

Share Price Behavior and Dividend Announcements by listed Companies- An Evidence from Indian Stock Market

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Abstract

Dividend announcements symbolize one of the most substantial corporate verdicts intended at improving shareholder value. The price fluctuation surrounding pay-out announcements have long been a concentration of financial exploration, drawing attention from researcher, academicians, and professional, seeking to recognize the associations of corporate pay-out with share prices. These inspections predominantly aim to examine the semi-strong variant of the Efficient Market Hypothesis (EMH). The present research probes share price volatility surrounding dividend declarations for a sample of 82 firms listed in India, over the time span between April 2021 to March 2025. The present inspection employs the Ordinary Least Squares (OLS) regression model to calculate the alpha and beta coefficients, which are successively used to compute the Average Abnormal Return (AAR), Cumulative Abnormal Return (CAR), and Cumulative Average Abnormal Return (CAAR). The S&P BSE 500 indices is used as the market benchmark for figuring anomalous returns. An estimation window of 120 days (ranging between from -150 to -30 days) and an event window of 61 days (ranging between from -30 to +30 days) are applied for the event study analysis. The empirical finding specify that the AAR on the declaration day is 0.87%, whereas the CAAR for the event window is 2.52%. These outcomes propose an apparent positive valuation effect attributed to pay-out declaration thereby supporting the belief that such declaration subsidize to shareholder wealth formation. Therefore, the research concludes that pay-out declarations exert a favourable impression on the stock prices of Indian listed companies.

Keywords - Event study methodology, S&P BSE 500, Average Abnormal Return (AAR), Cumulative Average Abnormal Return (CAAR), OLS regression Model.

Introduction

Dividend policy of the firms is still an academic debate for all the financial economists till today. There are few aspects of financial policy where the gap is still existing between academicians and practitioners. From Modigliani & Miller (1961) to Fama & Finch (2001) exhibits the conflicting view on the dividend policy and the value of the firms. Some academicians argue that dividend policy does not put impact on the value of the firm and few are in favor of dividend policy and its impact on the value of the firms. The present paper is an effort to find out the market reaction to the dividend declaration by the firms. The dividend announcement made by the companies is considered as public information which is fall under the semi- strong foam of the efficient market hypothesis. The present study examines the semi-strong form of the market hypothesis. There are a number of studies have been conducted on the dividend announcement and stock price volatility in India. According to (Nickolaos Travlos et al. 2001) (Gupta et al. 2012) (Dinh Bao Ngoc and Nguyen Chi Cuong 2015) there is positive impact of the dividend announcement on the share prices and according to (Sanjay S. Joshi, 2017) (N Bhana, 2015) (Abdullahil Mamun et al. 2013) (Hashemijoo et al. 2012) provide the empirical study which shows the negative impact of the dividend announcement on the share prices. The present paper is investigating the current dilemma and examines the share price fluctuation before and after the dividend announcements for a sample of 82 companies made during the period from April 2021 to March 2025. This event study methodology uses the S & P BSE 500 as a proxy to anticipate the excess return for the sample companies listed in India.

Literature Review

There are many studies are available on the dividend announcement in order to check out its impact on the stock

behavior and performance of the companies. Following is the brief review of the literature regarding the dividend announcements:

Thirumalvalavan P. and sunitha K. (2006) examine the share price behavior around buyback and dividend announcements in India. The study investigates the signaling effect of buyback and dividend both and check the abnormal returns around the buyback and dividend announcements. The study reported the CAR is 3.2 percent within two days for buyback and 2.1 percent within 1 day for dividend. As a conclusion study favor that buyback effect the market more favorably than dividend announcements.

Patel and Prajapati (2014) documented the impact of the dividend announcement on the stock prices- empirical evidence. The study uses the sample size of 20 companies during the period January. 2008 to December 2011. The finding and result of the study reported that there is significant difference before and after the announcements for the companies like ITC, SBI, Wipro, Tata Motors, Reliance and HUL. To sum up AAR is not found significant whereas CAAR is found significant for 57 times positive move and 49 times negative moves and 64 times constant or near to zero.

