presents Cumulative Abnormal Returns around announcement day.

Dividend initiations have the most significant abnormal returns in the first day window. The highest return was 2.08% and the lowest being 1.07% at the five day window.

Table- 3 indicates that the overall sample had an average five-day cumulative abnormal returns of 1.45% (dividends). This finding varies from earlier works that concentrates on the shorter time period of two days after announcement. For example, Ikenberry, Lakonishok, and Vermaelen (1995) find 2-day abnormal returns of approximately

3%. A possible explanation is that the market reaction in the Indian market is complete within a day or two.

Cumulative average abnormal returns around dividend announcements were plotted. In Fig- 2, the left part of the figure represents a time period that is five days prior to announcements and the right part represents the time period of five days after announcements. The divider represents the announcement day ie. day 0. It is evident that abnormal returns upon dividend announcement increased on the day immediately following the announcement day and thereafter decreased.

## 8. CONCLUSION

The study indicates that a firm uses dividends as a mechanism for financial signaling to the outsiders regarding the stability and growth prospects of the firm. Dividend announcements recorded high cumulative abnormal returns of 2.1 percent within one day of the event. This result of positive and statistically significant abnormal returns around the announcement date existed only for the day after the announcements, after which the extent of positivity of shares started decreasing. A possible explanation is that the market reaction in the Indian market to events or announcements such as dividends was complete within a day or two. Studies indicate that stock prices typically change to reflect dividend policy changes within the trading day of the announcement. With market reaction this quick, it is difficult, if not impossible, for investors to make extra money after the announcement has been made. The only way for an individual to take advantage of a positive or negative surprise dividend announcement is to be positioned prior to the announcement.

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**Table- 1**  
**Sample Description**

	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>Total</b>
<b>Dividend announcements samples</b> Number of announcements	12	7	2	21

**Table- 2**  
**DIVD-5 day pre-CAR Vs 5 day post-CAR**

	Pre *	Post *
1	-0.004	-0.015
2	0.010	-0.015
3	0.035	-0.063
4	0.006	-0.009
5	0.010	-0.002
6	0.027	0.075
7	0.030	0.064
8	0.003	0.005
9	0.022	0.020
10	0.022	0.005
11	-0.009	0.029
12	-0.001	0.018
13	-0.033	0.022
14	0.087	-0.055
15	-0.007	0.109
16	0.001	0.017
17	0.001	-0.009
18	-0.007	-0.002
19	-0.010	0.012
20	0.010	0.004
21	-0.003	0.011
	———	———
MEAN	0.010	0.012

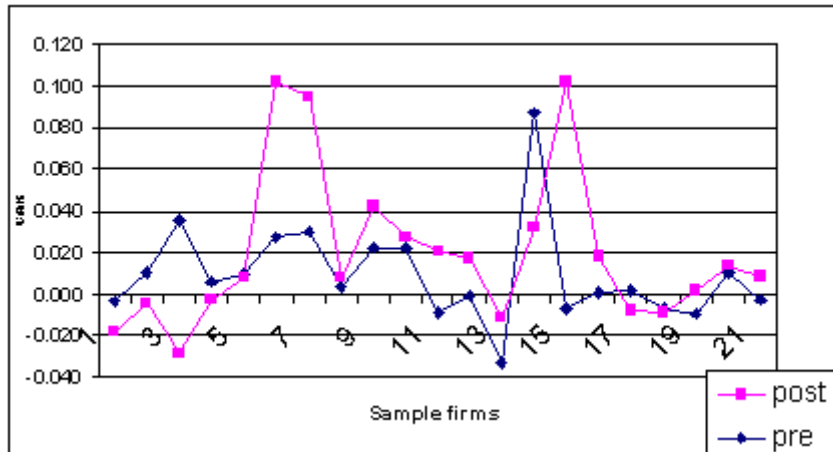
\*Significant at 0.05 level

**Table- 3**  
**Cumulative Abnormal Returns Around the Dividend Announcements**

Days	-1 to +1	-2 to +2	-3 to +3	-4 to +4	-5 to +5
Mean CAR	2.08*	1.82*	1.22*	1.07*	1.07*
t stat	(3.87)	(5.40)	(2.71)	(2.72)	(3.12)*

\* Significant at the two tailed 0.05 level

**Figure 1**  
**Share price behaviour around dividend announcements**



**Figure 2**  
**CAR Around Announcement Date**

