International Journal of Management, IT & Engineering
Vol. 9 Issue 1, January 2019,
ISSN: 2249-0558 Impact Factor: 7.119
Journal Homepage: http://www.ijmra.us, Email: editorijmie@gmail.com
Double-Blind Peer Reviewed Refereed Open Access International Journal - Included in the International Serial Directories Indexed & Listed at: Ulrich's Periodicals Directory ©, U.S.A., Open J-Gage as well as in Cabell's Directories of Publishing Opportunities, U.S.A

SIGNALLING EFFECT: EVIDENCE FROM DIVIDEND ANNOUNCEMENTS IN NATIONAL STOCK EXCHANGE

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Abstract

The objective of this study is to understand the market reaction to dividend announcements on equity price and volume traded of companies listed in different sectoral indices of National Stock Exchange from April 01, 2009 to March 31, 2016. A total of 998 dividend announcements by companies listed in selected indices during the financial year 2009 to 2015 were considered for this study. Event Study has been adapted in this research work to test the significant impact of dividend announcement on equity price and volume. The study has adapted 30 days as event window includes 15 trading days prior to announcements and 15 days trading from the day of announcements. Estimation period of 100 days was considered to find out the existence of abnormal return during the event window. Paired sample 't' test was used to test the significant impact of dividend announcements on share price and volume traded. The study found that the announcements of dividend did not influence the equity price significantly, whereas, volume traded was influenced significantly for few companies. The current market price of a share already digested all the information and hence, no more excess return could be generated pertaining to announcements of dividend.

Keywords:

Abnormal Return;

Dividend Announcements;

Event Study;

National Stock Exchange;

Signaling Impact;

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1. Introduction

Information conveyed by the corporates to their shareholders and general public are known as corporate announcements. The announcements such as lockouts, launching of new products, accounting errors, declaration of dividend, rights issue, bonus issue, stock split, merger, acquisition, share buyback and changes in the board structure may convey the current and future prospects of the firms to the market. When investors perceive the corporate announcements as healthy information, it influences positively on its share price, whereas, information that is not perceived positively creates negative impact in the market. However, this announcement never reaches all the investors instantly, since no market is perfect where the information reaches all the investors at the same time. As suggested by the Efficient Market Hypothesis, in semi-strong form of the market, the investors, who access the information early, will monetise the information ahead of others. Unfortunately, not all information will influence the investors on its company's share price. There are a few events for which market may not react at all. Hence, a better understanding of the corporate announcements is required for the investors to decide on whether to buy or sell a particular stock. Considering the need and importance, the research is proposed to understand the signalling effect with reference to dividend announcements by companies listed in National Stock Exchange.

2. Research Questions

The investors' perception and their behaviour with respect to different Corporate Announcements is highly unpredictable when a company reveals its financial positions such as earning announcements, sales growth, dividend declaration, it influences the investors and creates an impact on its equity price either positively or negatively. Similarly, information containing accounting errors, fraudulent activities will reach the investors quickly and influence negatively in the market. There may be a higher level of impact on equity price when company announces its change of top level management like CEO, CFO, CMO and President. However, announcements such as changes in middle level management, product features may not have higher level of impact. It is observed that, announcements which have direct financial implications to the company will have higher market impacts. However depth of impact and significance by various types of Corporate Announcements are not adequately researched in

India. The present study is designed to find out the signaling effect on equity price and volume traded with reference to dividend announcements by companies listed in different sectoral indices of National Stock Exchange.

3. Objectives of the study

The research study was conducted to find out signalling effect with reference to dividend announcements by companies listed in different sectoral indices of National Stock Exchange during the year 2009 to 2015. The impact was measured with reference to significant changes in equity price and volume traded of companies.

4. Scope of the study

- The study has made complete enumeration of dividend declarations made by all companies grouped in 11 Sectoral Indices of NSE from April 01, 2009 to March 31, 2016.
- Indian Stock Exchanges recorded the lowest market value during 2008 due to country's economic slowdown. The Indian Government took a number of initiatives by fine-tuning its economic policy and monitory policy to ensure revival of the stock market. With these initiatives, Indian stock market started thriving steadily from 2009. Hence, the researcher considered period for this study from the financial year 2009 to 2015.
- Numerous corporate announcements are made in India every year. But only announcements on dividend declaration were taken up for analysis in this study, as it is directly linked with the investors' benefits.
- The research is carried out considering volatility in closing price of a share and its volume traded around dividend announcements. The data for this study were downloaded from the official websites of National Stock Exchange.