Pani U. (2008) investigates the dividend policy and stock price behavior in Indian corporate sector. The study uses the sample size of 500 listed firms from six different industries listed in BSE during the period 1996 to 2006. The fixed effect model shows the possible links between the share price behavior and dividend policy. Therefore, it has been concluded that in Indian corporate sectors dividend policy have impact on the share prices.

Mallikarjunappa T. and Manjunatha T. (2009) examine the semi- strong form of the efficient market hypothesis. The study focuses on to explore the relationship between dividend announcement and the share prices of the firms. The study observes the movement of share price 29 days before the announcement and

30 days after the announcement. The study concludes that Average abnormal return (AAR) is not approximate to zero and cumulative abnormal return (CAAR) is show the wide fluctuation during the event.

Debasish Maitra and Kushankur Dey (2012) test the statistically significant fluctuation of the share prices due to dividend announcements in India. The present study includes the event window of 31 days (15 days' prior the event day and 15 days after the event day). It has been reported that the AAR is negative for 6 days and positive for 9 days during the pre-announcement and post announcement period AAR is positive for 10 days and negative for 5 days. However, AAR is very small (0.2%) on the declaration day. The value of AAR and CAAR is tested under the market model and CAPM Model. It is being observed that under the market model AAR is provide the negative excess return and under the CAPM Model it provides the positive average excess return.

Hashemijoo et al. (2012) examine the relationship between dividend declaration and stock price movement in the Malaysia stock market for the sample of 84 companies listed in Malaysia for a period from 2005 to 2010. The present study uses the multiple regressions to find out the impact of dividend payout and dividend yield on the stock price movement of the sample firm. The finding and result of the study reported that both dividend payout and dividend yield does not put positive impact on the share prices of the sample firms.

Dr. Ravi Shankar Kummata and Dr. Rose Mary Dara (2016) studied the share price movement of GAIL Company due to the dividend announcement. The study uses the event window of 31 days (15 days before the announcement and 15 days after the announcement) and one day of event to calculate the expected return and abnormal return. The data has been tested by using the paired sample t- test and study reported the negative relationship between the GAIL Company stock price and dividend announcement where the actual return for the GAIL Company is in negative (-3.64%) on the declaration day.

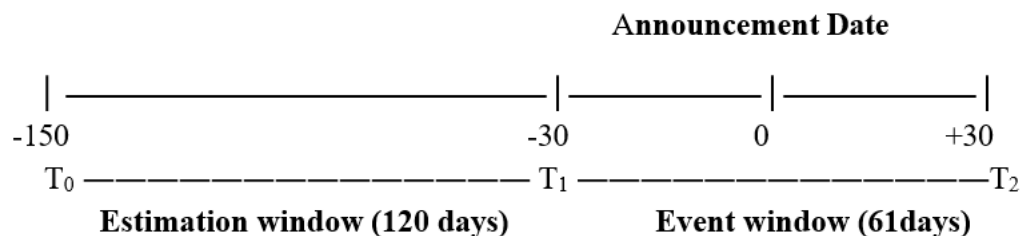
Eyup Kadioglu et al. (2015) studied the market reaction to dividend announcement by analyzing the excess return around the dividend declaration date of the sample firms listed in the Borsa Istanbul. The study uses the panel regression method to calculate the excess return of 118 companies during the period from 2003 to 2015. The finding and result of the fact represent the negative relationship between the announcement and stock prices and it has been observed that shareholders started to sell their share after the dividend announcement to avoid the taxes.

The study of the various literatures provides the mix theory of dividend announcement and its impact on the share prices. According to literature review, dividend announcement puts both positive and negative impact on the share prices. The present paper is an effort to investigate the share price fluctuation before and after the dividend announcements for a sample of 82 companies made during the period from April 2021 to March 2025.

