

Corporate Announcements and Market Efficiency: A Case on Indian Capital Market

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Abstract

Capital markets being the backbone of the economy, are expected to be functioning efficiently. Efficiently-priced financial markets are considered a catalyst for the economic growth of the nations (Malkiel, 2010). Efficient markets are the reflection of security valuations. In an informationally efficient market, no one can beat the market and make abnormal returns based on the information because the information is instantaneously observed in the stock prices. The current paper analyses the market efficiency of three of the most popular corporate events, i.e., announcement of cash dividends, bonus issues, and stock split in the Indian context. The sample is 2253 pure cash dividend announcements (627 large-caps, 552 mid-caps, and 1074 small-caps), 152 bonus issue announcements (49 large-caps, 33 mid-caps, and 70 small-caps), and 181 stock split announcements (35 large-caps, 34 mid-caps, and 112 small-caps) were used for this study. Event methodology market model used to calculate Average Abnormal Returns (AAR) and Cumulative Average Abnormal Returns (CAAR).

The results of the study have few findings which are contradictory to the existing literature on market efficiency. The cash dividend announcements have shown evidence for market efficiency, and results are contrary to Gupta et al. (2012), but the results are similar to Mishra (2005). Bonus issue announcements also have shown evidence for a semi-strong form of efficiency, test results identical to Dhar and Chhaochharia (2008), Kumar and Mittal (2015). Stock split announcements have not shown market efficiency, and the effect is similar to the study of Lakshmi and Roy (2012) and contrary to Chavali and Zahid (2011). Our results also support the premise that the emerging countries depict evidence of market efficiency (Bechev, 2003). Finally, we conclude that market efficiency results differ based on corporate announcements and market capitalization.

Keywords: capital markets, corporate announcements, event study methodology, market efficiency, semi-strong form of efficiency, & S&P BSE 500 index

1. Introduction

Capital market efficiencies could be categorized as a) operational efficiency, b) informational efficiency, c) pricing efficiency, and d) allocation efficiency. However, all these four categories of efficiencies are interrelated (ACCA, n.d.). For this paper, the concept of informational efficiency has been examined. Bouchard et al. (2009) opine that informational efficiency states that information must be properly incorporated into prices. Financial theory and practice usually advocate those prices echo more or less the available information (DRAGOTĂ, OPREA, & BRAȘOVEANU, 2019). In a dynamic market environment, the security prices are expected to observe and adjust according to the disclosure of new information. The new information could be in the form of news on political mayhem or a media prediction of a corporate action, or news coverage of social unrest. The speed with which the new and relevant information is factored into the market prices of the assets determines the 'Efficiency' of the markets.

Efficient markets are the reflection of security valuations. In an informationally efficient market, no one can beat the market and make abnormal returns based on the information because the information is instantaneously observed in the stock prices. However, according to EMH, there are three broad categories of informational efficiency levels. Out of these three broad categories of hypothesis, semi-strong-form of market efficiency deals with stock prices reflecting all the publicly available information (such as corporate actions) along with the past

information. Semi-strong-form of efficiency implies that fundamental or technical analysis tools would be handy to generate excess (abnormal returns). Ferreira et al. (2019) mention that of the three forms of market efficiencies (based on EMH), the semi-strong form of efficiency has gained most of the attention of the finance research literature.

From the researcher's interest point of view, the topic of efficiency has got more attention in the capital markets (Titan, 2015). Research work by Degutis and Novickytė (2014) supports the view that stock market efficiency is an interesting topic for both retail and institutional investors. Venkatesan and Nagaraj (2018) state that research on corporate actions and market efficiency is a well-researched topic in the academic domain. Rao (2014) mentions that corporate actions are those actions that are taken by the top management team of an entity that is aimed at enhancing the value for the shareholders. Corporate actions are considered to impact the stock prices; therefore, the researchers are interested in examining the extent to which the stock price reacted to a particular corporate action. Kulkarni and Chandani (2020) quote that if the top management activity brings in a real change in debt and equity of a listed company, that event could be termed as corporate action. Shareholders react differently to different corporate actions, and the researchers are interested in studying the extent to which the market (shareholders) have reacted to a specific corporate action.

Corporate actions include management actions such as dividend declaration, bonus issue, buyback of shares, forward and reverse stock splits, corporate restructuring, or spinoffs. Marisetty and Babu (2017) stated that few corporate actions are performed regularly, and few are undertaken very infrequently. Among the regularly undertaken corporate actions, the announcement of dividends and stock splits could be considered as prominent corporate actions. When news of these corporate actions gets into the market, stock prices could fluctuate, and the degree of fluctuations differs depending on the nature of corporate actions and the reaction by the market players. Marisetty and Babu (2018) state that to analyze the price reaction to particular corporate action, researchers prefer to compute metrics such as abnormal returns (ARs), average abnormal returns (AARs), and cumulative abnormal returns (CARs) around the date of corporate action. These metrics are computed using 'Event Study Methodology.'

Ramachandran (2013) state that the standard methodology used to evaluate the market reaction to corporate actions is the use of event study methodology. In an event study model, changes in share prices are observed before and after an event occurs. Anderson-Weir (2010) explains that in an event study model, the stock prices are the changing variables used to understand the degree of an investor's (market) reaction towards a corporate action. CFA-Study (2021) quotes that event studies are used for assessing the speediness of publicly available information being absorbed into stock prices. The empirical studies which have used event studies in the past have supported semi-strong-form of EMH. Binder (1998) remarks that the paper by Fama, Fisher, Jensen, and Roll (FFJR) in 1969 has introduced the concept of the event study methodology. The paper by FFJR is considered a revolution in the domain of accounting, finance, and economics.

The literature on event study methodology application in research is ever-growing, but the notable point is that the basic statistical format of the original model has not undergone any change. One of the changes that could be highlighted is that due to data availability, intra-day returns are now used to assess abnormal returns. Another change that could be referred to is the reflection of the Fama-French 3-Factor Model for the estimation of abnormal returns. The event study methodology could be broadly classified into short-horizon methods and long-horizon methods. Generally, an event window of 1 year or more is considered as a long-horizon event study method.

The market efficiency is assessed by examining the abnormal returns of the security around the event data. The presence of non-zero abnormal returns after the corporate event is considered inconsistent with market efficiency. An event study commonly tries to assess the behaviour of security returns for a group of firms experiencing a common corporate action such as stock split or bonus issues or dividend announcement. These corporate actions might have taken place at different points in the calendar or financial year. On the other hand, the event studies also capture the trends in the security returns for regulatory or political events, which is common for all the firms in the market. The event study could employ different expected returns models such as market model or capital asset pricing model (Kothari & Warner, 2006). Among these expected return models, the market return model is more prevalent. The Abnormal Return (AR) on a distinct day within the event window is computed. Further, to measure the impact of an event over a particular time frame, individual abnormal returns are added to obtain Cumulative Abnormal Returns (CAR), and these CARs could be plotted to get a fair idea of how the market has received the news of corporate action. In a sample event study that examines numerous observations of individual types (e.g., dividend announcement or stock splits or bonus issue), Cumulative Average Abnormal Returns (CAARs) are also computed (Event-Study-Tools, n.d.).

Against the backdrop mentioned above, the focus of this paper is to examine the market reaction to corporate actions such as bonus issues, cash-dividend announcements, and stock splits in the Indian stock market for a sample period of 12 years. For a better exposition, this paper has been divided into seven sections: Section 1 contains the backdrop of the study in the form of an introduction. Section 2 is dedicated to a review of pertinent literature. Section 3 describes the objectives, hypotheses, and methodology adopted for the study; Section 4 examines the market reaction to the announcement of cash dividends. Section 5 and Section 6 are dedicated to finding evidence of market efficiency in case of bonus issues and stock splits. Section 7 is dedicated to the conclusion of the study

2. Literature Review

The existing body of literature on market efficiency and event-study methodology tries to answer an appropriate question: is there any possibility for the investor to make abnormal returns in the capital markets based on the new information? And the related question that follows is: what does it mean to have a possibility of abnormal return based on new information and no possibility of abnormal returns? Based on the new information, the investors will engage in trading as long as the marginal benefit is more than the marginal cost of the information. Once the marginal benefit and marginal cost of the new information are at par, the market returns to efficiency. It is also further pointed out that the model of Fama (1969) could be applicable provided we ignore transaction cost and assume the availability of all information at no cost. However, in a real-time market, these assumptions do not have a place.

Fama (1977) remarks that market efficiency is short and fragile for the long run. Fama (1991) mentions that because there are surely positive information and trading costs, the extreme version of the market efficiency hypothesis is surely not valid. Compared to long-run event study tests, short-run event studies are simple and more reliable in testing market efficiency. According to Rozeff and Zemen (1988), corporate insiders access better information than the marketers, but that does not generate abnormal returns from the markets by doing stock trading. Barone (1989) observed Italian markets and proves that the market is efficient and results are the same line as the USA markets, and even anomalies exist in the market like weekend effect and calendar effects. Clarke, Jandik, and Mandelker (2000) argue that stiff competition among the investors makes the market adjust to new information very quickly, leading to efficient markets.

Skrepnek and Lawson (2001) point out that determining the event study's timeline is one of the critical decisions for the researcher. The ability of the researcher is showcased in choosing the right event window for the event study. The majority of the studies that use event study methodology for testing market efficiency use event windows ranging from 21 to 121 days for daily studies and 25 to 121 months for monthly studies. Bandara and Samarakoon (2002) concluded that small companies react strongly to dividend announcement information content and better dividend growth announcements. They also found that something different impacted stocks when companies were announcing lower dividend growth. Finally, it concluded that the Sri Lankan stock market is an informationally efficient market to its inconsistent results.

Barnes and Ma (2002) found proof for the semi-strong form of market efficiency in all the portfolios of A and B shares except a small bonus ratio portfolio of A-shares in the Chinese capital market. They concluded that B-shares show stronger proof of semi-strong market efficiency than the A-shares. Shiller (2002), according to the author value of efficient market hypothesis lost the shine since 1980 because discovery of anomalies in the stock market and also research increased on behavioural finance since 1990. Bechev (2003) observed the developed stock markets' efficiency and found that stock markets' efficiency increased for the test period and suggested that economic fundamentals influence the markets to decline. Los (2004) argues that financial markets are not black or white and also efficient or inefficient, and just financial markets just are showing some degree of efficiency.

Mishra (2005) found strong support to the Indian stock market as a semi-strong efficient market for bonus issue corporate actions. Finally concluded that the efficient market hypothesis is compatible with the results in the USA and other developed markets. Guo & Wang (2007) argue that anomalies, like the weekend effect and March effect, exist in China and confirms that Chinese markets are not fully efficient. Dasilas (2007) concluded that the market price of the shares reacts significantly to dividend increase/decrease announcements and supports the information content of the dividend hypothesis. Shirur (2008) proved that the securities market is not permanently efficient in the long run, and promoters intervene in the stock market through corporate actions to manage the stock prices. Dhar and Chhaochharia (2008) studied the stock splits and bonus issues returns on the event day. They found that abnormal returns are positively significant Indian stock markets are a semi-strong form of efficient markets. Griffin, Kelly, and Nardari (2009) examined the emerging markets and developed markets and found that emerging markets are inefficient when compared to developed markets. Ball (2009) said

that markets are efficient even though widespread anomalies and the advent of behavioural finance are observed in the markets.

Erlien (2011) remarks that the earlier empirical studies referred to event-study to measure the semi-strong form of market efficiency. The event studies test the market adjustment to the new public information. Event studies were applied to events in the firm's control (firm-specific corporate actions) and economic-wide macro events. Corporate actions such as stock splits, cash-dividend announcements, and bonus issues were the focus areas of earlier event studies. The basic hypothesis of event studies on which the researchers worked was that the market adjusts to new information instantly. Because the markets adjust instantly to the new information, the markets could be considered informational efficient. Jarrow and Larsson (2011) developed the new model to test the efficiency of the markets and asset pricing because the biggest problem that arises in testing efficiency is that bad model selection. Chavali and Zahid (2011) found that an Indian stock market is a semi-strong form of an efficient market and stock split returns are positively significant on the event day. Gunalp, Kadioglu, and Kilic (2011) concluded that the inefficiency of the Turkish capital markets reduced over time, and according to their study, share price adjustment begins at event day only. In contrast, the remarkable price adjustment happens between the event day and the second day after the event.

Lakshmi and Roy (2012) argued that the Indian stock market is not a semi-strong form efficient market because security prices do not reflect the available information quickly and unbiasedly. Gupta, Dogra, Vashisht, and Ghai (2012) found that share prices respond positively to dividend increase announcements and found that dividend announcement holds the signalling hypotheses. They concluded from their study that; Indian stock market is not efficient for semi-strong form hypothesis. Douglas and Frank (2013) study support the positive signal associated with the dividends announcements and supports the semi-strong form of hypothesis in the USA market. Hua and Ramesh (2013) concluded that sample companies show the semi-strong form efficient market for stock split corporate action during the research period in the Sri Lanka stock market. Johnson and Radeschnig (2014) point out that the investors must have some incentive to engage themselves in trading. Based on timelines, event studies could be categorized as short and long-horizon studies. The goals of research for short and long-horizon differ. Compared to short-horizon event studies, the long-run studies have few issues (Dutta & Dutta, 2015). Akbas et al. (2014) remarked that efficient capital markets need that capital flow is sufficient to arbitrage anomalies away. Nishanthini A & Nimalathanan B (2014) confirmed that market efficiency impacts the stock prices during the dividend announcements in Sri Lankan markets.