5. Research Methodology

As on June 24, 2014, National Stock Exchange had 12 sectoral indices and out of which 9 indices were selected for this study representing 120 companies. The selected indices of this study are CNX Auto, CNX Bank, CNX FMCG, CNX IT, CNX Realty, CNX Pharma, CNX Metal, CNX Media and CNX Energy. Three indices which are left out in this study, as the companies listed in those indices were already listed in other indices selected for this study. The companies listed in those selected indices made a total of 998 dividend announcements during the financial year 2009 to 2015. Event Study has been adapted in this research work to test the significant impact of dividend announcement (Event) on equity price and volume. The study has adapted 30 days as event window includes 15 trading days prior to announcements and 15 days trading from the day of announcements. Estimation period of 100 days was considered to find out the existence of abnormal return during the event window. Paired sample ‘t’ test was used to test the significant impact of dividend announcements on share price and volume traded by considering an event window of thirty days. The paired sample T test was executed between pre and post announcement periods (fifteen days each) and the significant level was tested. The number of dividend announcements with respect to different sectoral indices during the study period is indicated in table 1.

Table 1: Dividend Announcements in Sectoral Indices of NSE

No.	**Sector**	**No. of Interim Announcements**	**No. of Final Announcements**	**Total No. of Announcements**
1	Automobile	35	102	137
2	Banking	7	81	88
3	Energy	31	43	74
4	FMCG	65	76	141
5	IT	111	126	237
6	Media	27	42	69
7	Metal	45	97	142
8	Pharma	7	58	65
9	Realty	8	37	45
Total		**336**	**662**	**998**

6. Limitations of the study

- In an open market like India, many events may influence the company’s share price such as world events, news about earning announcements, employee layoff, merger, takeover, changes in management structure and accounting errors. The above said events may create an impact on equity price either in a positive or negative way. The study was made considering the impact of above said events is negligible during the study period.

- Estimation period and event window for this study were finalised after reviewing many literatures available in the public domain. The study has considered an estimation period of 100 days and event window of 30 days including 15 days as pre announcement and 15 days as post announcement for this analysis. The result of this study may vary with respect to different estimation periods and event windows.

7. Review of Literature

The present study has drawn inspiration from the methodology used by Fama, Fisher, Jensen & Roll in their study, 'The adjustment of stock prices to new information', (Fama et al., 1969)[6]. The study initiated a revolution in the way researches are done in Accounting, Economics, and Finance. The effect of stock split announcements was analysed using event study methodology considering event window of ± 30 days. Later, the event study underwent modifications suggested by (Ball & Brown 1968)[2], indicates that coefficient of estimates are biased, if event period is included while estimating the market model parameters. Because the external influences such as effects of the event and its related occurrences are not meant to zero. (Blume 1971) and (Gonedes 1973)[10] suggested to use monthly data for analysis instead of using several years. Subsequent studies carried out by (Scholes 1972)[15] estimated the market model adjusted returns prior to event announcements and estimated the Abnormal Returns during event window based on the stock returns.

(Mandal&Rao 2010)[12]conducted a study to test semi-strong form of Indian Stock Market considering dividend announcements as event to analyse. Samples of 40 dividend initiation and 44 dividend omissions by companies listed in BSE-500 were selected for this study. Event Study was adapted in this study considering event window of ± 10 days and the study found 1.4% positive Average Abnormal Return during dividend initiation and reduction of share price by 2% during dividend omission announcements. Also, the study concludes that the Indian Stock Market is efficient enough in its semi-strong form with respect to dividend omission and initiation announcements.

The dividend announcements and its impact on Indian Bourses were analysed using Event Study methodology considering event window of ± 4 days, (Saravanakumar&Mahadevan 2010)[14]. A sample of 50 companies listed in NSE Nifty during January 2009 to December 2009 and its dividend announcements were considered for this study. The study found positive reaction with respect to dividend announcements and the intensity of impact varies with respect to the magnitude of announcements. The study revealed that the investors shifted their securities during the announcement which conveys that the dividend announcements as an informational content pertaining to Indian Stock Market.

The behaviour of stock price with respect to dividend announcements made by 1188 companies listed in Bombay Stock Exchange was analysed using Event Study methodology considering ± 11 days as event window. The calculated AARs and CAARs were not statistically significant and concludes that the Indian Stock Market is efficient and further strengthen the argument in favour of semi-strong form of EMH, (Sharma 2011)[17].

(Zafar et al. 2012)[18]carried out a study on dividend policy and its impact on shareholders' wealth in selected Banking companies listed in National Stock Exchange. The study was carried out during 2006 to 2010 and used multiple regression technique and coefficient of determination as tools for analysis. The study concludes that dividend payouts have created a significant positive impact on shareholders' wealth in Banking companies listed in National Stock Exchange.