Theoretical Framework

The Present paper is an effort to examine the share price fluctuation before and after the dividend announcements for a sample of 82 companies made during the period from April 2021 to March 2025. The study uses the BSE 500 as a proxy to calculate the expected return and abnormal return for the sample firms. To examine the share price fluctuation study uses the ordinary least square regression (OLS) to calculate the alpha and beta and use these alpha beta values to calculate the average abnormal return (AAR), Cumulative abnormal return (CAR) and Cumulative average abnormal return (CAAR). The study uses the estimation window of 120 days (from -150 to -30 days) to calculate the alpha and beta value and event window of 61 days (-30 days, 0 day and +30 days) have been used to calculate the abnormal returns i.e. average abnormal return (AAR), cumulative abnormal return (CAR) and cumulative average abnormal return (CAAR). In the following figure from T₀ to point T₁ show the estimation window of 120 days and from T₁ to point T₂ show the event window of 61 days. In the following figure 0 denoting the announcement day of the event and from -30 to 0 (30 days) is before the announcement day of event and from 0 to +30 (30 days) is after the announcement day of event.

Figure 1 – Timeline for Estimation window and Event window:



For analysis purpose even study methodology is used and closing price of all the sample companies is also used for estimation window and event window.

Research Methodology

The present paper is use the Market model to examine the share price fluctuation before and after the announcements in India. The study uses BSE 500 index as a proxy to analyze the effect of the dividend announcement on share price. The study uses the sample size of 82 firms which have announced the dividend during the period of April 2021 to March 2025. The date of announcement of dividend is consider as event day and days surrounding the event day (30 days before the event day and 30 days after the event day) is considered as event window which is compromise of 61 days. The difference between actual return and the expected return is denoted as abnormal return and average Abnormal return (AAR) is the total amount of abnormal return divided by the number of year in which it is earned. Cumulative Abnormal return is the sum of the all abnormal return and the Cumulative Average Abnormal return is the sum of the abnormal return. Cumulative Abnormal returns are usually calculated over small windows i.e. only days. This is because evidence has shown the compounding daily abnormal return can create bias in the results.

Objective of the study

The main objective of the study is to find out the stock price fluctuation before and after the dividend announcement of the listed companies in India.

Tools used for the Analysis

The daily closing price of the security is used for returns: Expected Return $E(R)$

$$E(R) = \alpha + \beta (R_m)$$

$E(R)$ = Expected Return on the day t using the market model. α = Alpha value (Intercept)

β = beta value (slope)

R_m = market return on the day t using market model

The S&P BSE 500 index return were taken as proxy for the market return of 120 days (-150 to -30) during the estimation window and the respective shares returns are regressed against to calculate the Expected return. Ordinary Least Square (OLS) model has been used to calculate the expected return.

Abnormal stock Return (ASR)

Abnormal stock Return is calculated by using following equation $ASR = AR - E(R)$

Where

ASR = Abnormal stock return of i on any given day t . AR = Actual return on security i at time t .

$E(R)$ = Expected Return

Average Abnormal Returns (AAR)

The average abnormal return is calculated by using the following formula

$$AAR = \frac{\sum AR}{N}$$

Where

Where

AAR = Average Abnormal Return on day t

ASR = Abnormal stock return on security i at time t . N = Number of days in which it is earned.

Cumulative Abnormal Return (CAR)

The CAR is calculated as $CAR = \sum AR$

Where

CAR = Cumulative Abnormal Return AR = Abnormal Return

Cumulative Average Abnormal Return (CAAR)

The CAAR is calculated as: $CAAR = \sum AAR$ Where

$CAAR$ = Cumulative Average Abnormal Return

AAR = Average Abnormal return

Paired sample t-test

The present study uses the paired sample t-test to understand the statistically significant impact of the buyback and dividend announcements on the share prices.

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{s_1^2}{N_1} + \frac{s_2^2}{N_2}}}$$

\bar{X}_1 = Mean of Sample 1 \bar{X}_2 = Mean of Sample 2

S_1 = Standard Deviation of sample 1 S_2 = Standard Deviation of Sample 2 N_1 = Sample size of Sample 1

N₂ = Sample size of sample 2

Result And Discussion

In order to examine the share price fluctuation around the dividend announcement, study intended to calculate the expected return by using the Ordinary least square regression on the log return based on the estimation window of 120 days (-150 to -30). As a result of the regression following regression coefficient i.e. alpha and beta has been found:

Table 1: Showing the alpha and beta value for the sample firms-

S. No.	Company Name	Alpha Value (α)	Beta Value (β)	S. No.	Company Name	Alpha Value (α)	Beta Value (β)
1	Finolex Indu	0.0010	0.6135	42	Firstsource	0.0234	0.0489
2	Gillette India	-0.0216	0.4237	43	Page indus	0.0456	0.0178
3	Global Space	-0.0315	0.5424	44	Rites	0.8420	0.0375
4	Gujrat Gas	-0.0026	0.8748	45	ITC	-0.0012	0.7120
5	HDFC Ltd.	0.0035	0.7326	46	Jindal poly	0.0015	0.3630
6	HUL	-0.0054	0.3040	47	Jindal steel	-0.0003	1.4440
7	NCL Industry	-0.0311	1.5627	48	Jubilant Food	0.0007	0.9398
8	Rajesh Export	-0.0611	0.2096	49	Giri Industry	0.0016	2.3412
9	Jai corporation	-0.0303	1.2108	50	Accelya	0.0345	0.0349
10	Reliance Industry	-0.0504	0.9106	51	Saregamma	0.0945	0.8930
11	Tata Steel	0.0013	1.3014	52	Taneja Ltd	0.0564	0.0942
12	Jai parkashan	0.0453	0.9345	53	ACGL	0.0854	0.0451
13	Pearl Engineering	0.0453	0.0337	54	Thangamayil	0.9534	0.0385
14	Cyber media	0.0451	0.0245	55	DCM Sriram	-0.0567	0.0169
15	Lakshmi Energy	0.0452	0.0247	56	CCL Products	-0.0945	0.0267
16	Hind syntex	0.0231	0.0317	57	Pfizer	-0.0024	0.4721

17	Mastek ltd.	-0.0342	0.0422	58	PNB Housing Finance	-0.0016	1.0621
18	JBF indus	-0.7011	0.7811	59	RBL Bank	-0.0018	1.0513
19	Crompton ltd.	0.0000	0.0230	60	Relaxo Footwear	0.0008	0.5044
20	Nicco parks	-0.0019	0.0019	61	Rico Auto	-0.0024	1.3728
21	Tide water oil	-0.0012	0.0312	62	Sangam India	-0.0056	0.4885
22	Shivalik	-0.3106	0.3003	63	Satia India	0.0032	1.3097
23	Aggarwal India	0.0129	1.8312	64	SMS Pharma	-0.0012	1.2555
24	Ambuja cement	0.00306	0.9515	65	Tata Chemical	0.0128	0.8414
25	Anant Raj	-0.2015	2.0023	66	Tata Power	0.0413	1.5473
26	Ashok Leyland	0.0017	1.1834	67	Valson ind	-0.0110	0.7479
27	Asian Paints	0.0206	0.7406	68	Glenmark	-0.0308	0.7653
28	Astral Ltd.	0.0113	0.3902	69	Nector Life	-0.0018	1.7297
29	Atul Auto	-0.0211	0.9806	70	KEI Ind.	0.0234	0.0631
30	Bajaj Finsev	0.0029	1.4503	71	Embassy	0.0456	0.0692
31	Berger paints	-0.0411	0.8504	72	Vaibhav	0.0370	0.0629
32	Birla corporation	0.0023	1.1141	73	vedanta	0.0288	0.0527
33	Cipla	-0.0023	0.9537	74	Control point	0.0156	0.0583
34	Cybertech	-0.0121	1.0846	75	ISL	0.0457	0.9460
35	DIC India	-0.0211	0.7855	76	VIP Ind.	0.0391	0.08651
36	KPI Green	0.0412	0.0456	77	Linde India	0.0348	0.8221
37	DCW	0.0026	1.0954	78	Manglam org	-0.0456	0.4938

38	Coromandel	-0.0033	0.0345	79	MCX India	0.0184	1.3645
39	Aurobindo	0.0305	0.9837	80	Nestle India	0.0496	0.3408
40	Alkem Lab	-0.0025	0.0364	81	Oil India	0.0982	0.9113
41	Safari India	0.0112	0.0367	82	ONGC	0.0628	0.5749

Further the study uses these regression coefficients i.e. alpha and beta to calculate the expected return and expected return to calculate the abnormal return of the sample firms for the event window of 61 days (-30 days, 0 day and +30 days). Thus the following table shows the value of AAR, CAR and CAAR for the sample firms based on event window of 61 days (-30 days, 0 day and +30 days):

