



STOCK PRICE RESPONSE TO BONUS SHARE ANNOUNCEMENT- EVIDENCE FROM NSE, INDIA

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Abstract

Corporate events have considerable effect on the movement of stock price that attracts lots of research. Likewise, Bonus share is one of the significant events in company and brings volatility to the stocks. The present study focuses on response of stock price movement to the announcement of bonus share. A study focused on 4 selected stocks having bonus share announcement between October 2019 to March 2021. A standard event study methodology was used to analyze the response of bonus share announcement on abnormal returns (AR) for the sample stocks surrounding forty one days of the announcement date (including announcement date). Average abnormal returns (AAR) and cumulative average abnormal returns (CAAR) were computed. Paired t-test was used for analyzing significance of bonus share announcement on AAR. From the study, it can be inferred that bonus share announcement has shown negative significant impact on AAR.

Keywords: Bonus share, Abnormal returns, Average abnormal returns, Cumulative abnormal returns, Event study methodology.

Introduction

As per concept, Bonus share is illusion which increases the number of outstanding equity shares without impacting on existing stockholder's proportional ownership. Bonus share announcement has no real economic significance as it does not impact any cash inflow or outflow. Per se, it would not be expecting any noteworthy price movement on announcement of bonus issue. Differing to this theoretical assumption, past studies show that bonus share announcements reported a significant stock price movement. It is therefore a matter of research



that the firm announcing bonus share experience significant changes in their share prices. Therefore, association between bonus share announcement and stock prices movement has been subject of much empirical research. In this study focus is on to analyze the reactions of bonus share declaration on the share prices movement with respect to market return.

Literature Review

Michelle & Shiguang (2001) dissected the responses of China's stock prices to the bonus issue announcement. Analysis showed that the higher ratio of bonus issue leads to positive return while the lower ratio of bonus announcement provided almost negative pay out.

Balachandiran, Faff, & Jong (2005) studied Australian stock market to analyze the share price response to bonus share announcement. Results displayed significant positive abnormal return on the announcement day and also on the next trading day of announcement.

Budhraj, Parekh & Singh (2004) examined BSE listed stock for impact of bonus issue announcement. Results confirmed that sample exhibited abnormal returns around the bonus issue announcement date over three trading days from one day before the announcement. Study also supports signal trading on insider information.

Mishra (2005) studied 46 Indian companies stock price movement before and after the bonus issue announcement date. He applied standard event study model consist of a period of twenty days pre and post the event. Research found that the sample companies starts experiencing positive abnormal returns eight to nine days before the bonus issue announcement. Reason for this experience is the leak of the information.

Malhotra, Thenmozhi & Arun Kumar (2007) analyzed stock price response to bonus share announcement for a sample of Indian companies. Event study methodology has been adopted for analyzing the bonus share announcement reaction. As per analysis, announcement of bonus share gives negative abnormal returns around the announcement date



Shirur (2008) explored the reasons for issuing of bonus shares and stock splits. This research tried to find circumstances under which a company decides whether to issue bonus shares or to go for stock splits. Research considered 5 variables for the study, viz., rate of growth of sales, profit, share price, beta and promoter stake. Focus of the study was to explore whether these variables show any significant difference as applicable to bonus shares and stock split. The study reported that management of the corporate take decision to issue bonus shares when the investors undervalue the stock for a long. Management takes decision to go for stock split when the investors overvalue the company for a long time.

Dhar & Chhaochharia (2008) examined impact of stock splits and bonus share issue in Indian stock market. Capital Asset Pricing Model was used to calculate abnormal returns and then t-tests conducted to test the significance. Result of this study supports the existence literatures, two events has significant positive impact on stock price. The abnormal returns observed about 1.8% for bonus issues and it was 0.8% for stock splits.

Research Methodology

3.1 Objectives

1. To analyze abnormal returns (AR) of stocks surrounding 41 days of bonus share announcement.
2. To assess the impact of bonus share announcement on average abnormal returns (AAR) during pre and post event window.

3.2 Sample

For the present study, the companies which are part of NIFTY 100 and NIFTY Mid Cap 100 as on 31/03/2022 and announced bonus share during the period from October 2020 to March 2022 have been considered for the sample selection. Hence, finally 4 companies (Table 1) have been selected based on the selection criteria.

Table 1: Companies with Bonus Share Announcements



Company Name	Ratio	Bonus Share Announcement Date	Benchmark Indices
SRF	04:01	31-08-2021	NIFTY Mid Cap 100
Power Grid Corp	01:03	17-06-2021	NIFTY 100
Varun Beverages	01:02	03-05-2021	NIFTY Mid Cap 100
Britannia	01:01	05-10-2020	NIFTY 100

3.3 Data Analysis Techniques

Present study used standard event study methodology. The event date, event window and estimation window are defined as following for the study:

The event date is considered the bonus share announcement date by the company management. It assumes that the information was first known to the market on the event date itself.