(Gupta et al. 2012)[11]conducted a research to test the stock price reaction with respect to dividend announcements of companies listed in Bombay Stock Exchange. A sample of 65 dividend announcements by 28 companies was considered and analysed using Event Study methodology. The calculated Average Abnormal Return and Cumulative Average Abnormal Return shows that increased dividend announcements created a positive impact on the stock price, as the investors considered this a good news. whereas, decreased dividend value influenced the market negatively and was concluded that Indian Stock Market was not strong enough to claim as an efficient stock market.

(Douglas & Frank 2013)[5]conducted a research to test the market impact of increased dividend announcements on stock price: A test of market efficiency using Event Study methodology considering ± 30 days as event window. Using Standard Risk Adjusted Method, the study analysed 8,130 observations made by companies listed in S&P 500 market index during the period 2008 to 2012 and the result revealed a significant positive market reaction prior to announcements of increased dividends. Also, the study supported the Efficient Market Theory at the semi-strong form level.

(Ramachandran, 2013)[13]conducted a study on semi-strong efficiency of Indian Stock Market considering samples of dividend declarations during 2004 to 2009 from Bombay Stock Exchange. The Average Abnormal Return and Cumulative Average Abnormal Returns was calculated during event window as ± 30 days, and revealed that the AARs did not influence the security returns and traded volume when market was in stable condition. Also, the study concluded that investors could not generate excess return with respect to dividend announcements in Indian Market.

8. Data Analysis

The daily stock return during event window with respect to dividend announcements was calculated and its significant impact on equity price was analysed. Since, number of announcements in each company is not the same and to make the calculation simple, the daily return on same day with respect to each dividend announcement by same company is averaged and considered as the input data for paired sample ‘t’ test. The significant impact on equity price and volume traded between pre and post dividend announcements are analysed using paired sample ‘t’ test. The results of the paired sample ‘t’ test with respect to equity price and volume traded are furnished in table 2.

Null Hypothesis (H_o): There is no significant difference between pre and post dividend announcements on equity price and volume.

Table 2: Impact of Dividend Announcements in Automobile Sector

No.	Company Name	‘t’ Test (Equity Price)	‘t’ Test (Volume)	‘t’ Test (AAR)
1.	Amara Raja Batteries	0.504	0.257	-5.330**
2.	Amtek Auto	0.156	-0.1081	-3.490**
3.	Apollo Tyres	-0.010	-0.148	-3.420**
4.	Ashok Leyland	-0.872	-0.827	2.900**
5.	Bajaj Auto	-0.086	0.116	-8.368**
6.	Bharat Forge	-0.195	-0.110	-9.938**
7.	Bosch	0.583	0.033	3.060**
8.	Eicher Motors	0.627	-0.455	-2.124**
9.	Exide Industries	0.627	-0.455	4.094**
10.	Hero MotoCorp	-0.089	0.040	-5.742
11.	MRF	0.069	-0.194	2.563**
12.	Mahindra & Mahindra	0.219	-0.874	-4.994**
13.	Maruti Suzuki India	0.340	-0.065	-4.197**
14.	Motherson Sumi Systems	0.203	-0.762	-5.982**
15.	Tata Motors	0.127	-0.283	9.651

* - Significant at 1% level

** - Significant at 5% level

Table 2indicates the outcome of paired sample test on equity price and volume of companies listed in Automobile Sector.The application of paired sample ‘t’ test found the absence of significant impact between pre and post dividend announcements on equity price and volume traded of companies listed in Automobile Sector. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the effect of this announcements did not influence the equity price and volume traded significantly. The significant impact on Average Abnormal Return between pre and post dividend announcements was observed in Amara Raja Batteries, Amtek Auto, Apollo Tyres, Ashok Leyland, Bajaj Auto, Bharat Forge, Bosch, Eicher Motors, Exide Industries, MRF, Mahindra & Mahindra, Maruti Suzuki India and Motherson Sumi Systems at 1% level of significance. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It was confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 3: Impact of Dividend Announcements in Banking Sector

No.	Company Name	't' Test (Equity Price)	't' Test (Volume)	't' Test (AAR)
1.	Axis Bank	0.103	-0.637	-7.019**
2.	Bank of Baroda	0.208	-0.901	3.676**
3.	Bank of India	0.660	-0.758	7.748**
4.	Canara Bank	-0.357	-0.430	7.972**
5.	Federal Bank	-0.854	0.708	-3.174
6.	HDFC Bank	0.529	0.030	2.875**
7.	ICICI Bank	0.075	-0.015	-4.721**
8.	IndusInd Bank	0.334	-0.241	6.776**
9.	Kotak Mahindra Bank	-0.058	-0.618	-11.798**
10.	Punjab National Bank	-0.397	-0.217**	14.377**
11.	State Bank of India	0.067	-0.613*	10.379**
12.	Yes Bank	0.392	-0.277	-4.458**