Titan (2015) argued that proving markets are efficient is difficult because of frequent changes in the market and economy and suggested that a new model should be developed to measure the efficiency of the markets. Kumar and Mittal (2015) confirmed that an Indian stock market is a semi-strong form of efficiency, and this information is used for stock valuation and investment purposes. The author also said that the regulatory role in controlling the insider trading that brings the stock markets are more efficient, dynamic, and vibrant. Rohit, Pinto, and Shakila (2016) observed and concluded that the Indian stock market is efficient in its semi-strong form even though splits and rights issue abnormal returns are not significant. Jawa (2016) suggested that the Indian stock market is not informationally efficient, as observed in emerging markets. Syed and Bajwa (2018) emphasize that the new information on corporate actions is used by participants in capital markets as a benchmark to measure the firms' future profitability and financial position. However, new financial information is normally unpredictable by definition; otherwise, it would have been already reflected into the security prices much before the announcement of corporate actions. For the capital market to be considered efficient, the security prices should neither overreact nor underreact to the new financial information. The event study methodology is used to assess this over or under-reaction of prices to the corporate actions.

Based on the above-mentioned literature review, the present paper has identified the research gap and formulated research questions that would be answered using event study methodology. The paper attempts to find evidence of a semi-strong form of market efficiency in the Indian context to selected corporate actions, i.e., cash dividend, bonus issue, and stock splits (as discussed in the methodology section in detail).

3. Research Methodology

3.1 Objectives

- The first objective is to find the corporate announcement impact on the stock price in the Indian stock market.
- The second objective is to know the corporate announcement impact on the stock price varies with the company's market capitalization.

- The third objective is to know the market efficiency of the Indian stock market around the corporate announcement.

3.2 Hypothesis

In the first hypothesis, we study the relationship between stock prices and corporate announcements in India. To understand that, we formulate an alternative hypothesis as follows.

H_{1a} = Corporate announcements significantly impact stock prices in the Indian stock market.

In the second hypothesis, we investigate the impact of the corporate announcement on stocks varies with the company's market capitalization. To find that, we develop the alternative hypothesis as follows.

H_{2a} = Corporate announcements impact on stock prices varies with the market capitalization of the company.

3.3. Data Collection

The study period is from 2008 – 19 (12 years period), which is the period that witnessed significant fluctuations in the Indian stock market. During this period, stocks went from high level to low level and low level to high level two to three times. Many stock exchanges are operating in India, but only two, namely the Bombay Stock Exchange (BSE) and National Stock Exchange, are the major exchanges that operate at the national level. BSE is one of the very old stock exchanges, and a greater number of companies are listed on the exchange in India. BSE has been selected to represent the Indian Stock Market for the selection of corporate announcements and identification of the companies. Stock price information collected from the BSE website, corporate announcements information collected from moneycontrol.com, capitalmarkets.com, and data cross-check with the BSE website.

Sample events selected from S&P BSE 500 companies only because S&P BSE 500 is a broader index and index constitutes 90% above the capitalization of the total market capitalization. BSE Large-cap, BSE Mid-cap, and BSE small-cap indexes were used to segregate the sample into market capitalization. BSE stock exchange regularly reconstitutes the indexes based on market capitalization wise of the companies, so it makes it challenging to select the sample for the study. Hence market capitalization base has taken companies that are there in January 2020 BSE indexes list only. Cash dividends, bonus issues, and stock split announcements are taken to study evidence of market efficiency to corporate announcements in India. Two assumptions were assumed for the selected sample for dividend action. First, the minimum investor preference of dividends is 10 per cent. The second one is that the announcement of dividends is compulsory every year because it measures the dividend change announcements from the same company sample.

In the first step, total dividend actions are considered, which are announced during the research period. In the second step, in a year, if any company announced dividends more than one time, then taken only one dividend (preference given final dividend if not highest percentage interim dividend picked) and excluded other dividend actions for study. In the third step, the sample only included 10% and above dividend actions. In step four, the identification of companies that have paid dividends regularly every year throughout the research period. In step five, only S&P BSE 500 index companies were selected from step four companies. In steps 6, 7, and 8, large-cap, mid-cap, and small-cap companies were selected from S & P BSE 500 companies chosen from step five.

The total cash dividend sample size selected from the selection process is 2808 dividend announcements, in that 2253 pure cash dividend announcements, 123 cash dividends contaminate with other corporate announcements, and 432 price missing announcements. Some samples were taken out from the analysis because those sample's price information is missing for some trading days during the event window and estimation window. The final sample for analysis follows 2253 pure dividend actions (627 large-caps, 552 mid-caps, and 1074 small-caps).

Table 1. Break-up of the cash dividend announcements based on different market capitalization wise

S. No	Type of Capitalization	Pure Cash Dividend	Contaminate with other Events	Price info missing*	Total
1	Large-cap	627	45	36	708
2	Mid-cap	552	36	48	636
3	Small-cap	1074	42	348	1464
4	Full Sample	2253	123	432	2808

Note. * Three large-cap, four mid-cap, and twenty-nine small-cap companies are not traded some days during research a period, Source: Author's Calculations.

Bonus issue sample selection is as follows; in the first step, total bonus issue actions are considered, announced during the research period. In step two, only S&P BSE 500 index companies' bonus issue actions were selected as a sample for the research from step one. In steps 3, 4, and 5 samples chosen in step two, segregated into large-cap, mid-cap, and small-cap companies. The total selection of bonus issue announcements is 152 for the full sample (49 large-cap, 33 mid-cap, and 70 small-cap bonus issue announcements). Stock split sample selection as follows; in the first step, total stock split actions are considered, announced during the research period. In step two, only S&P BSE 500 index companies' stock split actions were selected as samples for the research from step one actions. In steps 3, 4, and 5 selected sample in step two was segregated into large-cap, mid-cap, and small-cap companies. The total selection of stock split announcements is 181 for the full sample (35 large-cap, 34 mid-cap, and 112 small-cap stock split announcements).

3.4 Event Window Selection

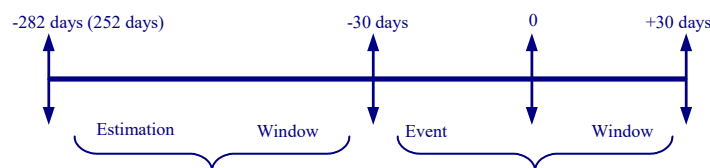
India being a developing country with an evolving capital market, is characterized by volatility in a short period. The transparency of the corporate world is questionable, and there appears to be large-scale insider trading before the action of any event. Therefore, the researcher has chosen 61 days as the event window for the study on the impact of corporate announcements on the stock market. This 61-day event window is defined as 0-days (the date on which the event is publicly announced) and -30 to +30 days (the date 30 days previous from the event date and 30 days post-event dates) study.

This study is associated with the stock price behaviour surrounding the action date and therefore labelled as an event study. The methodology of an event study is associated with the Efficient Market Hypothesis developed by E. F. Fama (1969) to understand the adjustment of stock prices to corporate announcements. The methodology is commonly referred to as the Fama Fisher Jensen and Ross (FFJR 1969) methodology of an event study.

The steps followed to study the events are as follows.

Step1: Identify the events to be studied and pinpoint the date ($i = 0$) on which the events are announced.

Step2: Decide on the event window (EW), ensure that during this period, no other important event has been announced. The event window corporate announcement as $i = 0$ (Event date) and a period of -30 days previous to the event date and +30 days after the event date, shown below with the help of the graph.



In this figure, $i = 0$ is shown as the event action date, and the respective effect of this action on share prices is calculated for the event window (EW) period of -30 days to +30 days to know if there is any impact of such action how many days it persists. The estimation window will be -282 days to -30 days of the event day window to regress the stock and index. The market model is used to calculate the average abnormal returns during the event window period.

3.5 Market Model as Follows

The simple regression model is used to calculate the stocks' expected returns during the event window in the market model. Marisetty et al. (2020) proved that the market model is slightly superior to other expected return models in abnormal returns calculation.

$$ER_i = \alpha_i + \beta_i R_m + \varepsilon_i \quad (1)$$

ER_i = Expected Return of the stock on the day i in the event window

α_i = Alpha coefficient of the stock with the index during the estimation window

β_i = Beta of the stock with the index during the estimation window

R_m = Return of the index in the event window on the day i

ε_i = Error term

Abnormal returns calculated as follows:

$$AR_i = R_i - ER_i \quad (2)$$

AR_i = Abnormal return of the stock on the day i during the event window

R_i = Actual return of the stock on the day i during the event window

ER_i = Expected Return of the stock on the day i in the event window

Average Abnormal Returns calculated as follows

$$AAR_i = \frac{\sum_{i=1}^n AR_{ti}}{n} \tag{3}$$

AAR_i = Average abnormal return (AAR) of the stocks on day i in the event window

AR_{ti} = Abnormal returns (AR) of the stock on the day i in the event window

n = Total number of stocks in the study

Cumulative Abnormal Returns in the event window calculated as follows

$$CAAR_i = AAR_i + CAAR_{i-1} \tag{4}$$

$CAAR_i$ = Cumulative average abnormal return (CAAR) on day i in the event window

AAR_i = Average abnormal return on the day i in the event window

$CAAR_{i-1}$ = Cumulative average abnormal return on the day $i-1$

t -test used to find the significance of average abnormal returns

$$t\text{-test} = \frac{AAR_i}{\sigma(AR_i)} \tag{5}$$

AAR_i = Average abnormal return of the stocks on the day i in the event window

$\sigma(AR_i)$ = Standard error of abnormal returns of the stocks on the day i event

The standard error is calculated is

$$\sigma(AR_i) = \frac{\sigma_i}{\sqrt{n}} \tag{6}$$

σ_i = Standard deviation of stocks abnormal return on the day i in the event window

3.6 CAAR Analysis

The effectiveness of the market efficiency to corporate announcements in the stock market was analysed by using CAAR (Cumulative Average Abnormal Returns) in different window periods, such as 61 days, 41 days, 21 days, 11 days, 5 days, and 3 days.

4. Cash Dividend Data Analysis and Interpretation

Table 2. AAR, CAAR, t, and p values of full sample dividend announcement for 61 days event window

N = 2253									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	0.0982**	0.0982	2.1368	0.0327	0	0.1847**	1.2423	2.5167	0.0119
-29	0.0062	0.1044	0.1454	0.8844	1	-0.0668	1.1755	-0.8846	0.3765
-28	0.0819	0.1863	1.8165	0.0694	2	-0.0571	1.1184	-1.1461	0.2519
-27	0.0415	0.2278	0.929	0.3530	3	0.0552	1.1736	1.1803	0.238
-26	0.0834*	0.3112	1.8981	0.0578	4	-0.0148	1.1588	-0.3169	0.7513
-25	-0.0221	0.2891	-0.5189	0.6039	5	-0.037	1.1218	-0.7666	0.4434
-24	-0.058	0.2311	-1.3202	0.1869	6	0.0235	1.1454	0.5317	0.595
-23	0.0112	0.2423	0.2511	0.8018	7	0.0311	1.1764	0.6893	0.4907
-22	0.0436	0.2859	1.0052	0.3149	8	-0.0899**	1.0865	-2.1138	0.0346
-21	0.0037	0.2895	0.0831	0.9338	9	-0.0302	1.0564	-0.700	0.484
-20	-0.0118	0.2777	-0.2749	0.7834	10	-0.0546	1.0018	-1.2553	0.2095
-19	0.0486	0.3263	1.0869	0.2772	11	-0.0005	1.0013	-0.0098	0.9922
-18	0.0224	0.3487	0.4886	0.6252	12	0.1196***	1.1209	2.7289	0.0064
-17	0.0736	0.4223	1.6377	0.1016	13	0.0116	1.1324	0.2465	0.8053
-16	-0.034	0.3882	-0.7853	0.4323	14	0.0775*	1.210	1.6718	0.0947
-15	-0.0249	0.3633	-0.5651	0.572	15	0.0157	1.2257	0.3555	0.7223

-14	0.0054	0.3688	0.1223	0.9027	16	-0.0191	1.2066	-0.4398	0.6601
-13	-0.0271	0.3416	-0.6204	0.5351	17	-0.0132	1.1934	-0.3029	0.762
-12	0.0955**	0.4371	2.1169	0.0344	18	-0.0472	1.1462	-1.0782	0.2811
-11	-0.0645	0.3726	-1.5818	0.1138	19	-0.0032	1.1431	-0.0674	0.9463
-10	0.0629	0.4356	1.3778	0.1684	20	-0.0911**	1.052	-2.1528	0.0314
-9	0.0115	0.4471	0.2714	0.7861	21	-0.0153	1.0367	-0.3411	0.7331
-8	0.0211	0.4682	0.4563	0.6483	22	0.0036	1.0403	0.0802	0.9361
-7	0.0928**	0.561	2.0037	0.0452	23	0.016	1.0563	0.3906	0.6961
-6	0.0377	0.5986	0.8534	0.3935	24	0.0033	1.0596	0.0784	0.9375
-5	0.0629	0.6616	1.3482	0.1777	25	0.1333***	1.193	2.8206	0.0048
-4	-0.0168	0.6448	-0.357	0.7211	26	0.0387	1.2316	0.8782	0.3799
-3	0.0675	0.7123	1.5233	0.1278	27	0.0103	1.2419	0.2392	0.811
-2	0.1665***	0.8788	3.102	0.0019	28	0.0433	1.2852	1.0127	0.3113
-1	0.1788***	1.0576	3.722	0.0002	29	-0.0665	1.2187	-1.5403	0.1236
0	0.1847**	1.2423	2.5167	0.0119	30	0.0144	1.2331	0.3182	0.7503

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

Source: Author’s calculations.