Table 2: Showing the AAR, CAR and CAAR value for the sample firms-

Days	Average Abnormal Return (AAR)	Cumulative Abnormal Return (CAR)	Cumulative Average Abnormal Return (CAAR)	Days	Average Abnormal Return (AAR)	Cumulative Abnormal Return (CAR)	Cumulative Average Abnormal Return (CAAR)
-30	0.0119	0.0737	0.0205	0	0.0087	0.0112	0.0252
-29	0.0212	0.0318	-0.0027	1	0.0817	0.1223	0.0608
-28	-0.0742	-0.1045	0.0415	2	0.0319	0.0235	0.0527
-27	0.0632	0.1022	0.0788	3	-0.0236	0.0102	0.0733
-26	0.0236	0.1610	-0.0124	4	0.0158	0.0400	0.0631
-25	0.0239	0.1238	0.0012	5	-0.0362	0.1127	0.0709
-24	0.3428	0.0313	0.0056	6	-0.0168	0.2299	0.0530
-23	0.0256	0.0624	0.0036	7	0.0234	-0.2244	0.0236
-22	0.0346	-0.0283	0.0143	8	-0.0319	0.2245	0.0345
-21	-0.0247	-0.1274	0.0044	9	0.0150	-0.2421	0.0566

-20	-0.3215	-0.1277	-0.0012	10	-0.0137	0.5325	0.0347
-19	-0.0235	0.1820	0.0621	11	0.0127	-0.0923	0.0857
-18	0.0358	-0.0169	0.0543	12	-0.0151	0.1232	0.0441
-17	0.0134	0.2369	0.0684	13	0.0280	-0.1283	0.0344
-16	-0.0076	-0.1286	0.0035	14	-0.0145	0.0123	0.0336
-15	0.0081	-0.1289	0.0096	15	0.0026	0.1344	0.0378
-14	-0.0345	-0.0200	0.0026	16	0.0176	0.0237	0.0214
-13	-0.0134	0.1031	0.0103	17	-0.0602	-0.2176	0.0351
-12	0.1094	-0.1727	-0.0198	18	0.0210	-0.0456	0.0346
-11	-0.0432	-0.0296	0.0127	19	0.0114	0.1491	0.0573
-10	0.0037	0.3325	0.0586	20	0.0215	0.1366	0.1363
-9	0.0021	0.2017	-0.0749	21	0.0034	0.0256	0.1546
-8	0.0215	0.0727	0.0781	22	0.0137	-0.2899	0.1639
-7	-0.0013	0.0623	0.0698	23	0.0132	0.2480	0.1262
-6	0.0344	0.1194	0.0721	24	0.0247	0.1833	0.1109
-5	-0.0525	0.0338	0.0226	25	0.0228	0.3346	0.2373
-4	0.0037	0.1283	-0.0373	26	0.0341	0.1274	0.3353
-3	-0.0025	0.0949	-0.0344	27	0.0308	0.0378	0.3671
-2	0.0057	0.2953	0.0396	28	0.0322	0.1353	0.4185
-1	0.0913	0.0304	0.0176	29	-0.0431	0.1209	0.4312
0	0.0087	0.0112	0.0252	30	0.0442	0.0261	0.4239

The above table showing the Average abnormal return (AAR), Cumulative abnormal return (CAR) and Cumulative average abnormal return (CAAR) for the 82 sample firms in order to check the stock price fluctuation before and after the declaration date based on the event window of 61 days (-30 days, 0 day, +30 days). The Movement of AAR in the pre phase of announcement is positive for 19 days while negative for 11 days and average abnormal return (AAR) is 0.87 percentages on the announcement day. During the post announcement AAR is positive for 21 days while negative for 09 days. The movement of the CAR in the pre phase of announcement is positive for 20 days while negative for 10 days and on the announcement day CAR is 1.12 percent. During the post phase of announcement CAR is positive for 23 days and negative for 7 days only. Like-wise the movement of CAAR in the pre phase of announcement is positive for 23 days while negative only 07 two days and on the announcement day it is 2.52 percent. During the post phase of announcements, it is showing positive for all 28 days and negative for 2 days. However, Average abnormal return is small on the

declaration date but cumulative abnormal return and cumulative average abnormal return provide enough to benefits the shareholders of the sample firms.