* - Significant at 1% level

** - Significant at 5% level

The application of paired sample 't' test found the absence of significant impact between pre and post dividend announcements on equity price of companies listed in Banking Sector, as indicated in table 3. It can be inferred that the investors of Banking Sector did not consider the dividend announcements a positive signal and hence, the effect of this announcements did not influence the equity price significantly. However, significant impact at 1% level of significance was found in volume traded of State Bank of India and at 5% level of significance in Punjab National Bank. It can be inferred that the dividend announcements had influenced the investors to alter their positions during event window of these two companies, as shown by the higher volume of trade during post announcements by State Bank of India and Punjab National bank. The result of paired sample ‘t’ test confirmed that the significant impact on Average Abnormal Return between pre and post dividend announcements was observed in Axis Bank, Bank of Baroda, Bank of India, Canara Bank, HDFC Bank, ICICI Bank, IndusInd Bank, Kotak Mahindra Bank, Punjab National Bank, State Bank of India and Yes Bank at 1% level of significance. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It was confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 4: Impact of Dividend Announcements in Energy Sector

No.	Company Name	‘t’ Test (Equity Price)	‘t’ Test (Volume)	‘t’ Test (AAR)
1.	BPCL	0.396	-0.295	9.626**
2.	Cairn India	1.012	0.418	0.722
3.	GAIL (India)	-0.170	0.0491	-1.295
4.	IOC	0.714	-0.643	4.179**
5.	NTPC	-0.207	-0.625	4.085**
6.	ONGC	0.062	-0.129	2.824**
7.	Power Grid Corporation of India	-0.091	-0.269	2.232*
8.	Reliance Industries	0.456	-0.077	-10.225**
9.	Reliance Power	-0.378	0.9.61	-0.037
10.	Tata Power Co.	0.002	0.012	-8.023**

* - Significant at 1% level

** - Significant at 5% level

The application of paired sample ‘t’ test found the absence of significant impact between pre and post dividend announcements on equity price and volume traded of companies listed in this sector, as indicated in table 4. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the outcome of this announcements did not influence the equity price and volume traded significantly. The result of paired sample ‘t’ test confirmed that the significant impact on Average Abnormal Return between pre and post dividend announcements was observed in BPCL, IOC, NTPC, ONGC, Reliance Industries and Tata Power at 1% level of significance and at 5% level of significance in Power Grid Corporation of India. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It is confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 5: Impact of Dividend Announcements in FMCG Sector

No.	Company Name	‘t’ Test (Equity Price)	‘t’ Test (Volume)	‘t’ Test (AAR)
1.	Britannia Industries	-0.719	-0.348	-14.809**
2.	Colgate Palmolive (India)	-0.164	0.455	-1.793
3.	Dabur India	0.007	0.576	-4.249**
4.	Emami	-0.185	-0.307	-4.762**
5.	GlaxoSmithKline Consumer Healthcare	-0.493	-0.239	1.356
6.	Godrej Consumer Products	0.214	0.050	3.650**
7.	Hindustan Unilever	-0.366	-0.326	3.260**
8.	I T C	-0.078	-0.494	3.917**
9.	Jubilant Foodworks	-0.165	-1.543	-17.060**

10.	McLeod Russel India	-0.007	-0.778	5.547**
11.	Procter & Gamble Hygiene & Health Care	-0.068	-0.682**	2.423**
12.	Rasoya Proteins	0.324	-2.828**	1.420**
13.	Tata Global Beverages	0.010	0.597	0.328
14.	United Breweries	0.533	0.038	4.981**
15.	United Spirits	0.202	-0.474	-1.513
Total				

* - Significant at 1% level

** - Significant at 5% level

The study found the absence of significant impact between pre and post dividend announcements on equity price of companies listed in FMCG Sector, as indicated from table 5. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the effect of this announcements did not influence the equity price significantly. However, significant impact at 5% level of significance was found in volume traded of Procter & Gamble Hygiene & Health Care and Rasoya Proteins. It can be inferred that the dividend announcements had influenced the investors to alter their positions during event window of these two companies, as shown by the higher volume of trade during post announcements by both the companies. The result of paired sample 't' test confirms that the significant impact on Average Abnormal Return between pre and post dividend announcements was observed in Britannia Industries, Dabur India, Emami, Godrej Consumer Products, Hindustan Unilever, ITC, Jubilant Fireworks, McLeod Russel India, Proctor & Gamble Hygiene & Healthcare and United Breweries at 1% level of significance. The actual stock daily return was higher than the expected stock daily return of these companies during event window. It is confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 6: Impact of Dividend Announcements in IT Sector