It is said from table 2 that the full sample cash dividend announcement average AAR and CAAR are positive on the event day. The corporate announcement, i.e., cash dividend announcement, impacts stocks at 5 per cent level significance on the event day. It is observed that AARs are positive and significant at 1 per cent in two days before the corporate announcement. But, after the new announcement, markets are reacted slightly negatively to the announcement. For 61 days event window period, average abnormal returns are significant in 6 days in the pre-window period and four days after the event. Abnormal returns are positive in 22 days and negative in 8 days in the pre-event window, and 15 days positive and 15 days negative in the post-event window. So, it can be said that the market is waiting positively for the corporate announcement, but after the event announcement, the market reaction is most likely stable. For 61 days window period, cumulative average abnormal returns (CAAR) continuously increase from the window starting to the corporate announcement. After the post-event, CAAR values are positive, but growth in return is almost stable, not in a more volatile trend. CAAR values are positive throughout the event window period.

Table 3. AAR, CAAR, t, and p values of large-cap sample dividend announcement for 61 days event window

N = 627									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	-0.0304	-0.0304	-0.4649	0.6422	0	-0.0227	0.1579	-0.1922	0.8477
-29	0.0042	-0.0263	0.0638	0.9491	1	0.0385	0.1965	0.2815	0.7784
-28	0.0505	0.0242	0.6798	0.4969	2	0.0343	0.2308	0.4202	0.6745
-27	-0.0221	0.0021	-0.3309	0.7408	3	-0.0042	0.2266	-0.0564	0.955
-26	0.0660	0.0681	0.8999	0.3685	4	0.0179	0.2445	0.2271	0.8204
-25	0.0382	0.1063	0.546	0.5852	5	-0.0336	0.2108	-0.4856	0.6274
-24	-0.0735	0.0327	-1.1506	0.2504	6	0.0374	0.2482	0.5083	0.6114
-23	0.0727	0.1054	1.0296	0.3036	7	-0.053	0.1952	-0.7293	0.4661
-22	-0.0745	0.0310	-1.111	0.267	8	0.0009	0.1961	0.0133	0.9894
-21	-0.1235*	-0.0925	-1.7529	0.0801	9	-0.0096	0.1864	-0.1301	0.8966
-20	-0.0568	-0.1493	-0.8389	0.4018	10	0.044	0.2304	0.6217	0.5343
-19	0.0659	-0.0834	0.8802	0.3791	11	-0.0649	0.1655	-0.8831	0.3775
-18	0.0217	-0.0617	0.3073	0.7588	12	0.0982	0.2636	1.3896	0.1651
-17	0.0162	-0.0456	0.2456	0.8061	13	0.1303*	0.394	1.7465	0.0812
-16	0.1046	0.0591	1.4995	0.1343	14	0.0183	0.4122	0.2567	0.7975
-15	-0.0728	-0.0138	-1.0304	0.3032	15	-0.0271	0.3851	-0.3626	0.717
-14	0.0581	0.0443	0.8811	0.3786	16	-0.0064	0.3788	-0.0999	0.9204
-13	-0.0035	0.0408	-0.0482	0.9616	17	0.0461	0.4248	0.5971	0.5506
-12	0.07	0.1108	0.8983	0.3694	18	-0.0737	0.3511	-1.0234	0.3065
-11	-0.0807	0.0301	-1.1559	0.2482	19	-0.04	0.3111	-0.5755	0.5651
-10	0.000	0.0301	-0.0006	0.9995	20	-0.0634	0.2477	-0.9038	0.3664

-9	-0.0038	0.0263	-0.0573	0.9543	21	0.0252	0.273	0.3499	0.7265
-8	-0.0627	-0.0364	-0.7809	0.4351	22	0.0794	0.3524	1.0715	0.2843
-7	0.089	0.0526	1.2558	0.2096	23	0.1434**	0.4957	2.0892	0.0371
-6	0.0528	0.1054	0.6836	0.4945	24	-0.0799	0.4159	-1.1687	0.243
-5	-0.0526	0.0529	-0.7137	0.4757	25	0.2249***	0.6407	3.053	0.0024
-4	-0.1865***	-0.1336	-2.6356	0.0086	26	0.1524**	0.7931	2.1139	0.0349
-3	0.092	-0.0416	1.2586	0.2086	27	0.038	0.8311	0.5818	0.5609
-2	0.0758	0.0342	1.0007	0.3174	28	-0.002	0.8291	-0.029	0.9769
-1	0.1464*	0.1806	1.8774	0.0609	29	-0.1459**	0.6832	-2.0103	0.0448
0	-0.0227	0.1579	-0.1922	0.8477	30	-0.0881	0.5951	-1.3068	0.1917

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

Source: Author's calculations.

It can interpret from table 3 that the large-cap cash dividend announcement AAR is slightly negative, and CAAR is somewhat positive on the event day. It is observed that AAR is positive and significant at a 10 per cent level before the day of the new information announcement. But, after the new announcement, markets are reacted slightly positively to the announcement. For 61 days event window period, AARs are significant three days before the event and five days after the event. Abnormal returns are positive in 16 days and negative in 14 days in the pre-event window, and 16 days positive and 14 days negative in the post-event window. For 61 days window period, CAAR values are a more volatile trend from the window starting to the new information announcement. After the post-event, CAAR values are positive, but growth in return is almost stable and in a slightly volatile trend. It is noticed that in large-caps, the market reacted positively to new information after the event.

Table 4. AAR, CAAR, t, and p values of mid-cap sample dividend announcement for 61 days event window

N = 552									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	0.0850	0.0850	0.9224	0.3567	0	0.2152	1.0536	1.5989	0.1104
-29	0.0350	0.1200	0.3951	0.6929	1	-0.026	1.0276	-0.1873	0.8515
-28	0.1369	0.2569	1.6028	0.1096	2	0.0033	1.0309	0.0327	0.9739
-27	0.1389	0.3958	1.4854	0.138	3	-0.0144	1.0164	-0.1763	0.8601
-26	0.0719	0.4677	0.8709	0.3842	4	0.0723	1.0887	0.7497	0.4537
-25	-0.0091	0.4586	-0.1268	0.8991	5	-0.0536	1.0351	-0.5006	0.6169
-24	0.1423	0.6009	1.5954	0.1112	6	0.0596	1.0947	0.7112	0.4773
-23	-0.015	0.5859	-0.1932	0.8469	7	0.0993	1.194	1.1209	0.2628
-22	-0.0273	0.5586	-0.3247	0.7455	8	-0.1371*	1.0569	-1.6888	0.0918
-21	0.0555	0.6141	0.6824	0.4953	9	0.0209	1.0777	0.2476	0.8046
-20	0.1617	0.7758	1.8528	0.0645	10	-0.0241	1.0537	-0.2727	0.7852
-19	0.0109	0.7867	0.1227	0.9024	11	-0.0338	1.0199	-0.3944	0.6934
-18	-0.0751	0.7116	-0.9176	0.3592	12	0.0443	1.0642	0.5755	0.5652
-17	0.1137	0.8254	1.266	0.2061	13	0.0754	1.1396	0.8976	0.3698
-16	-0.1549*	0.6704	-1.9327	0.0538	14	0.099	1.2386	1.0217	0.3074
-15	0.0374	0.7079	0.4578	0.6473	15	-0.0219	1.2167	-0.2581	0.7965
-14	0.0719	0.7798	0.6845	0.494	16	0.0523	1.269	0.6122	0.5406
-13	-0.0407	0.7391	-0.5319	0.595	17	-0.044	1.225	-0.5802	0.562
-12	0.0901	0.8292	1.1331	0.2576	18	-0.1796**	1.0455	-2.1884	0.0291
-11	0.0084	0.8376	0.1078	0.9142	19	0.0401	1.0856	0.5094	0.6107
-10	-0.0425	0.7951	-0.4982	0.6185	20	-0.1560**	0.9296	-2.0213	0.0437
-9	-0.1136	0.6814	-1.5379	0.1246	21	0.1	1.0296	1.1211	0.2627
-8	-0.0606	0.6208	-0.751	0.453	22	-0.0232	1.0064	-0.2834	0.7769
-7	0.0126	0.6335	0.1446	0.885	23	-0.0599	0.9465	-0.7329	0.464
-6	0.0255	0.659	0.3108	0.756	24	0.0000	0.9465	0.0000	1.0000
-5	0.1578	0.8168	1.582	0.1142	25	0.1223	1.0689	1.4896	0.1369
-4	-0.0841	0.7327	-0.9539	0.3405	26	0.0287	1.0976	0.3367	0.7365

-3	-0.0221	0.7107	-0.2612	0.794	27	0.1175	1.2151	1.4773	0.1402
-2	0.0691	0.7798	0.7945	0.4272	28	0.0946	1.3097	1.1943	0.2329
-1	0.0586	0.8384	0.632	0.5276	29	-0.0806	1.2291	-0.9325	0.3515
0	0.2152	1.0536	1.5989	0.1104	30	0.0457	1.2748	0.4681	0.6399

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

Source. Author's calculations.

It is observed from table 4 that mid-cap cash dividend announcement AAR and CAAR values are positive on event day, but abnormal returns on event day not significant. It is observed that for 61 days, event window period AARs are significant in 1 day only in the pre-window period and three days after the event. Abnormal returns are positive in 19 days and negative in 11 days in the pre-event window, and 17 days positive and 13 days negative in the post-event window. For 61 days window period, CAAR values are a more volatile trend from the window starting to the corporate announcement. After the post-event, CAAR values are positive, but growth in return is almost stable, not in a more volatile trend. CAAR values are positive throughout the event window period, and the market reacted positively to the corporate announcement after the announcement of the event.

Table 5. AAR, CAAR, t, and p values of small-cap sample dividend announcement for 61 days event window

N = 1074									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	0.1801**	0.1801	2.4139	0.016	0	0.2900**	1.9723	2.4417	0.0148
-29	-0.0074	0.1727	-0.1111	0.9116	1	-0.1492	1.8231	-1.2813	0.2004
-28	0.072	0.2447	1.0051	0.3151	2	-0.1415*	1.6816	-1.8329	0.0671
-27	0.0287	0.2733	0.4073	0.6839	3	0.1258	1.8073	1.6266	0.1041
-26	0.0995	0.3728	1.4277	0.1537	4	-0.0787	1.7286	-1.1053	0.2693
-25	-0.0641	0.3087	-0.909	0.3636	5	-0.0303	1.6983	-0.4071	0.684
-24	-0.1518**	0.1569	-2.1569	0.0312	6	-0.0031	1.6952	-0.0437	0.9652
-23	-0.0113	0.1456	-0.1544	0.8773	7	0.0451	1.7403	0.6343	0.526
-22	0.1489**	0.2945	2.142	0.0324	8	-0.1187**	1.6216	-1.725	0.0848
-21	0.0512	0.3457	0.7188	0.4724	9	-0.0684	1.5532	-1.0287	0.3038
-20	-0.0747	0.271	-1.1126	0.2661	10	-0.1278**	1.4254	-1.8958	0.0583
-19	0.0578	0.3288	0.8369	0.4028	11	0.0543	1.4797	0.7195	0.472
-18	0.0729	0.4017	0.9605	0.337	12	0.1707**	1.6505	2.3754	0.0177
-17	0.0865	0.4882	1.1916	0.2337	13	-0.0906	1.5599	-1.181	0.2379
-16	-0.0528	0.4354	-0.7567	0.4494	14	0.1011	1.661	1.3953	0.1632
-15	-0.029	0.4064	-0.4068	0.6842	15	0.06	1.721	0.8694	0.3848
-14	-0.0595	0.3469	-0.9088	0.3637	16	-0.0632	1.6578	-0.8976	0.3696
-13	-0.0339	0.313	-0.4778	0.6329	17	-0.0319	1.6259	-0.4622	0.6441
-12	0.1131	0.4261	1.5682	0.1171	18	0.0363	1.6621	0.5198	0.6033
-11	-0.0925	0.3336	-1.4543	0.1462	19	-0.0039	1.6583	-0.0487	0.9611
-10	0.1539**	0.4875	2.0647	0.0392	20	-0.0739	1.5844	-1.0873	0.2771
-9	0.0848	0.5723	1.199	0.2308	21	-0.0981	1.4863	-1.3998	0.1619
-8	0.1121	0.6844	1.5129	0.1306	22	-0.0269	1.4593	-0.3782	0.7053
-7	0.1361*	0.8205	1.8045	0.0714	23	-0.0194	1.4399	-0.307	0.7589
-6	0.0351	0.8556	0.5089	0.611	24	0.0536	1.4936	0.7701	0.4414
-5	0.0816	0.9371	1.1438	0.253	25	0.0855	1.5791	1.0877	0.277
-4	0.1169	1.054	1.5229	0.1281	26	-0.0226	1.5565	-0.3258	0.7447
-3	0.0993	1.1533	1.4144	0.1575	27	-0.0611	1.4954	-0.8674	0.3859
-2	0.2695***	1.4228	2.8908	0.0039	28	0.0434	1.5388	0.6323	0.5273
-1	0.2595***	1.6823	3.4114	0.0007	29	-0.0129	1.526	-0.1937	0.8465
0	0.2900**	1.9723	2.4417	0.0148	30	0.058	1.584	0.8300	0.4067

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

Source. Author's calculations.

