



**ORIGINAL RESEARCH PAPER**

**Management**

**IMPACT OF BONUS ISSUE ANNOUNCEMENT ON THE INDIAN STOCK MARKET: AN EMPIRICAL EVENT STUDY**

**KEY WORDS:** Bonus issue announcement, Market Efficiency, Stock price, Event Study, BSE India

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**ABSTRACT**

Corporate actions announcement is usually assumed to offer good news to participants in market. In case of fictitious corporate action such as Bonus share issue, tend to react on market price positively or negatively. In light of this, present study aims to investigate the impact of Bonus Issue announcement on Indian stock market for the period of 3 years from 2015 to 2017. We applied event study methodology using a sample size of 80 companies from BSE. -20 to +20 investigation window taken for all bonus issue announcement event to test the abnormal return considering 52 companies. The result reveals that Indian Stock market does not react to Bonus share issue announcement. Thus, this paper contributes to the fact that there is no significant effect on stock price when a company announces the issue of bonus shares.

**INTRODUCTION**

Based on the information set, a market tends to react which can make profitable investments terming it as an efficient market (Jensen, 1978). The efficient markets hypothesis (EMH), popularly known as the Random Walk Theory, is the proposition that current stock prices fully reflect available information about the value of the firm, and there is no way to earn excess profits, by using this information. The first time the term "efficient market" was in a 1965 paper by E.F. Fama who said that in an efficient market, on the average, competition will cause the full effects of new information on intrinsic values to be reflected "instantaneously" in actual prices. New information are effective enough to adjust stock prices, thus making it precise and prompt. Bonus issues being a corporate event helps to examine the efficiency of the market price thereby enhancing the rate of stock price modifications by providing useful facts to the stakeholders. Likewise, any corporate event announcement influences the momentum in stock market for which market efficiency levels needs to be kept in mind. The securities are affected by various efficiency levels as discussed below.

**Weak Form Efficiency:**

The weak form of the efficient markets hypothesis asserts that the current price fully incorporates information contained in the history of prices only. That is, nobody can detect mis-priced securities and "beat" the market by analyzing past prices.

**Semi-strong Form Efficiency:**

Semi-strong form of market efficiency hypothesis signifies that security prices reflects all the publicly available information in the stock current share price and it is not possible to earn excess return using fundamental or technical analysis. Publicly available information not only includes historical data but also the data published in financial statements of the company, bonus and dividend announcements, merger and acquisition strategies, forecasted macro economic factors etc. Here publicly available information is a broader term and does not bind to financial nature.

**Strong Form Efficiency:**

Strong form of market efficiency hypothesis is the strongest version of market efficiency and signifies that share prices reflects all the information both public and private which means that no one can earn excess returns. To examine the semi strong form of market efficiency a market need to exist where the trader is not able to earn excess returns consistently over a long period of time.

**Event Study**

In this paper an event being studied is bonus issue & its impact on

stock prices. Bonus shares are an extra free share given to current shareholders in a company without any additional cost based upon the number of shares that the shareholder already owns. The issue of bonus shares increases the total number of shares issued and owned, it does not increase the value of the company, although the total number of issued shares increases, the ratio of number of shares held by each shareholder remains constant. The whole idea behind the issue of Bonus shares is to bring the Nominal share Capital in line with the true excess of assets over liabilities Companies issue shares in lieu of consideration. The consideration may be either in the form of cash or kind. Bonus shares are issued by conversion of the reserves and surplus of the company into shares. Bonus shares can be issued only by companies which have accumulated large free reserves i.e. reserves not set apart for any specific purpose and which can be distributed as dividend. However, bonus shares can be issued out of balance in the share premium account. This paper contribute to observe the stock price reaction to announcement of bonus issues, and thereby examine if Indian stock market is efficient in its semi-strong form or not.

**Literature Review**

Paola Bongini *et al.*, (2015) have investigated the effect of the new rules and regulations designed by SIFI to address the problem of systemic banks. Studying a sample of 70 world's largest banks and examined whether there is an effect on the stock prices of the SIFI'S. They concluded that there is no much strong significant effect on the market.