No.	Company Name	't' Test (Equity Price)	't' Test (Volume)	't' Test (AAR)
1.	CMC	1.417	0.197	3.922**
2.	eClerx Services	-0.249	-1.206	8.699**
3.	HCL Technologies	0.125	-1.167	-7.466**
4.	Hexaware Technologies	0.137	-0.691	9.295**
5.	Info Edge (India)	0.234	-0.951*	20140**
6.	Infosys	0.069	-0.643	-8.475**
7.	Infotech Enterprises	0.298	0.055	3.552**
8.	Justdial	-	-	-
9.	KPIT Technologies	-0.105	-0.555*	-0.512
10.	Mindtree	0.286	-0.518	5.040**
11.	Mphasis	-0.713	-0.677	-0.263
12.	NIIT Technologies	0.395	-0.233	-2.534*
13.	Oracle Financial Services Software	1.159	-1.269	-7.583**
14.	Persistent Systems	0.607	0.235	9.152**
15.	Polaris Financial Technology	0.148	-1.489*	-9.885**
16.	Rolta India	0.660	-0.263	-5.536**
17.	Tata Consultancy Services	0.243	-0.695	3.327**
18.	Tech Mahindra	-0.094	-0.759	-5.196**
19.	Vakrangee	-0.032	-0.371	3.488**
20.	Wipro	-0.016	-0.442*	7.962**

* - Significant at 1% level

** - Significant at 5% level

The result of paired sample 't' test found the absence of significant impact between pre and post dividend announcements on equity price of companies listed in IT Sector. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the effect of this announcements did not influence the equity price significantly. However, significant impact at 1% level of significance was found in volume traded of Info Edge (India), KPIT Technologies, Polaris Financial Technologies and Wipro. It can be inferred that the dividend announcements had influenced the investors to alter their positions during event window of these four companies, as shown by the higher volume of trade during post announcements by these companies. The result of paired sample 't' test confirmed that the significant impact on Average Abnormal Return between pre and post dividend announcements was observed in CMC, eClerx Services, HCL Tech, Hexaware Tech, Info Edge (India), Infosys, Infotech Enterprise, Mindtree, Oracle Financial Services Software, Persistent Systems, Polaris Financial Technology, Rolta India, Tata Consultancy Service, Tech Mahindra, Vakrangee and Wipro at 1% level of significance and in NIIT Technologies it was observed at 5% level of significance. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It is confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 7: Impact of Dividend Announcements in Media Sector

No.	Company Name	't' Test (Share Price)	't' Test (Volume)	't' Test (AAR)
1.	D B Corp	-0.056	-1.201	6.174**
2.	Den Networks	-	-	-
3.	Eros Intl Media	1.161	-1.315	6.761**
4.	HT Media	-0.252	-0.538	-4.960**
5.	Hathway Cable & Datacom	-	-	-
6.	Jagan Prakashan	0.072	0.065	-7.247**
7.	KSS	-	-	-

8.	Network18 Media & Investments	-	-	-
9.	PVR	0.262	-0.697	-3.627**
10.	Prime Focus	-	-	-
11.	Sun TV Network	-0.190	-0.214	-8.963**
12.	TV18 Broadcast	-	-	-
13.	Zee Entertainment	0.532	-0.919*	-3.140**

* - Significant at 1% level

** - Significant at 5% level

The application of paired sample ‘t’ test found the absence of significant impact between pre and post dividend announcements on equity price of companies listed in Media Sector. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the effect of this announcements did not influence the equity price significantly. However, significant impact at 1% level of significance was found in volume traded of Zee Entertainment. It can be inferred that the dividend announcements had influenced the investors to alter their positions during event window of this company, as shown by the higher volume of trade during post announcements. The study also found the significant impact on Average Abnormal Return between pre and post dividend announcements was observed in DB Corp, Eros Intl Media, HT Media, Jagan Prakashan, PVR, Sun TV Network and Zee Entertainment at 1% level of significance. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It is confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 8: Impact of Dividend Announcements in Metal Sector

No.	**Company Name**	**‘t’ Test (Share Price)**	**‘t’ Test (Volume)**	**‘t’ Test (AAR)**
1.	Bhushan Steel	-0.060	-0.693	3.097**
2.	Coal India	-0.274	0.017	-4.240**

3.	Gujarat Mineral Development Corporation	0.247	-0.437	-3.246**
4.	Hindalco Industries	0.107	-0.325	-7.246
5.	Hindustan Copper.	0.563	0.420	1.728**
6.	JSW Steel	-0.138	-0.965	9.979**
7.	Jindal Saw	-0.218	-0.206	4.016**
8.	Jindal Steel & Power	0.066	-0.258	4.883**
9.	MOIL	0.099	-1.210	4.624**
10.	NMDC	0.468	0.240	10.656**
11.	National Aluminium Co. Ltd	0.383	0.369	-6.030**
12.	Orissa Min Dev Co	-0.548	0.447	-4.173**
13.	Sesa Sterlite	-0.256	1.054	2.866*
14.	Steel Authority of India	0.283	-0.010	9.323**
15.	Tata Steel	-0.294	-0.007	4.021**