It is said from table 5 that the small-cap cash dividend announcement AAR and CAAR are positive on the event day. The corporate announcement, i.e., cash dividend announcement, impacts stocks at 5 per cent level significance on the event day. It is observed that AARs are positive and significant at 1 per cent in two days before the corporate announcement. But, after the new announcement, markets are reacted slightly negatively to the announcement. For 61 days event window period, average abnormal returns are significant in 7 days in the pre-window period and four days after the event. Abnormal returns are positive in 20 days and negative in 10 days in the pre-event window, and 11 days positive and 19 days negative in the post-event window. So, it can be said that the market is waiting positively for the announcement, but after the event announcement, the market reaction is most likely negative. For 61 days window period, CAAR is continuously increasing from the window starting to till corporate announcement. After the post-event, CAAR values are positive, but growth in return is almost stable, and it is slightly in decreasing trend. CAAR values are positive throughout the event window period.

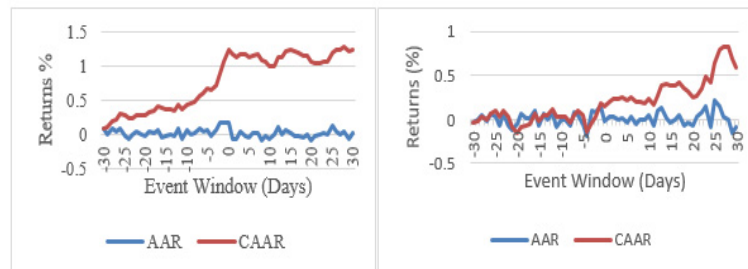


Figure 1. AAR and CAAR of the full sample and large-cap dividend announcements

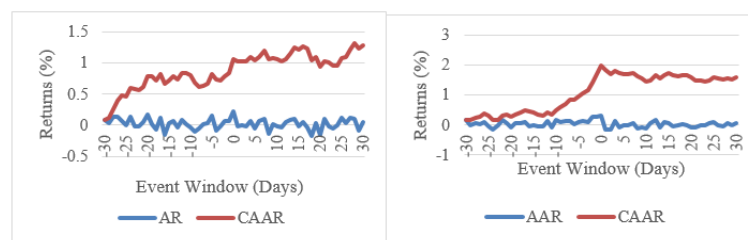


Figure 2. AAR and CAAR of mid-cap and small-cap dividend announcements

From the above figures 1 and 2, it can be said that all-cap cash dividend announcements average abnormal returns (AAR) are less fluctuated for 61 days window period. Cumulative average abnormal returns (CAAR) slowly increase before the event period, and after the event, returns increase moderately compared to the pre-event period. AAR has less fluctuated in small-cap dividend action, and CAAR increases before the pre-event period and after the event slightly increase. In large-cap and mid-cap dividend actions, AAR values vary for 61 days window period, and large-cap CAAR values are almost equal to its AAR values before the event period after event CAAR values increase. Mid-cap CAAR values are much above the AAR values from the start of the event window period, and this trend continued until the end of the window, but growth in the CAAR after the event was more volatile. So, it can interpret from the above discussion that corporate announcement impact on the stock market holds strong in all-cap and small-cap cash dividend announcements. Large-cap and mid-cap cash dividend announcements reacted differently in the stock market by investors.

Table 6. Cumulative Average Abnormal Returns (CAAR) analysis of cash dividend announcements by market capitalization wise in different window periods

S. No	Announcement type	Day	Event window					
			61 days	41 days	21 days	11 days	7 days	3 days
1	Full Sample Dividend	WSD	0.0982	-0.0118	0.0629	0.0629	0.0675	0.1788
		ED	1.2423	0.9528	0.8697	0.6436	0.5975	0.3635
		WED	1.2331	0.7625	0.6291	0.5232	0.5288	0.2967
2	Large-cap Sample Dividend	WSD	-0.0304	-0.0568	0.0000	-0.0526	0.092	0.1464
		ED	0.1579	0.2505	0.1278	0.0525	0.2915	0.1237
		WED	0.5951	0.3402	0.2003	0.1054	0.3602	0.1622
3	Mid-cap Sample Dividend	WSD	0.085	0.1617	-0.0425	0.1578	-0.0221	0.0586
		ED	1.0536	0.4395	0.216	0.3946	0.3209	0.2738
		WED	1.2748	0.3156	0.2161	0.3761	0.2837	0.2478
4	Small-cap Sample Dividend	WSD	0.1801	-0.0747	0.1539	0.0816	0.0993	0.2595
		ED	1.9723	1.6266	1.6388	1.1168	0.9183	0.5495
		WED	1.584	1.2387	1.0918	0.8427	0.7533	0.4003

Source: Author’s calculations, WSD – Window Start Date, ED – Event Day and WED – Window End Date.

It can say from above table 6 that in full sample cash dividend announcement, all windows start with positive CAARs except 41 days window period. In all window period returns on event day, much higher than the window start day values, and window end day values are slightly higher than the event day values in bigger window periods. CAAR is higher than 1 per cent in all windows event day, and window end day also values higher than 1 per cent except seven days and three days window period. These types of occurrences do not observe either large-cap or mid-cap dividend actions—small-cap dividend announcement CAAR values in different windows same as small-cap dividend action values. In large-cap cash dividend announcement, 61 days, 41 days, and 11 days windows start with negative cumulative average abnormal returns (CAAR) then increase to a little bit higher value on event day, and after that, it ends with little bit higher than event day returns. In 41 days and 11 days, window periods also return the same as 61 days returns, but in 21 days, 7 days, and 3 days, window periods days start with positive returns after that event day and window end day returns the same as 61 days window. In large-cap dividend announcements, more positive returns observe between 20 to 30 days after the post-event period.

In mid-cap cash dividend action, 61 days window period start with positive CAAR, then it reaches a higher value on event day and then slightly increases end with a positive higher value than event day returns a value. In 41-day, the window starts with the positive return, then not observes much increase in return before the event, and then returns are lesser than the event day value. 21 days and 7 days window periods start with negative returns, and in 7 days, returns end with lower than event day. In mid-cap dividend announcement, more positive returns were observed during the -30 to -20 days before the event, and more negative returns were found 10 to 20 days after the event.

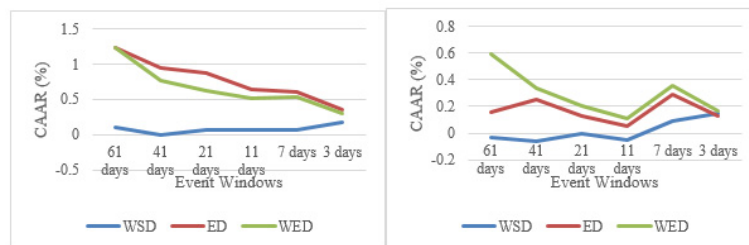


Figure 3. CAAR of the full sample and large-cap dividend action for different window periods

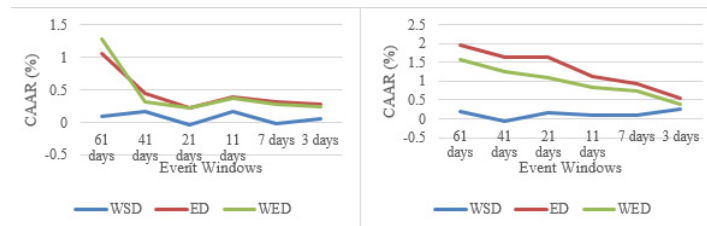


Figure 4. CAAR of mid-cap and small-cap dividend action for different window periods

Above figures 3 and 4 say that, in the full sample, large-cap, mid-cap, and small-cap cash dividend announcements window start day curves are around zero per cent and lower than event day and window end day curves in all window periods. Full sample and small dividend announcement event day curve much higher than window start curves and closer to window end day curves but in the large-cap announcement, event day curve little bit close to window start day curve. In the mid-cap announcement, the event day curve and window end curve interlock to one other, and in 41 days window period end day CAAR is lower than the event day value. So above discussion also supporting the corporate announcement impact the stock market in the full sample and small-cap announcements but no strong evidence in large-cap and mid-cap announcements

5. Bonus Issues Data Analysis and Interpretation

Table 7. AAR, CAAR, t, and p values of full sample bonus issue announcement for 61 days event window

N = 152									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	0.0631	0.0631	0.4307	0.6683	0	0.7032**	3.7420	2.1628	0.0347
-29	-0.0653	-0.0023	-0.4351	0.6651	1	0.5371	4.2791	1.6438	0.1056
-28	-0.2595	-0.2618	-1.7455	0.0862	2	-0.1187	4.1604	-0.4856	0.6291
-27	0.0039	-0.2578	0.0226	0.9821	3	-0.1244	4.0360	-0.5351	0.5946
-26	0.1579	-0.0999	0.6929	0.4912	4	0.2609	4.2969	1.3343	0.1873
-25	-0.3165*	-0.4165	-1.9945	0.0508	5	-0.4227**	3.8742	-2.3736	0.0210
-24	0.1519	-0.2645	0.7422	0.4610	6	0.0309	3.9051	0.1856	0.8534
-23	-0.2964**	-0.5610	-2.1217	0.0382	7	-0.2485	3.6566	-1.5867	0.1180
-22	0.0782	-0.4827	0.4487	0.6553	8	-0.0872	3.5694	-0.5909	0.5569
-21	0.1017	-0.3809	0.6171	0.5396	9	0.0934	3.6629	0.4867	0.6283
-20	-0.1197	-0.5007	-0.6962	0.4891	10	-0.0694	3.5934	-0.3801	0.7053
-19	0.1644	-0.3363	0.9390	0.3516	11	0.0833	3.6768	0.6735	0.5033
-18	0.1094	-0.2269	0.5138	0.6094	12	-0.1168	3.5599	-0.7604	0.4501
-17	0.3278*	0.1009	1.8766	0.0656	13	0.1407	3.7007	0.8731	0.3862
-16	-0.0160	0.0849	-0.0828	0.9343	14	0.1191	3.8199	0.7991	0.4275
-15	-0.1857	-0.1009	-1.0019	0.3206	15	0.1513	3.9712	1.0111	0.3162
-14	0.4121*	0.3112	1.9295	0.0586	16	0.0541	4.0253	0.3058	0.7608
-13	0.0467	0.3579	0.3093	0.7582	17	-0.0121	4.0132	-0.0820	0.9349
-12	0.1408	0.4988	0.7361	0.4647	18	0.0118	4.0251	0.0662	0.9474
-11	0.0927	0.5915	0.6043	0.5480	19	-0.054	3.9711	-0.4077	0.6850
-10	-0.0177	0.5737	-0.0819	0.9351	20	-0.2258	3.7452	-1.3716	0.1755
-9	0.2278	0.8016	1.3439	0.1842	21	-0.1825	3.5626	-1.0870	0.2815
-8	0.1699	0.9716	1.0049	0.3191	22	-0.0522	3.5104	-0.2113	0.8334
-7	0.0034	0.9750	0.0206	0.9836	23	0.2298	3.7402	1.3085	0.1959
-6	-0.0521	0.9228	-0.2646	0.7923	24	0.1207	3.8610	0.7022	0.4854
-5	-0.0529	0.8699	-0.3110	0.7569	25	0.0953	3.9563	0.6777	0.5007
-4	0.3838*	1.2538	1.6733	0.0997	26	0.4025**	4.3588	2.2766	0.0265
-3	0.6714**	1.9252	2.5163	0.0147	27	0.1325	4.4914	0.9053	0.3691
-2	0.6207***	2.5459	3.0474	0.0035	28	0.1542	4.6457	1.0055	0.3188
-1	0.4928**	3.0388	2.1783	0.0335	29	0.4196**	5.0653	2.4727	0.0164
0	0.7032**	3.7420	2.1628	0.0347	30	-0.0584	5.0069	-0.2443	0.8078

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It is said from table 7 that the full sample bonus issue announcement average AAR and CAAR are positive on the event day. Bonus issue announcement impact on stocks at 5 per cent level significance on the event day. It is observed that AARs are positive and significant four days before the event day. But, after the announcement, markets are reacted slightly negatively to the information. For 61 days event window period, AAR's are significant in 8 days in the pre-window period and 3 days after the event. AAR's are positive in 20 days and negative in 10 days in the pre-event window, and 17 days positive and 13 days negative in the post-event window. So, it can be said that the market is waiting positively for the corporate announcement, and after the event announcement, market reaction is a more positive way. For 61 days window period, CAAR's are a more volatile trend at the beginning of the window after that, continuously increasing till the event.