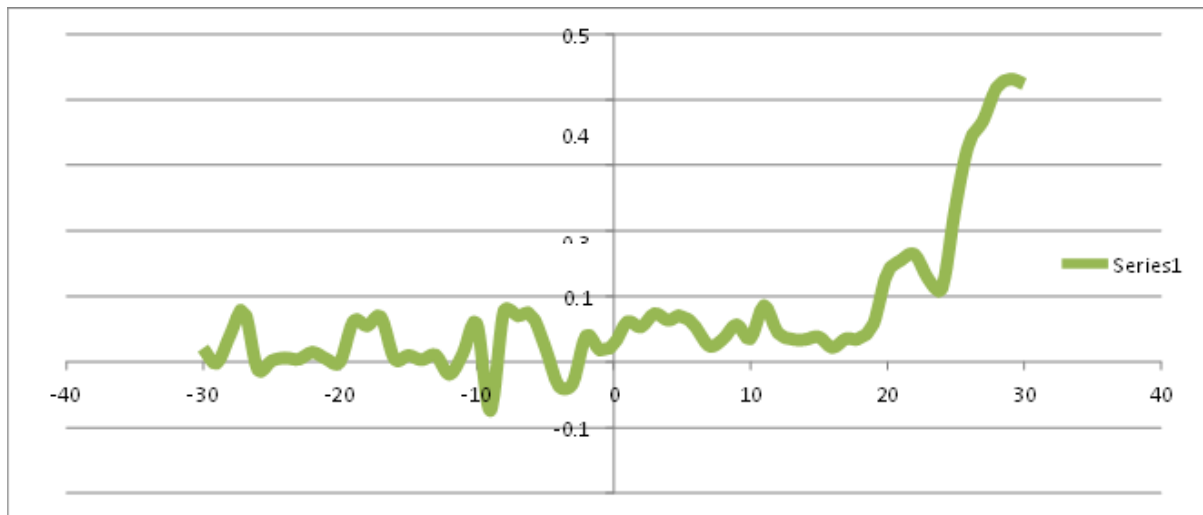


Figure 2: Showing the movement of CAAR during the 61 days (-30 days, 0day, +30 days) of the event window:

The above figure depicts the fluctuation of the CAAR of the sample firms for the payout announcements during the event window of 61 days (-30 days, 0day, + 30 days). The above figure is apparent that the CAAR is presenting volatile return before the announcement day and after the announcement day it is showing steady good return till the + 30 day.

Hypothesis Testing and Empirical Result

The present study includes the null hypothesis in order to check the share price fluctuation due to dividend announcement.

H01: There is no significant impact of dividend announcements on the share prices of the listed firms. H02: The cumulative abnormal return is equal to zero.

H0: CAAR = 0 H1: CAAR \neq 0

Further in order to check the null hypothesis t-test has been applied at a significance level of 5% to accept or reject the null hypothesis.

Table 3: Showing the t-test at a significance level of 5% to accept or reject the null hypothesis for the different event windows i.e. 61 days (-30 days, 0 day and +30 days), 41 days (-20 days, 0 day and +20 days), 21 days (-10 days, 0 day and +10 days) and 11 days (-5 days, 0 day and +5 days)-

Date	CAAR	t- test	Prob.
(-30...+30)	0.4239	-2.7420	0.0457
(-20...+20)	0.2018	-3.0023	0.0029
(-10...+10)	0.0107	-1.3216	0.0886
(-05...+05)	0.0039	0.0754	0.1972

Source- Authors' Computation (at 5% of significance level)