* - Significant at 1% level

** - Significant at 5% level

The application of paired sample ‘t’ test indicates the absence of significant impact between pre and post dividend announcements on equity price and volume traded of companies listed in this sector. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the outcome of this announcements did not influence the equity price and volume traded significantly. The study found the significant impact on Average Abnormal Return between pre and post dividend announcements was observed on Bhushan Steel, Coal India, Gujarat Mineral Development Corporation, Hindalco Industries, JSW Steel, Jindal Steel & Power, MOIL, NMDC, National Aluminium Co. Ltd., Orissa Min Dev Co., Steel Authority of India and Tata Steel at 1% level of significance and at 5% level of significance in Sesa Sterlite. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It is confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 9: Impact of Dividend Announcements in Pharma Sector

No.	Company Name	't' Test (Share Price)	't' Test (Volume)	't' Test (AAR)
1.	Cadila Healthcare	-0.073	-1.432	-4.299**
2.	Cipla	0.331	0.062	2.929*
3.	Divi's Laboratories	0.044	-0.399	9.565**
4.	Dr. Reddy's Laboratories	-0.194	-0.453*	6.088**
5.	GlaxoSmithKline Pharmaceuticals	0.484	-0.382	3.482**
6.	Glenmark Pharmaceuticals	-0.065	-1.250	-9.421**
7.	Lupin	0.138	-1.260	8.188**
8.	Piramal Enterprises	-0.374	0.875	-5.834
9.	Ranbaxy Laboratories	0.126	-2.238	1.420**
10.	Sun Pharmaceutical Industries	-0.270	-0.409	-8.666**

* - Significant at 1% level

** - Significant at 5% level

The application of paired sample 't' test found the absence of significant impact between pre and post dividend announcements on equity price of companies listed in Pharma Sector. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the effect of this announcements did not influence the equity price significantly. However, significant impact at 1% level of significance was found in volume traded of Dr.Reddy's Laboratories. It can be inferred that the dividend announcements had influenced the investors to alter their positions during event window of this company, as shown by the higher volume of trade during post announcements. The study also found the significant impact on Average Abnormal Return between pre and post dividend announcements was observed on Cadila Healthcare, Divi's Laboratories, Dr.Reddy's Laboratories, GlaxoSmithKline Pharmaceuticals, Glenmark Pharmaceuticals, Lupin, Ranbaxy Laboratories and Sun Pharmaceutical Industries at 1% level of significance and Cipla and Piramal Enterprises at 5% level of significance. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It is confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

Table 10: Impact of Dividend Announcements in Realty Sector

No.	Company Name	't' Test (Share Price)	't' Test (Volume)	't' Test (AAR)
1.	DLF	0.372	1.252	-5.346**
2.	Delta Corp	0.460	0.204	7.875**
3.	Godrej Properties	-0.309	-0.687	4.424**
4.	Housing Development and Infrastructure	-	-	-
5.	Indiabulls Real Estate	0.867	-0.065	-4.671**
6.	Oberoi Realty	0.102	-0.540	-4.336**
7.	Phoenix Mills	-0.078	-0.015	6.747**
8.	Prestige Estates Projects	0.007	0.302	-3.104**
9.	Sobha Developers	0.307	-0.688	10.521**
10.	Unitech	-0.338	0.975	3.069**

* - Significant at 1% level

** - Significant at 5% level

The application of paired sample 't' test indicates the absence of significant impact between pre and post dividend announcements on equity price and volume traded of companies listed in this sector. It can be inferred that the investors of companies listed in this sector did not consider the dividend announcements a positive signal and hence, the outcome of this announcements did not influence the equity price and volume traded significantly. The study also found the significant impact on Average Abnormal Return between pre and post dividend announcements was observed on DLF, Delta Corp, Godrej Properties, Indiabulls Real Estate, Oberoi Realty, Phoenix Mills, Prestige Estates Projects, Sobha Developers and Unitech at 1% level of significance. The actual stock daily return was higher than the expected stock daily return of those companies during event window. It is confirmed that the investors earned significant abnormal return during event window pertaining to dividend announcements of those mentioned companies.