Chhavi Mehta *et al.*, (2014) investigated on the Indian manager's opinion about stock splits and their motives in issuing them reveals that it's a strategy. Managers use this as a tool to enhance the liquidity. As it brings the share price down, it makes stocks more attractive within the trading range. Therefore all this results in the increase in the liquidity.

Ricardo Correa *et al.*, (2012) examined the effect on banks due to changes in sovereign credit ratings on banks stocks returns. This is done by using the data of 37 countries banks during the period 1995 to 2011. The results show a range negative effect on bank stock returns. This also states that the result is even stronger for banks in advanced economies where governments are supposed to provide a support.

Eyup Kadioglu *et al.*, (2015) investigated the market reactions for the announcements of the cash dividends using the abnormal return analysis. Considering a sample of 118 companies who made announcements during 2003 to 2015, they found that there is a negative relationship between cash dividend per share and

abnormal return post announcement. The results even suggest that the inefficiency of the market decreases over time while the prices quickly adapt to the new information.

Jody Grewal *et al.* (2015) examined the reaction of the European equity market due to the nonfinancial disclosures of the firms. It made the firms to disclose its environment, social, governance performance etc. considering a cross country sample it is observed that there exists a negative reaction of the market. It results in showing positive reaction of the firms with superior nonfinancial performance and disclosures.

Prachi Mishra *et al.* (2014) examined the market reactions for the tapering of asset purchase and related macroeconomic factors and financial structure during 2013-14. With the data of 21 emerging market showing daily exchange rates, government bond yield and stock prices shows the less differentiation in the behavior based on fundamentals. But countries with strong and deeper financial markets and a tighter macro prudential policy stance in the run up to the tapering announcements experience currency depreciation and increase in government bond yield.

Menike and Wang Man (2013) examined the reactions of stock market for the release of the financial statements in Sri Lanka. Considering 5 year data of banks registered in Colombo stock exchange the studies show that the stock market reaction in terms of abnormal returns is positive but insignificant at 5% level and also the result is differed for the different periods. This is due to the favorable information in annual reports.

Anwar S *et al.* (2015) examined the stock returns affected by the announcement of cash dividends. Considering Indian stock market, the results show that stock returns increased post announcements. This is due to decrease in the firm's risk.

Lamoureux C.G. and Poon P. (1987) presented the market reaction due to the stock splits. It is considered that daily no. of transactions along with raw volume of the shares will increase post stock split. The results of the study strongly support this theory. It also explains the increase in the noisiness of the security returns.

Chhavi Mehta *et al.* (2015) show the market reactions due to stock dividends. Though there is no change in company's net worth and total assets through stock dividends, the study shows there is a significant impact on the returns, risk and liquidity. This was explained by considering the sample of 51 stock dividend announcements made during 2002 to 2010.

Madhuri Malhotra *et al.* (2012) investigated the Indian stock market reaction for the bonus and rights issue announcements. Using ratios like raw trading volume, relative trading volume and liquidity have decreased after the announcement where only the liquidity ratio decrease is at significance level and other two are at insignificance level.

Mallikarjunappa and Dsouza (2013) studies the stock market efficiency with respect to the private information available. Testing the semi strong form market by considering the announcements of companies and publicly available information during 2008 quarter 160 companies was filtered. Result of reaction to the announcements like expected returns, abnormal returns is slow for the available public information. Therefore the author concluded that Indian market is not efficient in the semi strong form.

**Data and Hypothesis**

To test the efficiency of the stock market in India when there is an announcement of Bonus issue, we consider the past three years period i.e. 2015-2017. The data is collected from the BSE for those companies who declared an issue of Bonus shares. We formed a random sample of 52 companies from those companies who issued the bonus share in the past three years.

To conduct the study, considering the above sample data we formulated the hypothesis:  
Null Hypothesis (H0) is that there is no significant difference in the

stock return between before and after the event which says there is no impact of announcement date on stock price.

Alternative Hypothesis (H1) is that there is significant difference between before and after the event which says there is impact of announcement date to stock price.