Table 8. AAR, CAAR, t, and p values of large-cap bonus issue announcement for 61 days event window

N = 49									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	-0.0880	-0.0880	-0.4330	0.6670	0	0.5929	1.8176	1.1564	0.2594
-29	-0.2964	-0.3844	-1.3857	0.1791	1	0.74803*	2.5656	1.8770	0.0733
-28	-0.1814	-0.5658	-0.7603	0.4548	2	-0.1313	2.4343	-0.5716	0.5732
-27	0.0893	-0.4765	0.2809	0.7813	3	0.1931	2.6274	0.6763	0.5056
-26	0.2208	-0.2557	0.8965	0.3793	4	-0.1276	2.4998	-0.5446	0.5913
-25	0.0450	-0.2108	0.1692	0.8672	5	-0.3694	2.1304	-1.2213	0.2343
-24	0.1449	-0.0659	0.6391	0.5291	6	-0.0983	2.0321	-0.5048	0.6185
-23	-0.2365	-0.3023	-1.0181	0.3192	7	-0.1965	1.8356	-1.0590	0.3006
-22	-0.0520	-0.3543	-0.2152	0.8315	8	-0.0885	1.7470	-0.4557	0.6529
-21	-0.0020	-0.3564	-0.0071	0.9944	9	-0.1579	1.5891	-0.7238	0.4765
-20	0.0948	-0.2616	0.4273	0.6732	10	-0.0753	1.5139	-0.3754	0.7108
-19	0.1910	-0.0705	0.8056	0.4287	11	0.3181	1.8320	1.5950	0.1244
-18	0.1380	0.0675	0.4758	0.6387	12	-0.0451	1.7869	-0.1868	0.8535
-17	0.4192	0.4867	1.4636	0.1569	13	0.0540	1.8408	0.2292	0.8208
-16	-0.538**	-0.0519	-2.3418	0.0282	14	-0.0095	1.8314	-0.0352	0.9722
-15	-0.2665	-0.3184	-1.1760	0.2516	15	0.1291	1.9605	0.6741	0.5070
-14	0.3506	0.0321	0.9174	0.3685	16	0.3221	2.2825	1.1993	0.2426
-13	0.1506	0.1828	0.6784	0.5043	17	0.1939	2.4764	0.8186	0.4214
-12	0.0481	0.2308	0.1748	0.8628	18	-0.0096	2.4668	-0.0308	0.9757
-11	-0.2664	-0.0356	-1.3839	0.1797	19	0.0142	2.4810	0.0680	0.9464
-10	-0.0334	-0.0690	-0.2027	0.8411	20	-0.3056	2.1754	-1.5023	0.1466
-9	0.1429	0.0738	0.6250	0.5381	21	-0.0008	2.1746	-0.0034	0.9973
-8	0.2812	0.3550	1.2043	0.2407	22	-0.2522	1.9225	-1.0045	0.3256
-7	-0.1188	0.2362	-0.5925	0.5593	23	0.1719	2.0943	0.7529	0.4592
-6	-0.0139	0.2223	-0.0719	0.9433	24	0.0903	2.1846	0.3970	0.6951
-5	-0.1294	0.0929	-0.6164	0.5437	25	0.0908	2.2754	0.4739	0.6400
-4	0.4010	0.4939	1.2348	0.2294	26	0.7292**	3.0046	2.9628	0.0070
-3	0.0156	0.5095	0.0708	0.9442	27	0.2851	3.2898	1.1987	0.2428
-2	0.2667	0.7762	0.8033	0.4301	28	0.2493	3.5391	1.1054	0.2804
-1	0.4485	1.2247	1.3631	0.1861	29	0.3065*	3.8456	1.7891	0.0868
0	0.5929	1.8176	1.1564	0.2594	30	0.2743	4.1199	1.3463	0.1913

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It can interpret from table 8 that large-cap bonus issue announcement AAR and CAAR are positive on the event day. It is observed that AAR is positive and significant at a 10 per cent level after the day of the corporate announcement. But, after the new announcement, markets are reacted slightly negatively to the announcement. For 61 days event window period, AARs are significant in 1 day only in the pre-window period and 3 days after the event. Abnormal returns are positive in 17 days and negative in 13 days in the pre-event window, and 16 days positive and 14 days negative in the post-event window. For 61 days window period, CAAR values are a more volatile trend from the window starting to the corporate announcement. After the post-event, CAAR values are volatile, but returns are the almost positive trend.

Table 9. AAR, CAAR, t, and p values of mid-cap bonus issue announcement for 61 days event window

N = 33									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	0.4842	0.4842	1.2764	0.2120	0	0.7174	5.7603	1.5705	0.1272
-29	0.1226	0.6068	0.3224	0.7495	1	0.6946	6.4549	0.7395	0.4655
-28	-0.0085	0.5983	-0.0327	0.9742	2	-0.2846	6.1703	-0.6332	0.5316
-27	-0.0774	0.5210	-0.2713	0.7881	3	-0.2160	5.9543	-0.5649	0.5765
-26	0.1932	0.7142	0.5567	0.5820	4	-0.1202	5.8341	-0.2748	0.7854
-25	-0.4065*	0.3077	-1.8746	0.0710	5	-0.6711	5.1631	-1.6189	0.1163
-24	0.0094	0.3170	0.0270	0.9787	6	-0.2125	4.9506	-0.6321	0.5323
-23	-0.2692	0.0478	-1.0312	0.3110	7	-0.2933	4.6573	-0.9968	0.3271
-22	0.4570	0.5048	1.0247	0.3140	8	0.0369	4.6942	0.0983	0.9224
-21	0.1968	0.7016	0.6884	0.4967	9	-0.0418	4.6524	-0.1125	0.9112
-20	-0.4147*	0.2869	-1.8931	0.0684	10	-0.4465	4.2060	-1.4473	0.1586
-19	0.5394	0.8262	1.2897	0.2073	11	-0.1723	4.0337	-0.6662	0.5106
-18	0.4562	1.2824	1.2745	0.2126	12	-0.1627	3.8710	-0.4871	0.6298
-17	-0.0706	1.2118	-0.2559	0.7998	13	0.1148	3.9859	0.3453	0.7324
-16	0.2856	1.4974	0.6354	0.5302	14	0.1919	4.1778	0.7487	0.4601
-15	-0.0449	1.4525	-0.1764	0.8612	15	0.1421	4.3199	0.4502	0.6559
-14	0.1267	1.5792	0.4740	0.6391	16	-0.6273*	3.6926	-1.8792	0.0703
-13	0.1308	1.7100	0.3881	0.7008	17	-0.0557	3.6368	-0.2144	0.8318
-12	0.1609	1.8709	0.3678	0.7157	18	0.0071	3.6440	0.0199	0.9843
-11	0.1373	2.0082	0.4921	0.6264	19	-0.1700	3.4739	-0.6288	0.5344
-10	-0.0067	2.0015	-0.0192	0.9848	20	-0.0301	3.4439	-0.0886	0.9300
-9	0.3770	2.3785	1.3064	0.2017	21	-0.4689	2.9750	-1.4867	0.1479
-8	0.2907	2.6692	0.8079	0.4258	22	-0.2060	2.7690	-0.6464	0.5231
-7	0.1959	2.8651	0.5332	0.5979	23	0.1206	2.8895	0.2901	0.7738
-6	0.2586	3.1237	0.5779	0.5678	24	0.4555	3.3450	1.2444	0.2233
-5	-0.1056	3.0181	-0.3480	0.7303	25	0.1037	3.4487	0.2974	0.7683
-4	0.2963	3.3144	0.7677	0.4489	26	0.0762	3.5249	0.3057	0.7620
-3	0.5156*	3.8300	1.9979	0.0552	27	0.2297	3.7546	0.7823	0.4404
-2	0.9536**	4.7836	2.0846	0.0460	28	0.5114	4.2660	1.5977	0.1210
-1	0.2593	5.0429	0.4908	0.6272	29	0.6698**	4.9358	2.2045	0.0356
0	0.7174	5.7603	1.5705	0.1272	30	-0.3907	4.5452	-1.0279	0.3125

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It is observed from table 9 that mid-cap bonus issue announcement AAR and CAAR values are positive on event day, but abnormal returns on event day not significant. It is observed that for 61 days event window period, AARs are significant in 4 days in the pre-window period and two days only after the event. Abnormal returns are positive in 21 days and negative in 9 days in the pre-event window, and 13 days positive and 17 days negative in the post-event window. For 61 days window period, CAAR values are a more positive trend from the window starting to the corporate announcement. After the post-event, CAAR values are positive, but growth in return is almost stable, not in a more volatile trend. CAAR values are positive throughout the event window period, and the market reacted positively to the corporate announcement after the event's announcement.

Table 10. AAR, CAAR, t, and p values of small-cap bonus issue announcement for 61 days event window

N = 70									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	-0.0424	-0.0424	-0.1886	0.8512	0	0.7987	4.3659	1.2951	0.2012
-29	0.0416	-0.0008	0.1781	0.8594	1	0.2461	4.6120	0.4950	0.6228
-28	-0.4807*	-0.4816	-1.8445	0.0710	2	-0.0093	4.6026	-0.0180	0.9858
-27	-0.0285	-0.5101	-0.1004	0.9204	3	-0.3693	4.2333	-0.7789	0.4397
-26	0.0780	-0.4321	0.1587	0.8745	4	0.8508**	5.0841	2.4322	0.0186
-25	-0.6039	-1.0360	-2.1298	0.0381	5	-0.3269	4.7572	-1.2834	0.2053
-24	0.2425	-0.7936	0.5645	0.5750	6	0.2958	5.0530	0.9104	0.3670
-23	-0.3689	-1.1625	-1.5696	0.1228	7	-0.2711	4.7818	-0.8627	0.3924
-22	-0.0220	-1.1844	-0.0801	0.9365	8	-0.1590	4.6228	-0.6527	0.5170
-21	0.1436	-1.0408	0.5259	0.6013	9	0.4097	5.0325	1.0712	0.2893
-20	-0.1482	-1.1890	-0.4112	0.6827	10	0.1578	5.1903	0.4139	0.6807
-19	-0.0813	-1.2703	-0.2768	0.7831	11	0.0127	5.2030	0.0642	0.9490
-18	-0.1215	-1.3918	-0.2922	0.7714	12	-0.1573	5.0457	-0.6270	0.5335
-17	0.4762	-0.9156	1.5320	0.1318	13	0.2377	5.2834	0.8346	0.4079
-16	0.2982	-0.6173	0.8582	0.3949	14	0.1974	5.4808	0.8263	0.4126
-15	-0.1926	-0.8099	-0.4897	0.6265	15	0.1777	5.6585	0.6339	0.5291
-14	0.6378*	-0.1721	1.7064	0.0941	16	0.2029	5.8614	0.6618	0.5112
-13	-0.1005	-0.2726	-0.3952	0.6944	17	-0.1804	5.6810	-0.6932	0.4914
-12	0.2165	-0.0562	0.6688	0.5067	18	0.0348	5.7158	0.1247	0.9013
-11	0.4045	0.3484	1.3577	0.1807	19	-0.0499	5.6659	-0.2236	0.8240
-10	-0.0095	0.3388	-0.0195	0.9845	20	-0.2659	5.4000	-0.8451	0.4021
-9	0.2202	0.5590	0.6603	0.5121	21	-0.1853	5.2147	-0.5771	0.5665
-8	-0.0057	0.5533	-0.0188	0.9851	22	0.2264	5.4410	0.4112	0.6827
-7	0.0052	0.5585	0.0168	0.9866	23	0.3487	5.7898	1.1356	0.2615
-6	-0.2710	0.2875	-0.7035	0.4850	24	-0.0475	5.7423	-0.1517	0.8801
-5	0.0501	0.3376	0.1467	0.8840	25	0.0946	5.8369	0.4068	0.6859
-4	0.4191	0.7568	0.9456	0.3489	26	0.2870	6.1239	0.8147	0.4191
-3	1.3804**	2.1372	2.2489	0.0290	27	-0.0682	6.0557	-0.2830	0.7784
-2	0.7581**	2.8953	2.4506	0.0178	28	-0.1453	5.9105	-0.5531	0.5827
-1	0.6718*	3.5672	1.8015	0.0777	29	0.3791	6.2896	1.0593	0.2946
0	0.7987	4.3659	1.2951	0.2012	30	-0.1761	6.1134	-0.3326	0.7409

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It is said from table 10 that the small-cap bonus issue announcement AAR and CAAR are positive on the event day. The corporate announcement, i.e., bonus issue announcement, impact on stocks not significant on the event day. It is observed that AARs are positive and significant three days before the corporate announcement. But, after the new announcement, markets are reacted slightly negatively to the announcement. For 61 days event window period, average abnormal returns are significant in 5 days pre-window period and only one day after the event. Abnormal returns are positive in 16 days and negative in 14 days in the pre-event and post-event window periods. For 61 days window period, CAAR is continuously increasing from the window starting to till corporate announcement. After the post-event, CAAR values are positive, and it is slightly in increasing trend, but starting of the window CAAR values are negative.