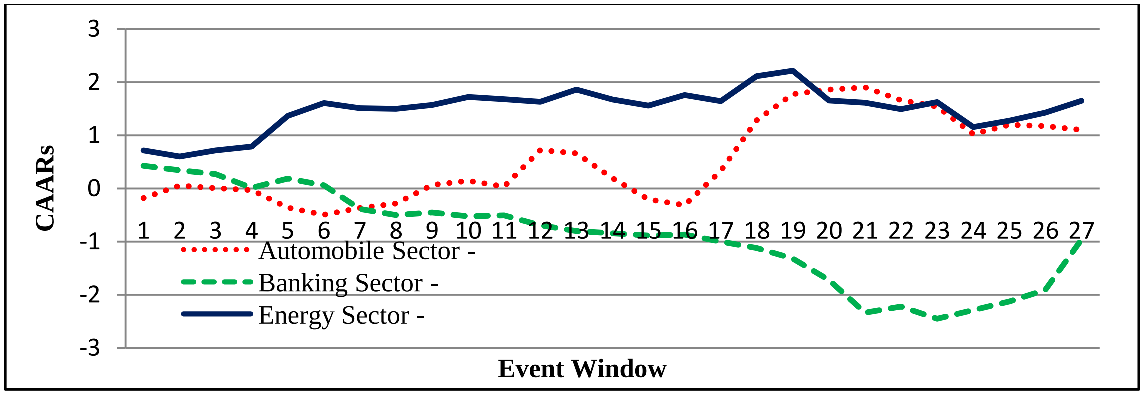

Chart1: CAAR in Automobile, Banking and Energy Sectors

From the chart 1, it is understood that the Cumulative Average Abnormal Returns made by companies listed in both Automobile Sector and Energy Sector were in increasing trend during post dividend announcements when compared with the period during pre announcements. This indicates the positive signal of dividend announcements pertaining to Average Abnormal Returns made by companies listed in this sector. The level of impact made by companies listed in Energy Sector was higher when compared with the level of impact made by companies listed in Automobile Sector. However, there exists a trend reversal on CAARs after eight days from the day of announcements, and it confirms that the increasing trend exists only for 8 to 9 days from the day of announcement. On the other hand, the Banking Sector had a negative trend after dividend announcements, as the Cumulative Average Abnormal Returns started declining during the event window. The trend is deeper during post announcements when compared with the period during pre announcements. This indicates a negative signal of dividend announcements with respect to Average Abnormal Returns of companies listed in this sector. Similar to the Automobile and Energy Sector, a trend reversal occurs for 8 to 9 days from the day of announcements which took the CAARs to increasing trend. The trend was opposite to the trend of Automobile and Energy sector.

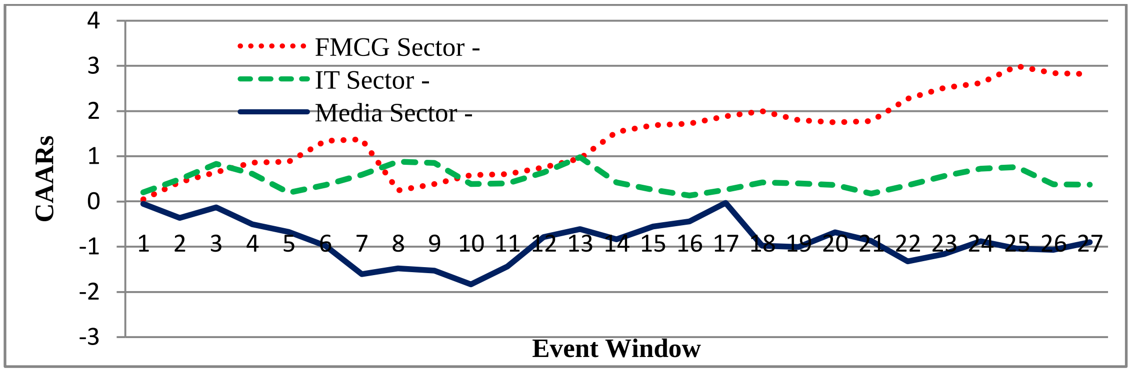

Chart 2: CAAR in FMCG, IT and Media Sectors

From the chart 2, it is understood that the Cumulative Average Abnormal Returns made by companies listed in FMCG Sector were in increasing trend during event window and the impact was higher during post announcements when compared with the period during pre announcements. This indicates a positive signal of dividend announcements pertaining to Average Abnormal Returns made by companies listed in this sector. On the other hand, the Media Sector faced negative CAARs during event window. However, there existed an increasing trend of CAARs for a few days from the day of announcements, which was lasting for 3 to 4 days only. Afterwards, the negative trend continued to hit the CAARs of Media Sector. This indicated a negative signal of dividend announcements with respect to Average Abnormal Returns of companies listed in this sector. Contrary to that, the companies listed in IT Sector showed high volatility, as indicated by their high and low value of CAARs on every 3 to 4 days. Though the CAARs were positive during event window, the dividend announcements did not influence the Abnormal Returns on higher end. The investors of IT Sector faced high volatility with respect to Abnormal Return during the event window.