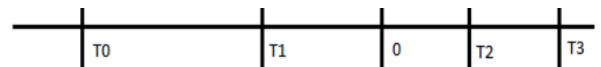
**Methodology**

The event study methodology is to investigate the effect of a corporate event on any dependent variable is stock price of the companies. One of the important assumption of this study is that, the market processes the information efficiently. The time periods that we considered are:

Event window: 40 days (20 days pre and post announcement day).

Estimation window: Past 2 years from the end of the event window.

Here the event that we are interested in is bonus issue. To conduct the event study, we determine an event window and estimation window over the announcement date. All the event windows are as follows:



The interval T0-T1 is the estimation window

The interval T1-T2 is the event window

Time 0 is the event date in the calendar

The interval T2-T3 is the post event window.

Here we considered the size of the event window as 20 days i.e. 20 days before and after the event date. Estimation window is the data of past 3 years to help the estimation of the returns. The measure that we chose to find the impact of the announcement is abnormal return which is the difference between the actual return and normal return. Therefore, to calculate the abnormal return first we should calculate actual return and normal return which is the expected return if the event did not take place. The formulas that used are:

$$R_{st} = 100 * \ln \left( \frac{P_{st}}{P_{st-1}} \right) \& R_{mt} = 100 * \ln \left( \frac{P_{mt}}{P_{mt-1}} \right)$$

Where,

$P_{st}$  is the stock price of company s at time t

$R_{st}$  is the return of company s at time t

$P_{mt}$  is the sensex price at time t

$R_{mt}$  is the return of sensex at time t

The model we followed to calculate the normal return over the event window is Market model. It assumes a stable linear relation between the market return and the stock return. Using Gretl, we formulated the linear equation for each company where the general form is:

$$R_{st} = \alpha_s + \beta_s R_{mt} + e_{st}$$

$\alpha_s$  and  $\beta_s$  are the intercept and slope of the linear equation,

$e_{st}$  is the error or residual.

So, the final model equation for calculating the normal return is:

$$NR_{st} = \alpha_s + \beta_s R_{mt}$$

$NR_{st}$  is the normal return of s company at time t.

$\alpha_s$  and  $\beta_s$  are OLS estimated for company s.

Finally, after calculating the normal return the next step is to calculate the abnormal return using the formula:

$$ARET_{st} = R_{st} - NR_{st}$$

$ARET_{st}$  is the abnormal return of s company at time t.

To test the impact of the bonus issue over the security we need to find the cumulative abnormal return and test it through T – statistics. For that we use:

$$CARET_{st;t+K} = \sum_{n=1}^K ARET_{st+nK}$$

Where,  
K is count of the day.  
T-Test:

$$T = \frac{CARET_{st;t+K}}{\sqrt{K}\sigma_{Rst}}$$

$\sigma_{Rst}$  is the standard deviation of the company returns

We are using CAR because it is the total measure of the abnormal return during the event window.

Final step is to aggregate abnormal returns over the event window to draw conclusions. To do that we have to find the average abnormal return and average standard deviation of all the securities in the sample. Formulas used are:

$$\overline{CARET}_{st;t+K} = \frac{1}{N} \sum_{i=1}^N CARET_{st;t+K}$$

For cumulative standard deviation:

$$\sigma(\overline{CARET}_{st;t+K}) = \frac{1}{N} \sum_{i=1}^N \sigma(CARET_{st;t+K}) = \frac{1}{N} \sum_{i=1}^N \sqrt{K}\sigma_{Rst}$$

Where N is the total number of securities.

Therefore, to test the null hypothesis that an event effects the stock we can use the following

T–statistics:  $T_f = \frac{\overline{CARET}_{st;t+K}}{\sigma(\overline{CARET}_{st;t+K})}$

**Results and Discussion**

In the study, the event window of 41 days consisting of t= -20 to +20 relative to the event day t0. Event date is represented as 0 and is the date of announcement of Bonus issue. With the objective of to investigate whether average abnormal return are indicating any pattern or not and to examine impact of announcement of Bonus issue on the stock price. Where, Null Hypothesis (H0) is that there is no significant difference in the stock return between before and after the event which says there is no impact of announcement date on stock price.