Cumulative average abnormal returns (CAAR) that showing the returns to the shareholders of the sample firms and reflects the overall impact of the dividend announcement on the stock prices for the 61 days of event window. The table stated above showing the t-statistics value by using the CAAR value for different event

window (-30 to +30), (-20 to +20), (-10 to +10) and (-5 to +5). The overall CAAR for the whole 61 days' event window is showing 42.39% and on the announcement day CAAR is 2.52 percentages. During the pre-phase of announcement CAAR is showing positive for 23 days and negative for 7 days and post phase of announcement CAAR is showing positive for all 28 days and negative for 2 days of event window. For the 41 days of event window CAAR is positive for 15 days and negative for 5 days in the pre-phase of announcement and it shows positive for all 20 days of 41 days' event window. The t-test showing the significant result for both 61 days and 41 days of event window at a significance level of 5%. Further t-test shows the positive but insignificant CAAR result for the smaller event window (-10 to +10) and (-5 to +5). As the CAARs are showing the significant result for the 61 days and 41 days of event window, the null hypothesis is rejected.

Conclusion and Policy Implication

The present study examines the stock price fluctuation before and after the dividend announcement of the listed firms in India for the sample firm of 82 companies during the period April 2021 to march 2025. The study uses the BSE 500 index as a proxy for the market model to calculate the expected return and abnormal returns. The average abnormal returns are tested for statistical significant for the event window of 61 days, 41 days, 21 days and 11 days. The study reported that the dividend announcement news of the sample firms is clearly show the slow increase in the share prices in the beginning of announcement and there is gradually increase in the share prices after the announcements. Thus the study rejected the null hypothesis and it's found the statistical significant for the sample companies. The study indicates the positive market reaction to the dividend announcements of the sample firms. The result and findings of the study have the strong policy implication for all the stakeholders. The investors who are looking for the abnormal gains around the dividend announcement can be benefited from the announcements. For the companies who proceeding for dividend can use dividend mechanism in case of undervaluation of the shares.

References

1. Thirumalvalavan, P., & Sunitha, K. (2006). Share price behavior around buyback and dividend announcement in India. *Emerging Markets Finance and Trade*, 34(3), 55- 73.
2. Patel, N., & Prajapati, K. (2014). Impact of Dividend announcement on the stock price of Indian companies: An Empirical Evidence. *ELK Asia Pacific Journal of Finance and Risk Management*, Vol. 5, issue 2.
3. Pani, U. (2008). Dividend policy and stock price Behavior in Indian Corporate Sector: A panel data approach. *Journal of Business*, Vol. 34, 411-433.
4. Malikarjunappa, T., & Manjunatha, T. (2009). Stock Price Reaction to Dividend Announcements. *Journal of Management and Public policy*, Vol. 1, No. 1.
5. Asquith, Paul, Mullins, W. (1983). The impact of initiating dividend payments on shareholder's wealth. *Journal of business* Vol.56, 77-96.
6. Maitra, D., & Dey, K. (2012). Dividend Announcement and Market Response in Indian Stock Market: An Event- Study Analysis. *Global Business Review*, SAGE Publications, 13 (2), 269- 283.
7. Hashemijoo (2012). The Impact of Dividend Policy on Share Price Volatility in the Malaysian stock market, *Journal of Management and Public policy*, Vol. 64, 231-733.
8. Kummata R.S.and Dara R.M. (2016) Effect of dividend announcement On Share Price of GAIL Company, *Emerging Markets Finance and Trade*, Vol.86, 127-66.
9. Liljebloom, E. (1989). The information impact of announcements of stock dividends and stock splits. *Journal of business finance and accounting*. Vol. 16, 681-698.
10. Akbar, M., & Baig, H. (2010). Reaction of stock price to dividend announcements and market efficiency in Pakistan. *The Lahore journal of Economics*, Vol. 15(1), 103-125.

11. Ramcharran, H. (2001). An empirical model of dividend policy in emerging equity markets. *Emerging markets quarterly*, Vol. 5, 39-49.
12. Neket, K., & Nippel, P. (2006). The impact of a firm's payout policy on stock prices and shareholder wealth in an inefficient market. *Econstor journal of economics*, Vol.619.
13. Gurgul, H., & Majdosz, P. (2005). Effect of dividend and repurchase announcements on the Polish Stock Market. *AI. Mickiewicza* 30, 30-059.
14. Allen, F., & Rachim, R. (1996) Dividend Policy and stock price volatility: Australian Evidence. *Applied Financial economics*, Vol. 6(2), 175-188.