The event window is taken as $t = -20$ to $t = +20$ relative to the event day $t = 0$. This event window will use in studying the stock price movement pre and post the event.

The estimation window is from one year before of $t = -20$ to the event day $t = 0$. Estimation window will help in estimating the relationship between a company's returns and benchmark Indices. Then estimation window will help in calculation of intercept and slope in OLS regression for the purpose of calculating of expected returns.

For data analysis following steps have been used;

1. Raw Return of i security and raw return of for period t is calculated as

$$\text{Current Daily Return} = (\text{current day close price} - \text{previous day close price}) / \text{previous day close price}$$

2. Alpha and beta values are calculated using OLS regression equation for the estimation window

3. The expected return for each firm is obtained as

$$\text{Expected Return} = [\text{Alpha} + (\text{Beta} * \text{Benchmark Indices Actual Return})]$$



4. Abnormal returns is calculated as follows

$$\text{Abnormal Returns} = \text{Actual Return} - \text{Expected Return}$$

5. The Average Abnormal Returns (AAR) are obtained by averaging the abnormal returns of the sample companies for each day of event period.

$$\text{AAR} = \Sigma \text{AR} / N$$

6. The Cumulative Average Abnormal Returns (CAAR) is the sum of daily AAR during the event window.

7. For testing hypothesis related to abnormal returns of individual stocks and AAR of pre and post period of the event window, ‘paired t’ test is used to identify whether there is significant difference in performance during pre and post period.

H1: There is significant difference between the abnormal returns (AR) earned by individual stock before and after the bonus share announcement in the stock market.

H2: There is significant difference between the average abnormal returns (AAR) earned before and after the bonus share announcement in the stock market

Data Analysis & Interpretation

Abnormal returns illustrate the over/lower returns given by a given stock or portfolio in comparison to expected rate of return for a specific period. Abnormal returns of 4 sample stocks have calculated and reported in table 2. All companies except Varun Beverages provided more numbers of days negative returns during post bonus share announcement period compared to pre-announcement event. Only mid cap companies, Varun Beverages & SRF provided positive returns on the day of announcement. Analysis documented that investors may not gain after the announcement of bonus share.

Table 2: AR, AAR and CCAR of Sample Companies

Event Window	AR-Power Grid	AR-Britania	AR-Varun Beverages	AR-SRF	Sum of AR	AAR	CAAR



-20	-1.48	0.21	-1.55	2.44	-0.38	-0.09	-0.09
-19	-1.76	0.26	-0.65	0.21	-1.94	-0.49	-0.58
-18	1.14	0.39	-2.49	0.88	-0.08	-0.02	-0.60
-17	0.82	0.32	0.07	-0.65	0.56	0.14	-0.46
-16	-3.55	-1.85	1.43	-1.08	-5.06	-1.27	-1.72
-15	0.97	1.10	-0.88	1.09	2.28	0.57	-1.15
-14	-1.71	-1.36	-1.32	-0.20	-4.59	-1.15	-2.30
-13	-0.69	-0.36	3.68	-1.13	1.49	0.37	-1.93
-12	-0.51	2.25	0.36	-0.58	1.51	0.38	-1.55
-11	1.13	-0.26	-0.78	0.74	0.83	0.21	-1.34
-10	-1.13	-0.56	-1.54	-0.55	-3.78	-0.94	-2.29
-9	-0.04	-2.58	-4.02	3.26	-3.39	-0.85	-3.13
-8	4.09	-0.51	-1.30	-1.86	0.43	0.11	-3.03
-7	-0.93	1.07	-4.20	0.63	-3.43	-0.86	-3.89
-6	4.01	1.93	-1.44	1.57	6.06	1.52	-2.37
-5	-0.79	-0.05	1.60	-1.30	-0.54	-0.13	-2.50
-4	1.62	-0.17	2.56	-0.85	3.17	0.79	-1.71
-3	0.97	-0.06	0.35	1.02	2.28	0.57	-1.14
-2	-0.74	1.28	-0.58	2.88	2.84	0.71	-0.43
-1	-1.65	-1.04	1.64	1.18	0.13	0.03	-0.40
0	-0.50	-0.14	5.36	3.70	8.43	2.11	1.71
1	-2.76	-2.87	-0.09	-2.88	-8.59	-2.15	-0.44
2	0.40	-0.05	-0.82	1.38	0.92	0.23	-0.21
3	-0.53	-0.55	-1.34	1.09	-1.32	-0.33	-0.54
4	-0.30	-1.90	0.74	-1.58	-3.03	-0.76	-1.30
5	-0.89	-0.55	-2.04	-0.64	-4.12	-1.03	-2.33
6	-0.52	0.27	0.19	-0.43	-0.49	-0.12	-2.45