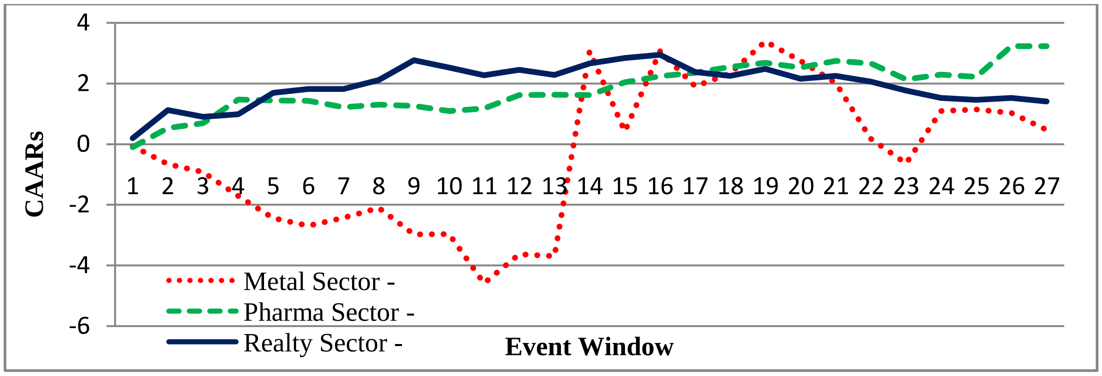

Chart 3: CAAR in Metal, Pharma and Realty Sectors

From the chart 3, it is understood that the Cumulative Average Abnormal Returns made by companies listed in Pharma Sector were in increasing trend during event window and the impact was higher during post announcements when compared with the period during pre announcements. This indicates a positive signal of dividend announcements pertaining to Average Abnormal Returns made by companies listed in this sector. On the other hand, the Realty Sector had a negative trend after dividend announcements, as the Cumulative Average Abnormal Returns started declining especially a few days after the announcements. Though the Average Abnormal Return was in increasing trend during the event window, a trend reversal was observed a few days after the announcements. Similar to that the companies listed in Metal Sector were also showing high volatility, as indicated by their high and low values of CAARs during event window. There was a raising trend from the day of announcements and it was lasting for six days from the announcements. A trend reversal was observed after six days from the day of announcement and it pulled down the CAARs of Metal Sector. This indicated a positive signal but it was valid for less than six days from the day of announcements.

9. Discussion and Conclusion

Almost all the companies listed in different sectoral indices of NSE have announced dividend declaration during the study period except Just Dial in IT, Den Networks, Hathway Cable & Datacom, KSS, Network18 Media & Investments, Prime Focus and TV18 Broadcast of Media and Housing Development and Infrastructure of Realty Sectors. The result of paired sample ‘t’ test revealed the absence of significant impact on equity price between pre and post dividend announcements by companies listed in different sectoral indices of NSE. On the other hand, the significant impact was observed on volume traded of a few companies such as Punjab National Bank and State Bank of India in Banking, Procter and Gamble and Rasoya Protein in FMCG, Info Edge (India),KPIT Technologies, Polaris Financial Technology, Wipro in IT, Zee Entertainment in Media and Dr.Reddy Laboratories in Pharma Sectors. Though announcements of dividend did not influence the equity price significantly, their Abnormal Returns during event window significantly influenced the companies listed in different sectoral indices of NSE except Hero MotoCorp and Tata Motors of Automobile, Federal Bank of Banking, Cairn India, GAIL (India) and Reliance Power of Energy, Colgate Palmolive (India), GlaxoSmithKline Consumer Healthcare, Rasoya Proteins, Tata Global Beverages and United Sprits of FMCG, KPIT Technologies and Mphasis of IT, and Hindustan Copper of Metal Sectors.The CAARs of Automobile, Energy, FMCG, Metal, Pharma and Realty were showing rising trend during post dividend announcements. It confirmed dividend announcements as a positive signal pertaining to AARs of companies listed in these sectors. On the other hand, CAARs of companies listed in Banking and Media Sectors were in decreasing trend during post announcements and confirmed that dividend announcements had negative effect with respect to AARs made by companies listed in this sector. Though positive impact was reflected in Realty Sector, it sustained only for a few days after announcements and started to decline after 3 days from the day of announcement. The CAARs of companies listed in IT Sector were showing high volatility, as indicated by its high and low values of CAARs on different days.

From the detailed study, it was understood and concluded that the announcements of dividend in NSE did not influence the equity price significantly. The current market price of a share already digested all the information and no more excess return could be generated pertaining to announcements of dividend. However, the significant impact on volume traded was observed in few companies. Hence it was concluded that National Stock Exchange behaved smoothly with respect to dividend announcements and the market remained perfect and efficient.

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