Alternative Hypothesis (H1) is that there is significant difference between before and after the event which says there is impact of announcement date to stock price.

Thus Table 1 shows the result of t statistics of cumulative abnormal return of 52 company's pre and post announcement of bonus shares.

**Table 1.Average cumulative abnormal return and the respective T-Stat.**

DAY	CARET	K	T – STAT	DAY	CARET	K	T – STAT
-20	0.369803	1	0.129067	1	6.829903	22	0.508217
-19	0.525177	2	0.129609	2	7.005704	23	0.50984
-18	0.711529	3	0.143377	3	6.343921	24	0.451958
-17	0.352276	4	0.061475	4	6.400935	25	0.446807
-16	0.267475	5	0.041749	5	5.680925	26	0.388847
-15	1.123766	6	0.16012	6	5.232334	27	0.351447
-14	1.17554	7	0.155072	7	5.072366	28	0.334563
-13	1.486288	8	0.183402	8	5.344501	29	0.346381
-12	1.230311	9	0.143133	9	5.532993	30	0.35257
-11	0.929206	10	0.102555	10	6.285998	31	0.394039
-10	1.079823	11	0.113632	11	6.309759	32	0.3893
-9	1.433939	12	0.144473	12	6.611778	33	0.401705
-8	1.398094	13	0.135335	13	6.51322	34	0.389854
-7	1.445109	14	0.134798	14	6.129773	35	0.361623

-6	1.854032	15	0.167077	15	6.164608	36	0.358592
-5	2.631692	16	0.229626	16	6.330488	37	0.363231
-4	3.124554	17	0.26449	17	6.197864	38	0.350911
-3	4.226022	18	0.34765	18	5.873896	39	0.328277
-2	4.638616	19	0.371414	19	5.98841	40	0.330467
-1	4.83735	20	0.377519	20	5.492985	41	0.299408
0	6.612828	21	0.503644				

Level of Significance (α) = 0.05

The critical value for Tow tailed T- test at 5% significance level and with degrees of freedom of 51 is between (-)2.008 and (+)2.008. Thus, result of T test reveals that Null Hypothesis is accepted because to reject null hypothesis the Observed Value of T test should fall in the rejection area. As mentioned earlier in this case the two tailed T-test rejection areas are above +2.008 and below -2.008. So, if we observe the table above we can see that not a single value is less than -2.008 or greater than +2.008 which is the rejection area. Therefore, as no value is falling in the rejection area so, we accept the null hypothesis we formulated.

If we compare the previous results, it also shows the majority of the studies give the similar result. Majority of the company's stock price is not affected with the announcement of the bonus share. The result we obtained is also show the same where no company is affected with bonus share announcement which is accustomed.

Hence, result says there is no significant difference between before and after the event which says there is no impact of announcement date to stock price.

**Conclusion**

Investors will be very keen in valuation of the stock price and fluctuations in the stock price. Corporate actions play a major role in the stock price fluctuations. Event study is one of the methods to analyze the effect of the corporate action over the stock price. Many analysts and researchers are working on this in wide range to provide reliable and efficient insights to help the investors in decision making. Bonus issue is one of the corporate actions, companies will be doing frequently. So, we considered bonus issue and performed the event study.

Our study documents the influence of bonus share issue announcement over Indian stock market for 52 listed firms on BSE for the period of 3 years from 2015 to 2017. An event study was conducted using 20 days pre and post event window. The study accepts the null hypothesis that there is no significant cumulative abnormal return around the event of bonus issue announcement i.e. no significant affect on stock price.

Based upon empirical result in line with several studies which has been conducted on emerging economies also found no effect of Bonus issue on stock prices (Tsangarakis 1996; Bohren et al., 1997; Hansson 1999; Gupta and Gupta 2007; Kadiogly et al., 2015).

Further studies we can find out why there is no significant effect on the stock price, what is the investor's perception, if a company announces bonus share etc. All this studies can be performed to different corporate actions and help investors' decision making which improves their investments and returns which eventually influences the country's economy.

Finally, based on the empirical study and results that we performed, we can say that there is no significant effect on the stock price due to the announcement of bonus share.

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