7	0.59	0.75	-0.79	1.15	1.69	0.42	-2.03
8	2.10	0.28	0.43	2.90	5.72	1.43	-0.60
9	-1.36	-0.30	-1.35	-1.45	-4.47	-1.12	-1.72
10	-0.53	-0.23	-0.64	4.08	2.67	0.67	-1.05
11	-1.39	-6.11	2.50	0.44	-4.57	-1.14	-2.19
12	0.47	-4.74	0.22	-0.97	-5.03	-1.26	-3.45
13	-0.60	1.93	-2.01	-2.60	-3.28	-0.82	-4.27
14	0.61	-0.04	0.80	-0.18	1.20	0.30	-3.97
15	0.77	1.47	2.21	-1.03	3.42	0.85	-3.12
16	-0.24	1.45	-1.08	1.01	1.13	0.28	-2.83
17	-0.57	0.09	-0.33	0.72	-0.09	-0.02	-2.85
18	-0.67	-0.07	-0.99	0.87	-0.86	-0.22	-3.07
19	0.38	-1.63	0.13	-1.37	-2.49	-0.62	-3.69
20	-0.16	-1.86	-0.47	1.39	-1.09	-0.27	-3.97

The AAR is the mean variation of actual returns of a stock from the expected returns. For AAR calculation, the abnormal returns of securities are averaged for each day of the event window and documented in Table 2 and Figure 1. The values of AARs presented fluctuating returns both positive and negative returns around the event window. The AAR was positive for 11 days and negative for 9 days during the pre announcement period of 20 days. The AAR was 7 days positive and 13 days negative during the post announcement period. Highest AAR was recorded 2.11% on the announcement day. AAR experienced higher volatility in post announcement period compared to pre announcement period.

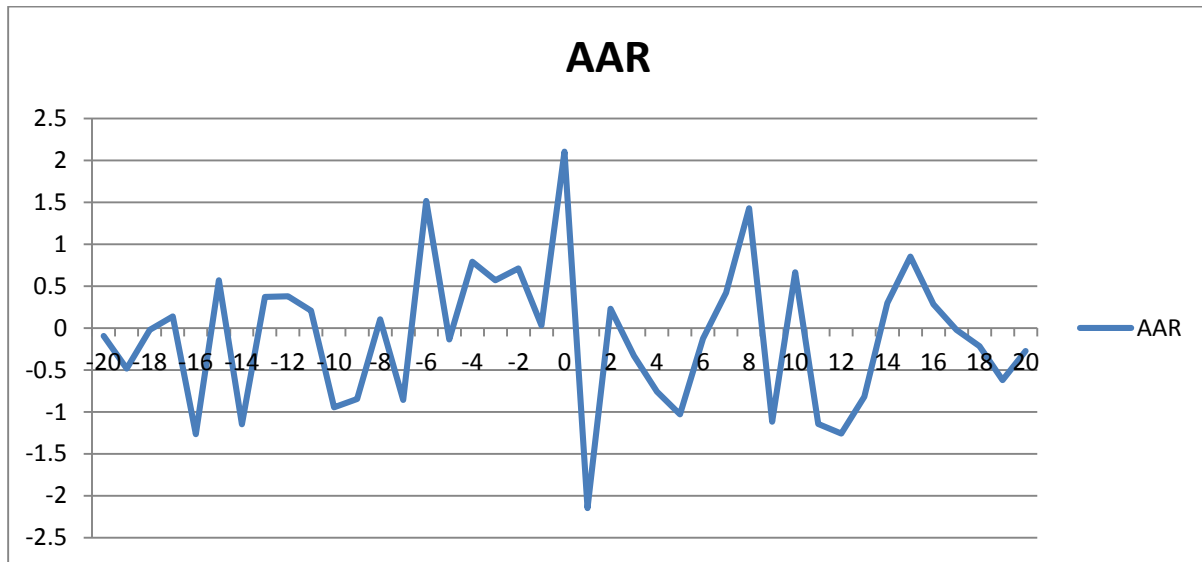


Figure 1: AAR of Sample Companies

CAAR provides information about the average price behavior of stocks during the event window. CAAR is determined by cumulating AAR as shown in Table 2 and Figure 2. Only once positive 1.71% CAAR was observed during (-20 to 0 days) the event window period. On all other days CAAR reported negative for the study period. CAAR dropped to its lowest level of -4.27% during (-20 to 13 days) event window. It was observed -3.97% during the complete (-20 to 20 days) event window period. It is observed that CAAR was found to be degrading gradually during the event window period.