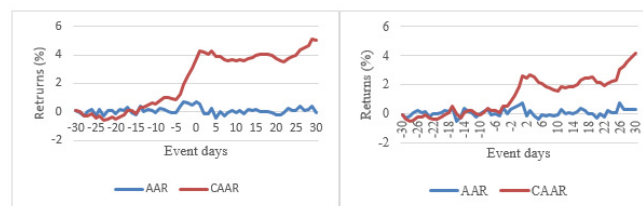


Figure 5. AAR and CAAR of the full sample and large-cap bonus issue announcements

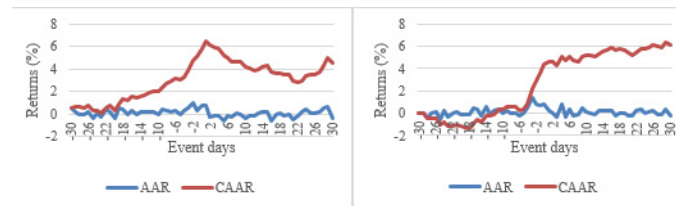


Figure 6. AAR and CAAR of mid-cap and small-cap bonus issue announcements

It can be analyzed from above figures 5 and 6 that full sample bonus issue announcements AAR curves more fluctuate around zero percentage of returns during 61 days window period, especially fluctuations are more before the event day window period. At the beginning of the window period, CAAR curves in most of the bonus issue announcements equal or less than to AAR curve, then it steeply increases till event day then higher values continue in all bonus announcements, but the mid-cap CAAR curve is interlinked with the AAR curve initial days of before event window after that it gradually increases till the end of the event window. Therefore, it can be understood from the above discussion that in mid-cap and a greater number of days, abnormal returns are positive before and after the event period, but in other announcements may be observed more negative or flat abnormal returns before the event and more positive returns after event window period.

Table 11. Cumulative Average Abnormal Returns (CAAR) analysis of bonus issue announcement by market capitalization wise in different window periods

S. No	Announcement type	Day	Event window					
			61 days	41 days	21 days	11 days	7 days	3 days
1	All Bonus issues	WSD	0.0631	-0.1198	-0.0178	-0.0529	0.6715	0.4928
		ED	3.742	4.1229	3.1505	2.8191	2.4882	1.196
		WED	5.0069	4.1261	3.0019	2.9513	2.7822	1.7332
2	Large-cap Bonus issues	WSD	-0.088	0.0948	-0.0334	-0.1294	0.0156	0.4485
		ED	1.8176	2.174	1.8532	1.5953	1.3237	1.0414
		WED	4.1199	2.5317	1.5494	1.9081	2.1335	1.7894
3	Mid-cap bonus issues	WSD	0.4842	-0.4148	-0.0067	-0.1056	0.5156	0.2593
		ED	5.7603	5.0587	3.7521	2.6366	2.4459	0.9767
		WED	4.5452	2.7422	2.1978	2.0394	2.6399	1.6713
4	Small-cap bonus issues	WSD	-0.0424	-0.1482	-0.0095	0.0501	1.3804	0.6719
		ED	4.3659	5.4067	4.0175	4.0783	3.6091	1.4706
		WED	6.1134	6.4408	4.8419	4.4696	3.4765	1.7167

Source. Author’s calculations, WSD – Window Start Date, ED – Event Day and WED – Window End Date.

It can understand from above table 11 that, in full sample bonus issue announcement during 41 days, 21 days, and 11 days windows starting CAAR starts with negative value remaining in other windows returns starts with positive values. On the event day, all the returns are much higher than the window start day, which means that abnormal returns are positive before the event, and at the end of window day also returns higher than event day values in all window periods. In large-cap bonus issue announcement during 21 days and 11 days, starting CAAR starts with negative value remaining in other windows returns starts with positive values. Event day values are positive and much higher than window start day values in all window periods, so more positive returns notice during the pre-event period and at the end of the window; the day also returns positive and a little higher than event day values most of the window periods.

In mid-cap bonus issue announcement during 41 days, 21 days, and 11 days windows starting CAAR starts with negative value remaining in other windows returns starts with positive values. On the event day, all the returns are much higher than the window start day, which means before the event, abnormal returns are positive, especially more positive returns notices in a 21-day window period. It also returns positive at the end of window day but lower than event day values in bigger window periods. In small-cap bonus announcements except in bigger windows remaining in other windows, CAAR returns start with positive values. On the event day, all the returns are higher than the window start day, which means before the event, abnormal returns are more positive,

especially more positive returns notices in the 11-day window period. It also returns positive and much higher than event day values in all window periods at the end of window day.

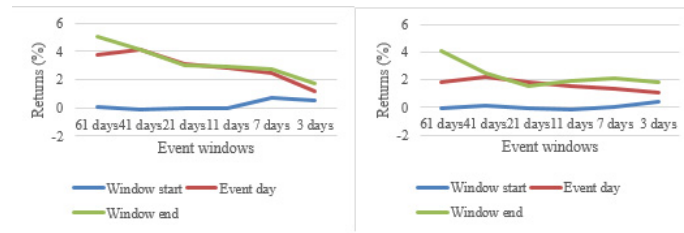


Figure 7. CAAR of the full sample and large-cap bonus action for different window periods

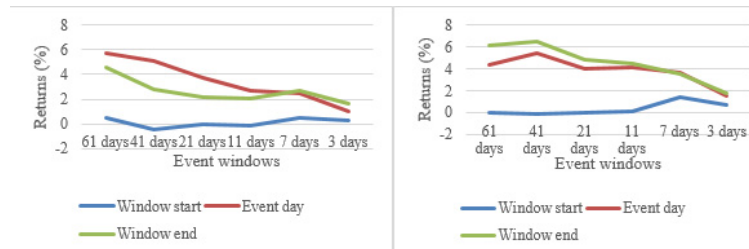


Figure 8. CAAR of mid-cap and small-cap bonus action for different window periods

From the above panel figures 7 and 8, it can explain that in the full sample, large-cap, mid-cap, and small-cap bonus issue announcements window start day curves are around zero per cent and lower than event day and window end day curves in all window periods. In the full sample, large-cap, mid-cap, and small bonus issue announcement event day curves much higher than window start curves in all windows. Window end day curves behave differently in all observations. In the full sample, it is almost merged with event day, in mid-cap lower than event day, and in small-cap, it is a little bit higher or closer to event day. In large-cap bonus issue announcement window end curve is lesser than event day curve on 21 days only and remaining in all windows higher than event day curve. So, it can interpret from the above discussion that semi-strong hypothesis holds in the full sample, mid-cap, and small-cap bonus issue announcements but no strong evidence in large-cap bonus issue announcements.

6. Stock Splits Data Analysis and Interpretation

Table 12. AAR, CAAR, t, and p values of full sample stock split announcements for 61 days event window

N = 181									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	0.1167	0.1167	0.5944	0.5529	0	0.1682	3.5150	0.7624	0.4467
-29	-0.1866	-0.0699	-1.1886	0.2360	1	0.2516	3.7666	1.0250	0.3066
-28	-0.0895	-0.1593	-0.6192	0.5365	2	-0.0919	3.6746	-0.3895	0.6973
-27	-0.0878	-0.2472	-0.6108	0.5420	3	0.2329	3.9075	1.1827	0.2384
-26	-0.0538	-0.3010	-0.2975	0.7664	4	-0.1904	3.7172	-1.0850	0.2792
-25	0.0516	-0.2494	0.2972	0.7666	5	-0.595***	3.1217	-3.4093	0.0008
-24	-0.2231	-0.4726	-1.4178	0.1578	6	-0.403***	2.7184	-2.6980	0.0076
-23	0.0946	-0.3780	0.6155	0.5389	7	0.0132	2.7316	0.0901	0.9283
-22	0.0971	-0.2809	0.6686	0.5046	8	-0.3576**	2.3739	-2.5083	0.0129
-21	0.0864	-0.1946	0.5514	0.5820	9	-0.1138	2.2602	-0.7513	0.4534
-20	0.0980	-0.0965	0.5674	0.5711	10	-0.0218	2.2383	-0.1727	0.8631
-19	0.1631	0.0666	1.0212	0.3084	11	-0.1920	2.0464	-1.6070	0.1096
-18	-0.2346	-0.1680	-1.7366	0.0840	12	-0.2798*	1.7666	-1.8167	0.0708
-17	-0.1582	-0.3263	-1.1905	0.2353	13	-0.515***	1.2513	-3.6498	0.0003
-16	0.1664	-0.1599	0.9634	0.3365	14	0.1094	1.3607	0.7559	0.4506
-15	-0.0060	-0.1659	-0.0284	0.9774	15	-0.0327	1.3280	-0.2521	0.8012

-14	0.4017**	0.2359	2.4897	0.0136	16	-0.0475	1.2805	-0.3046	0.7610
-13	-0.0398	0.1961	-0.2865	0.7748	17	-0.407**	0.8726	-2.4906	0.0136
-12	0.0664	0.2625	0.4288	0.6685	18	-0.2340	0.6386	-1.3690	0.1726
-11	0.1530	0.4155	1.0491	0.2954	19	-0.0743	0.5643	-0.5087	0.6115
-10	-0.1097	0.3058	-0.5810	0.5619	20	-0.1982	0.3661	-1.0772	0.2827
-9	-0.0629	0.2429	-0.3238	0.7465	21	0.0351	0.4012	0.2139	0.8309
-8	0.0906	0.3335	0.5850	0.5592	22	-0.0126	0.3887	-0.0682	0.9457
-7	0.0250	0.3586	0.1666	0.8678	23	0.1634	0.5521	0.9200	0.3587
-6	0.2752*	0.6338	1.7045	0.0899	24	0.2275	0.7796	1.5502	0.1227
-5	0.687***	1.3216	3.3472	0.0010	25	-0.1251	0.6545	-0.7432	0.4583
-4	0.3926**	1.7143	1.9931	0.0476	26	0.1731	0.8275	1.2973	0.1960
-3	0.5355**	2.2499	2.5862	0.0104	27	0.0122	0.8398	0.0862	0.9314
-2	0.4144**	2.6643	2.3247	0.0211	28	0.0127	0.8524	0.0833	0.9337
-1	0.682***	3.3468	3.7714	0.0002	29	0.2532	1.1057	1.2721	0.2048
0	0.1682	3.5150	0.7624	0.4467	30	-0.354**	0.7509	-2.0129	0.0455

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It is said from table 12 that full sample stock split announcement average AAR and CAAR are positive on the event day. Stock splits impact on stocks not significant on event day but significant before six days of the event. It is observed that AARs are positive and significant seven days in the pre window and six days in the post window. For 61 days event window period, AAR's are significant in 8 days in the pre-window period and 3 days after the event. AAR's are positive in 19 days and negative in 11 days in the pre-event window, and 11 days positive and 19 days negative in the post-event window. So, it can be said that the market is waiting positively for the corporate announcement, and after the event announcement, market reaction is a more positive way. For 61 days window period, CAAR is a more volatile trend at the beginning of the window after the event; also, the same trend continues.

Table 13. AAR, CAAR, t, and p values of large-cap stock split announcements for 61 days event window

N = 35									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	-0.689**	-0.6897	-2.0595	0.0457	0	0.3487	1.2230	0.8328	0.4097
-29	-0.1700	-0.8597	-0.7046	0.4849	1	-0.3062	0.9168	-0.8326	0.4098
-28	-0.1734	-1.0331	-1.1781	0.2454	2	-0.2789*	0.6379	-1.8917	0.0654
-27	-0.4496*	-1.4827	-2.0053	0.0514	3	0.2489	0.8868	0.8601	0.3946
-26	-0.2797	-1.7624	-1.4758	0.1475	4	0.0259	0.9127	0.1066	0.9156
-25	0.3897	-1.3727	1.3663	0.1791	5	-0.602**	0.3104	-2.1771	0.0352
-24	-0.2179	-1.5906	-0.9326	0.3564	6	-0.3929*	-0.0826	-1.9015	0.0641
-23	-0.0044	-1.5950	-0.0283	0.9776	7	-0.0145	-0.0970	-0.0772	0.9388
-22	-0.0017	-1.5967	-0.0105	0.9917	8	-0.1611	-0.2581	-0.8411	0.4050
-21	-0.0653	-1.6620	-0.3023	0.7639	9	0.1115	-0.1466	0.4962	0.6224
-20	-0.0278	-1.6898	-0.1316	0.8960	10	0.529**	0.3828	2.5132	0.0159
-19	0.2148	-1.4751	0.9912	0.3273	11	0.1040	0.4868	0.5689	0.5724
-18	-0.3286	-1.8037	-1.1943	0.2391	12	-0.3017	0.1851	-1.3486	0.1847
-17	-0.1007	-1.9044	-0.4854	0.6299	13	-0.589**	-0.4045	-2.2985	0.0266
-16	0.2088	-1.6956	0.7403	0.4632	14	-0.0413	-0.4457	-0.2026	0.8404
-15	0.3725	-1.3231	1.2452	0.2200	15	0.1269	-0.3188	0.5646	0.5753
-14	0.5467	-0.7764	2.2122	0.0324	16	-0.0390	-0.3578	-0.1508	0.8809
-13	-0.2557	-1.0321	-1.2635	0.2134	17	-0.0929	-0.4507	-0.4869	0.6288
-12	-0.2986	-1.3307	-1.4539	0.1534	18	-0.496**	-0.9474	-2.2554	0.0294
-11	0.0709	-1.2598	0.3466	0.7306	19	0.0953	-0.8521	0.3878	0.7001
-10	-0.1669	-1.4267	-0.8189	0.4174	20	0.0982	-0.7539	0.5105	0.6124
-9	-0.2709	-1.6976	-1.4201	0.1630	21	0.0588	-0.6951	0.2124	0.8328
-8	0.2254	-1.4722	0.9367	0.3543	22	-0.4182*	-1.1134	-1.8887	0.0659
-7	0.0746	-1.3976	0.3525	0.7262	23	0.2095	-0.9039	0.8161	0.4190