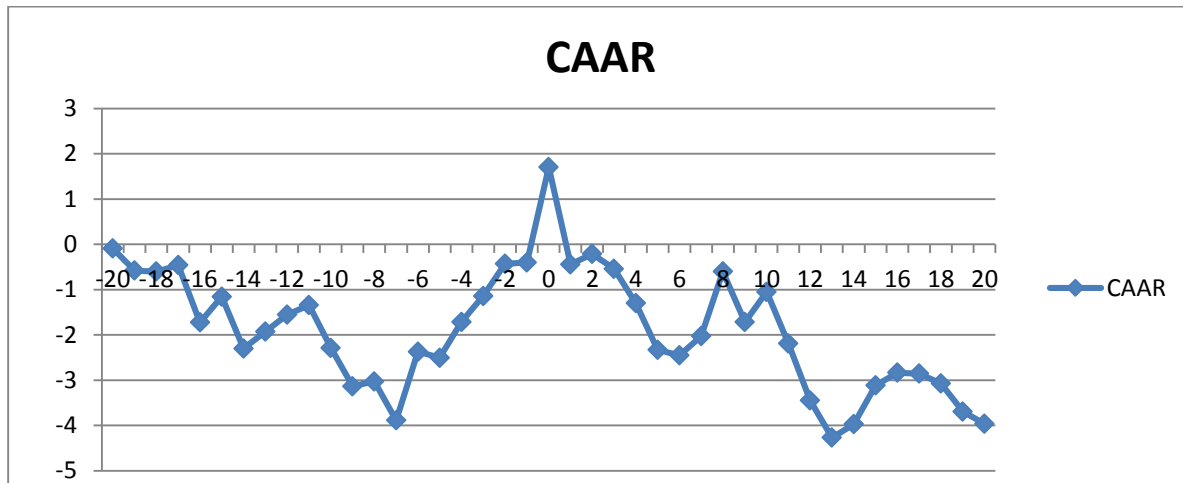


Figure 2: CAAR of Sample Companies

Average abnormal returns of all sample companies for before and after bonus share announcement period has reported in Table 3. Results shows that mean of abnormal return for Power Grid before bonus share announcement was -0.01% which declined to -0.26% during the post bonus share announcement. All the companies have observed same trend as Power Grid of higher abnormal returns in pre announcement period compared to post announcement period contradicting to the previous researches. Paired t-test was used for testing hypothesis of significance difference between the abnormal returns earned by stock pre and post bonus share announcement. Only SRF has exhibited p value 0.02 which is lesser than 0.05, so it means there is significant difference in mean of abnormal returns before and after bonus share announcement. But, for all other stocks null hypothesis is accepted as p value is higher than 0.05 means there is no significant difference in abnormal returns between pre and post bonus share announcement.

Table 3: Paired t Test for Pre and Post Bonus share Announcement related to AR of individual stocks and AAR

	Mean of AR for Pre period(-1 to -20 days)	Mean of AR for Post Period (1 to 20 days)	P Value	Significance
Power Grid	-0.01	-0.26	0.60	No



Britania	0.00	-0.73	0.11	No
Varun Beverages	-0.45	-0.24	0.71	No
SRF	0.39	0.10	0.02	Yes
AAR (All companies)	-0.02	-0.28	0.23	No

AAR for before and after bonus share announcement is reported in Table 3. Analysis shows that AAR mean was -0.02% during pre announcement which dropped to -0.28% for the post announcement window. Paired t-test results showed that p value is 0.23 which is insignificant at 5% significance level. It means that null hypothesis is accepted and it can be concluded that there is no significant difference between AAR during pre and post period of bonus share announcement in the stock market.

Conclusion

The study focused on 4 stocks which have announced bonus share between October 2020 to March 2022 and its impact on stock performance. The standard event methodology is applied to investigate the impact of bonus share announcement on price movement in market. As per analysis, negative AAR was experienced for more days in post bonus share announcement period compared to pre bonus share announcement period. It implies that bonus share announcement has shown negative impact on AAR for the study period. It is also apparent from CAAR results that investors could not earn excess return during the event window period (- 20 to +20 days). Investors can only earn positive CAAR on the announcement day. Empirical results also supports that there is no significant difference between the average abnormal returns (AAR) observed pre and post announcement of bonus share.

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