-6	-0.0501	-1.4476	-0.1850	0.8541	24	0.1063	-0.7976	0.3861	0.7014
-5	0.488**	-0.9592	2.2910	0.0270	25	-0.0182	-0.8158	-0.0712	0.9436
-4	0.730**	-0.2287	2.2566	0.0293	26	0.3510	-0.4648	1.1666	0.2499
-3	0.760**	0.5317	2.6239	0.0121	27	0.2829	-0.1819	1.1470	0.2579
-2	0.1348	0.6665	0.6129	0.5433	28	0.2441	0.0621	0.9882	0.3287
-1	0.2079	0.8743	0.5476	0.5869	29	0.3223	0.3844	1.1847	0.2428
0	0.3487	1.2230	0.8328	0.4097	30	0.2873	0.6718	0.8308	0.4108

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It can interpret from table 13 that large-cap stock split announcement AAR and CAAR are positive on the event day. It is observed that AAR is positive and not significant at any level after the day of the corporate announcement. But, after the new announcement, markets are reacted slightly negatively to the announcement. For 61 days event window period, AARs are significant in 5 days pre-window and seven days in post-window event. Abnormal returns are positive in 13 days and negative in 17 days in the pre-event window, and 16 days positive and 14 days negative in the post-event window. For 61 days window period, CAAR values are a more volatile trend from the window starting to the corporate announcement. After the post-event, CAAR values are volatile, but returns are the almost negative trend.

Table 14. AAR, CAAR, t, and p values of mid-cap stock split announcements for 61 days event window

N = 34									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	-0.0207	-0.0207	-0.0593	0.9531	0	0.2000	0.6128	0.3696	0.7137
-29	-0.3622	-0.3829	-1.0595	0.2959	1	0.6552	1.2680	1.0875	0.2835
-28	0.3899	0.0070	0.9609	0.3426	2	-0.0402	1.2278	-0.0868	0.9313
-27	0.0819	0.0889	0.3748	0.7099	3	0.5609	1.7887	1.2713	0.2112
-26	-0.2947	-0.2058	-0.9479	0.3490	4	-0.761***	1.0279	-3.1577	0.0031
-25	-0.3683	-0.5740	-1.4624	0.1517	5	-0.6951	0.3328	-1.5313	0.1338
-24	0.1664	-0.4077	0.4501	0.6551	6	-0.1757	0.1571	-0.5829	0.5633
-23	0.2419	-0.1658	0.9471	0.3494	7	-0.0858	0.0713	-0.3215	0.7496
-22	0.1801	0.0142	0.6034	0.5497	8	-0.5693	-0.4980	-1.4115	0.1660
-21	-0.4548	-0.4406	-1.1789	0.2456	9	0.3052	-0.1928	0.8373	0.4076
-20	0.2754	-0.1652	0.7758	0.4426	10	-0.2950	-0.4878	-0.9636	0.3412
-19	-0.1180	-0.2832	-0.3764	0.7087	11	0.2673	-0.2204	1.0444	0.3027
-18	-0.2327	-0.5159	-0.8452	0.4031	12	-0.2196	-0.4400	-0.7442	0.4613
-17	-0.79***	-1.3099	-3.0628	0.0040	13	-0.4679	-0.9079	-1.3107	0.1976
-16	0.1577	-1.1522	0.4643	0.6450	14	0.755**	-0.1524	2.4933	0.0170
-15	-0.1717	-1.3238	-0.4208	0.6762	15	-0.0516	-0.2040	-0.1821	0.8565
-14	0.5792	-0.7447	1.3383	0.1885	16	-0.6329*	-0.8369	-1.9259	0.0614
-13	0.2300	-0.5146	0.6552	0.5162	17	-0.0858	-0.9227	-0.1746	0.8623
-12	-0.0069	-0.5215	-0.0248	0.9804	18	-0.3005	-1.2232	-0.7984	0.4295
-11	0.0375	-0.4840	0.1214	0.9040	19	0.1578	-1.0653	0.5312	0.5983
-10	0.3276	-0.1565	0.7469	0.4596	20	-0.8620	-1.9274	-1.6582	0.1053
-9	0.3258	0.1693	0.7645	0.4492	21	-0.0996	-2.0270	-0.3292	0.7438
-8	-0.0975	0.0719	-0.3068	0.7606	22	-0.2048	-2.2318	-0.5018	0.6187
-7	-0.901**	-0.8282	-2.6607	0.0113	23	0.3524	-1.8794	0.6433	0.5238
-6	-0.2381	-1.0662	-1.1520	0.2563	24	0.4606	-1.4188	1.4865	0.1452
-5	0.8839	-0.1823	1.6020	0.1172	25	-0.5433	-1.9621	-0.9804	0.3329
-4	-0.0448	-0.2271	-0.1371	0.8917	26	-0.1796	-2.1417	-0.7501	0.4577
-3	-0.0096	-0.2366	-0.0341	0.9730	27	-0.5397*	-2.6814	-1.8831	0.0672
-2	0.3666	0.1300	0.9824	0.3320	28	-0.1121	-2.7936	-0.5010	0.6192
-1	0.2828	0.4128	0.7325	0.4683	29	-0.5799*	-3.3735	-1.8428	0.0730
0	0.2000	0.6128	0.3696	0.7137	30	-0.2449	-3.6184	-0.5788	0.5661

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It is observed from table 14 that mid-cap stock split announcement AAR and CAAR values are positive on event day, but abnormal returns on event day not significant. It is observed that for 61 days event window period, AARs are significant in 2 days only in pre-window and four days post-window of the event. Abnormal returns are positive in 15 days and negative in 15 days in the pre-event window, and eight days positive and 22 days negative in the post-event window. For 61 days window period, CAAR values are a more negative trend from the window starting to the corporate announcement. After the post-event, CAAR values are negative, but growth in return is almost in a more volatile trend. CAAR values are negative throughout the event window period, and the market reacted negatively to the corporate announcement after the event's announcement.

Table 15. AAR, CAAR, t, and p values of small-cap stock split announcements for 61 days event window

N = 112									
EW	AAR (%)	CAAR (%)	t-Values	p-Values	EW	AAR (%)	CAAR (%)	t-Values	p-Values
-30	0.4452	0.4452	1.5857	0.1155	0	0.1349	5.2404	0.4627	0.6445
-29	-0.1246	0.3207	-0.5569	0.5787	1	0.3297	5.5701	0.9770	0.3306
-28	-0.1922	0.1285	-0.9851	0.3266	2	-0.0375	5.5327	-0.1035	0.9178
-27	-0.0234	0.1051	-0.1082	0.9140	3	0.1692	5.7018	0.6096	0.5433
-26	0.0884	0.1935	0.3184	0.7507	4	-0.0858	5.6160	-0.3190	0.7503
-25	0.0851	0.2786	0.3275	0.7439	5	-0.557**	5.0587	-2.3669	0.0196
-24	-0.3507	-0.0722	-1.5929	0.1139	6	-0.471**	4.5878	-2.1468	0.0339
-23	0.0817	0.0096	0.3440	0.7315	7	0.0622	4.6500	0.2832	0.7775
-22	0.1190	0.1285	0.5510	0.5827	8	-0.3308*	4.3192	-1.7621	0.0807
-21	0.3187	0.4472	1.4793	0.1418	9	-0.3098	4.0094	-1.4794	0.1418
-20	0.0879	0.5351	0.3440	0.7315	10	-0.0964	3.9130	-0.5682	0.5710
-19	0.2408	0.7759	1.0207	0.3095	11	-0.432**	3.4805	-2.5820	0.0111
-18	-0.1867	0.5892	-1.0083	0.3154	12	-0.2973	3.1832	-1.3079	0.1935
-17	0.0215	0.6106	0.1127	0.9104	13	-0.484**	2.6983	-2.6018	0.0105
-16	0.1607	0.7713	0.6426	0.5218	14	-0.0439	2.6544	-0.2118	0.8327
-15	-0.0713	0.7000	-0.2296	0.8188	15	-0.0656	2.5888	-0.3624	0.7178
-14	0.3030	1.0029	1.4053	0.1626	16	0.1242	2.7130	0.5657	0.5727
-13	-0.0456	0.9573	-0.2395	0.8111	17	-0.603***	2.1096	-2.8372	0.0054
-12	0.1097	1.0669	0.5139	0.6083	18	-0.1277	1.9819	-0.5153	0.6073
-11	0.2191	1.2861	1.0345	0.3030	19	-0.1855	1.7964	-0.8915	0.3745
-10	-0.2083	1.0778	-0.7633	0.4468	20	-0.0916	1.7048	-0.3701	0.7120
-9	-0.1074	0.9705	-0.3746	0.7086	21	0.0521	1.7569	0.2185	0.8274
-8	0.1102	1.0806	0.4924	0.6233	22	0.1505	1.9074	0.5648	0.5733
-7	0.3092	1.3898	1.4888	0.1393	23	0.0847	1.9921	0.3796	0.7049
-6	0.532**	1.9220	2.1972	0.0300	24	0.2054	2.1975	1.0087	0.3152
-5	0.7022	2.6242	2.4613	0.0153	25	-0.0488	2.1487	-0.2459	0.8062
-4	0.4307	3.0549	1.4789	0.1419	26	0.2171	2.3658	1.1926	0.2355
-3	0.641**	3.6967	2.0174	0.0460	27	0.097	2.4627	0.4854	0.6283
-2	0.525**	4.2221	2.0038	0.0474	28	-0.044	2.4188	-0.1929	0.8474
-1	0.883***	5.1055	3.8115	0.0002	29	0.5018*	2.9206	1.6757	0.0965
0	0.1349	5.2404	0.4627	0.6445	30	-0.551**	2.3700	-2.4167	0.0172

Note. *** significant at 1%, ** significant at 5% and *significant at 10% level.

It is said from table 15 that the small-cap stock split announcement AAR and CAAR are positive on the event day. The corporate announcement, i.e., stock split announcement, impact on stocks not significant on the event day. It is observed that AARs are positive and significant three days before the corporate announcement. But, after the new announcement, markets are reacted slightly negatively to the announcement. For 61 days event window period, average abnormal returns are significant in 4 days pre-window and seven days in the post window. Abnormal returns are positive in 21 days and negative in 9 days in the pre-event window and 11 days positive and 19 days negative in the post-event window. For 61 days window period, CAAR is continuously increasing from the window starting to till corporate announcement. After the post-event CAAR values are positive, and it is slightly decreasing, but throughout the window, CAAR values are positive.

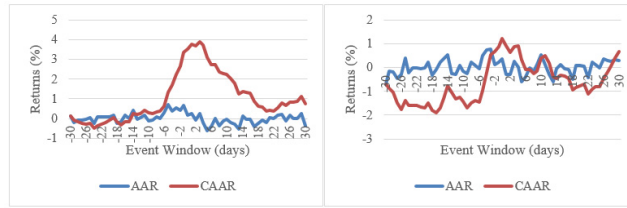


Figure 9. AAR and CAAR of full sample and large-cap stock split announcements

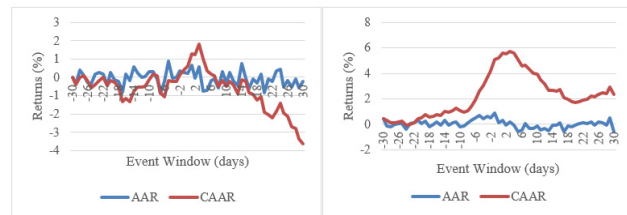


Figure 10. AAR and CAAR of mid-cap and small-cap stock split announcements

It can be analysed from above figures 9 and 10 that all stock split announcements AAR curves fluctuate around zero percentage of returns during 61 days window period. At the beginning of the window period, CAAR curves in most stock split announcements equal to or less than to AAR before the event. Full sample and small-cap CAAR curves higher than AAR curves on event day, but in the large-cap curve are almost equal to AAR. After the event, most curves gradually decrease and go closely to AAR curves and sometimes below the AAR curve. Large-cap CAAR is below the AAR curve throughout the window period. It can be understood from the above discussion that in all observations, the number of days abnormal returns are more positive before the beginning days of the event, and more negative abnormal returns observe the initial days after the event.

Table 16. Cumulative average abnormal returns (CAAR) analysis of stock splits announcement by market capitalization wise in different window periods

S. No	Announcement type	Day	Event window					
			61 days	41 days	21 days	11 days	7 days	3 days
1	Full Sample Stock Split	WSD	0.11673	0.09802	-0.10972	0.68782	0.53556	0.6825
		ED	3.515	3.70956	3.09948	2.88118	1.80069	0.85072
		WED	0.75086	0.56069	1.82279	2.48784	2.19321	1.10227
2	Large-cap Stock Splits	WSD	-0.68968	-0.0278	-0.16692	0.48845	0.76035	0.20787
		ED	1.22302	2.88505	2.48277	2.67065	1.45167	0.55655
		WED	0.67176	0.90809	1.64255	1.75807	1.11546	0.25035
3	Mid-cap Stock Splits	WSD	-0.02074	0.27541	0.32757	0.88394	-0.00955	0.28275
		ED	0.61278	1.05338	1.09679	1.67901	0.83982	0.48275
		WED	-3.6184	-1.48676	-0.00373	1.39903	2.01572	1.13792
4	Small-cap Stock Splits	WSD	0.44522	0.08792	-0.20825	0.70216	0.64188	0.88341
		ED	5.2404	4.79319	3.95433	3.31838	2.18555	1.01835
		WED	2.37002	1.25758	2.62697	3.13663	2.64696	1.34807

Source: Author’s calculations, WSD – Window Start Date, ED – Event Day and WED – Window End Date.

Above table 16 explains that in full sample stock split announcement during only 21 days, starting CAAR starts with negative value remaining in other windows returns starts with positive values. On the event day, most of the returns are much higher than window start day that means before the event, abnormal returns are positive, but at the end of the window, the day also returns negative and lower than event day values in most of the window periods, especially in bigger window periods. CAAR starts with positive values in the bigger window periods in the large-cap stock split announcement, and smaller window returns start with negative values. Event day values

positive and higher than window start day values in all window periods and, surprisingly, at the end of window day, also returns positive in most of the windows but less than event day values in all windows.

In a mid-cap split announcement during only 61 days and 7days windows starting CAAR starts with negative value remaining in other windows returns starts with positive values. On the event day, most of the returns positive and higher than window start day values in all windows. At the end of window day, returns are positive in smaller windows and negative in bigger windows but lower than event day values in all window periods that means more negative abnormal returns after the event. In small-cap, most of the windows start with positive returns except 21 days window. On the event day, most of the window’s returns are positive and much higher than window start day values. At the end of window day, returns are positive in all windows and lower than event day values in most of the window periods that mean after the event, most of the day’s abnormal returns are negative.

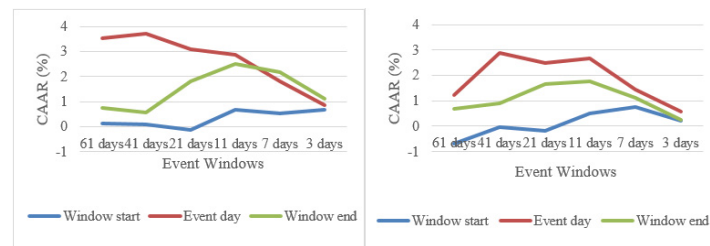


Figure11. CAAR of the full sample and large-cap split action for different window periods

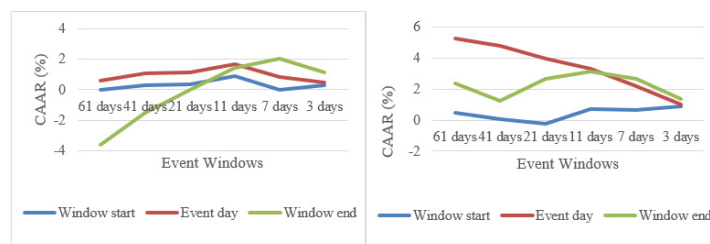


Figure 12. CAAR of mid-cap and small-cap split action for different window periods

From the above figures 11 and 12, it can understand that in the full sample, large-cap, mid-cap, and small-cap stock split announcements window start day curves are fluctuating more around zero per cent and lower than event day in all windows periods. In the full sample, large-cap, mid-cap, and small stock split announcement event day curves higher than window start curves in all windows, and surprisingly, it is higher than window end day curve also in most of the windows. Window end day curves behave differently in all observations; in the full sample, it is below than event day curve in some windows, large-cap and small-cap, it is lower or closer to event day. In a mid-cap stock split, the announcement window end curve is much lesser than the event day curve and even lesser than the window starts day curve in some windows. So, it can interpret from the above discussion that the market efficiency hypothesis does not hold in all observations.

7. Conclusion

Capital markets being the backbone of the economy, are expected to be functioning efficiently. Efficiently-priced financial markets are considered a catalyst for the economic growth of the nations (Malkiel, 2010), and efficient markets are the reflection of security valuations. However, we got contradictory results for evidence of market efficiency in the Indian capital market for different corporate announcements as an observed literature review. Even in the same corporate announcement, different evidence for market efficiency is noticed in different sizes of the companies. Another thing observed from our study is that size effect anomaly observed in cash dividend and bonus issue announcements and evidence observed semi-strong form of efficiency in these two announcements. Cash dividend, and bonus issue announcements abnormal returns are positive and significant on event day, and stock split announcement abnormal returns are positive but not significant on the event day.

We found that contradict results for market efficiency during the corporate announcements in Indian capital markets. Cash dividend announcements have shown market efficiency, and results are opposite to Gupta et al.

(2012), similar to Mishra (2005). Bonus issue announcements also have shown evidence for a semi-strong form of efficiency, test results similar to Dhar and Chhaochharia (2008), Kumar and Mittal (2015). On the other hand, stock split announcements have not shown evidence for market efficiency and result similar to the Lakshmi and Roy (2012) and opposite to Chavali and Zahid (2011) and Rohit, Pinto, and Shakila (2016). Our results also support the emerging countries showing market efficiency (Bechev, 2003) and opposite to Jawa (2016). An interesting thing observed from our study is that if returns are significant on event day, more evidence was noticed for semi-strong form efficiency in those announcements but to prove these observations required more study. It is required to study market efficiency in the long horizons, different periods, in different economic conditions, and different corporate announcements for a better understanding, the efficiency of the Indian capital market. Finally, results for market efficiency vary with different corporate announcements, different capitalizations, and economic conditions.

8. Limitations

- The study is restricted to the period from 2008 to 2019 and S&P BSE 500 Index firms only.
- Stocks available in BSE cap indices on January 2020 are the base for classifying samples into large, mid, and small caps.
- The study restricted only three corporate announcements: pure cash dividend, bonus issue, and stock split announcements.
- Macro-economic factors impact not considered in the study.
- Transactions cost not considered for calculation of the abnormal returns during the event period.

References

- Akbas, F., Armstrong, W. J., Sorescu, S., & Subrahmanyam, A. (2014). Capital Market Efficiency and Arbitrage Efficacy.
- Anderson-Weir, C. H. (2010). How Does the Stock Market React to Corporate Environmental News? *Undergraduate Economic Review*, 6(1).
- Ball, R. (2009). The Global Financial Crisis and the Efficient Market Hypothesis: What Have We Learned? *Journal of Applied Corporate Finance*, 21(4), 8-16.
- Bandara, D., and Samarakoon, P. (2002). Dividend Announcements, Firm Size and Dividend Growth in the Sri Lankan Stock Market. *Sri Lankan Journal of Management*, 7(3), 228-245.
- Barone, E. (1989). The Italian Stock Market: Efficiency and Calendar Anomalies. <http://dx.doi.org/10.2139/ssrn.512503>
- Bechev, I. (2011). Efficient Market Hypothesis: Budapest, Prague and Warsaw Stock Exchange. *SSRN Electronic Journal*, 1-33. <https://doi.org/10.2139/ssrn.625901>
- Chavali, K., & Zahid, Z. (2001). Impact of Stock Splits on Stock Price Performance of Selected Companies in Indian Context. *Afro-Asian Journal of Finance and Accounting*, 2(3), 270-282. <https://doi.org/10.1504/AAJFA.2011.041633>
- Dasilas, A., & Leventis, S. (2011). Stock Market Reaction to Dividend Announcements: Evidence from Greek Stock Market. *International Review of Economics and Finance*, 20(2), 302-311. <https://doi.org/10.1016/j.iref.2010.06.003>
- Degutis, A., & Novickte, L. (2014). The Efficient Market Hypothesis: A Critical Review of Literature and Methodology. Working Paper.
- Dhar, S., & Chhaochharia, S. (2011). Market Reaction Around the Stock Splits and Bonus Issues: Some Indian Evidence. *SSRN Electronic Journal*, 9434139726(M), 1-24. <https://doi.org/10.2139/ssrn.1087200>
- Dragota, V., Opera, D., & Brasoveanu, L. O. (2019). Market Efficiency, Prediction and Returns. *Economic Computation and Economic Cybernetics Studies and Research*, 53(3), 59-76.
- Fama, E., & French, K R. (2000). Disappearing Dividends: Changing Firm Characteristics or Lower Propensity to Pay? AFA 2001 New Orleans; CRSP Working Paper No. 509. <http://dx.doi.org/10.2139/ssrn.203092>
- Fama, E., Fisher, L., Jensen, M., & Roll, R. (1969). The Adjustment of Stock Prices to New Information. *International Economic Review*, 10(1), 1-21. <https://doi.org/10.2307/2525569>

- Griffin, J. M., Kelly, P. J., & Nardari, F. (2011). Are Emerging Markets More Profitable? Implications for Comparing Weak and Semi-Strong Form Efficiency. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.959006>
- Gunalp, B., Kadioglu, E., & Kille, S. (2011). The Announcement Effect of Cash Dividend on Share Prices and the Tax Clientele Effect: Evidence from Turkish Capital Markets. Euro Conference 2011: Crises and Recovery in Emerging Markets.
- Guo, S., & Wang, Z. (2007). Market efficiency anomalies A study of seasonality effect on the Chinese stock exchange (pp. 1-64).
- Gupta, S., Dogra, B., Vashisht, A. K., & Ghai, S. (2012). Stock Price Reactions to Dividend Announcements. *International Journal of Management*, 2(2), 23-31.
- Hua, B. L., & Ramesh, S. (2013). A Study on Stock Split Announcements and its Impact on Stock Prices in Colombo Stock Exchange (CSE) of Sri Lanka. *Global Journal of Management and Business Research Finance*, 13(6), 25-34.
- Jarrow, R. A., & Larsson, M. (2011). The Meaning of Market Efficiency. Johnson School Research Paper Series No. 07-2011. <http://dx.doi.org/10.2139/ssrn.1781091>
- Kulakarni, V., & Chandani, A (2020). A Study to Analyse Effect of Corporate Actions on Stock Market Returns of Selected Indian IT Companies. e-journal-First Pan IIT International Management Conference – 2018.
- Kumar, H., & Jawa, R. (2017). Efficient Market Hypothesis and Calendar Effects: Empirical Evidences from the Indian Stock Markets. *Business Analyst*, 37(2), 145-160.
- Lakshmi, V., & Roy, B. (2012). Price Earnings Ratio Effect: A Test of the Semi Strong Form of Efficient Market Hypothesis in Indian Stock Market, XI Capital Markets Conference, 21-22 December 2012, Indian Institute of Capital Markets (UTIICM). <https://dx.doi.org/10.2139/ssrn.2255389>
- Los, C. A. (2004). Measuring the Degree of Financial Market Efficiency: An Essay. <https://dx.doi.org/10.2139/ssrn.614544>
- Malkiel, B. G. (2010). Bubbles in Asset Prices. CEPS Working Paper No. 200.
- Marisetty, N., & Babu, S. (2017). Corporate (Dividend) Actions and Impact on Stock Abnormal Returns: A Study on Indian Context. *International Journal of Management and Social Sciences Research*, 6(11), 30-35.
- Marisetty, N., & Babu, S. (2018). Impact of Corporate Action (different Stock Split Ratios) on Stock Price in India. *International Journal of Research in Economics and Social Sciences*, 8(1), 205-213.
- Marisetty, N., & Pasha, A (2017). a Study on the Impact of Dividend on Stock Prices. *International Journal of Management Studies*, 4(1), 1-9.
- Mishra, A. K. (2005). An Empirical Analysis of Market Reaction around the Bonus Issues in India. IIML Working Paper Series No: 2005-10.
- Nishanthini A. & Nimalathanan B. (2014). Market Efficiency and Its Impact on Share Price: A Study of Listed Manufacturing Companies in Sri Lanka. *Asia Pacific Journal of Research*, 1(XX), 111-120.
- Rao, K. K. (2014). Corporate Actions and Impact on Stock Prices – An Empirical Study of Indian Markets. *Galaxy International Interdisciplinary Research Journal*, 2(1).
- Rozeff, M. S., & Zaman, M. A. (1988). Market Efficiency and Insider Trading: New Evidence. *In The Journal of Business*, 61(1), 25. <https://doi.org/10.1086/296418>
- Shirur, S. (2008). Dilemma of Corporate Action: Empirical Evidences of Bonus Issue vs. stock Split. *Vikalpa*, 33(3), 35-47. <https://doi.org/10.1177/0256090920080303>
- Titan, A. G. (2015). The Efficient Market Hypothesis: Review of Specialized Literature and Empirical Research. *Procedia Economics and Finance*, 32(15), 442-449. [https://doi.org/10.1016/s2212-5671\(15\)01416-1](https://doi.org/10.1016/s2212-5671(15)01416-1)
- Venkatesan, T., & Nagaraj, R (2018). Analysis of Corporate Actions and Market Efficiency in India. *SJCC Management Research Review*, 8(1), 75-89.

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