Research Paper Commerce

Share Price and Trading Volume Reaction on Bonus Issue Information

* Remya Ramachandran

* Research Scholar, CMS College, Kottayam, Kerala

ABSTRACT

The study aims at examining the stock price and volume reaction resultant upon the corporate event of bonus information and to evaluate whether there are abnormal returns and dramatic increase in the traded volume consequent upon such release of information

Keywords :

1. Introduction

A number of factors – both internal and external to the organization can cause changes in the returns of the securities and a study of these factors and the pattern of their impact on security returns have considerable interest to all the stake holders of the capital market. The present study would focus on the capital market reaction on variability of both security price and trading volume consequent on the release of bonus issue.

0.1 Statement of the Problem

Capital markets may use the bonus issue announcement to effect security transactions, thereby increase or decrease the trading volume and/ or share prices.

The effect of information release on both share price and volume forms part of the study because more can be learned through studying the joint dynamics of stock prices and trading volume than by focusing only on the uni-variate dynamics of stock prices (Bever 1968).

According to the theoretical framework, the information would be incorporated in share markets and the extent of incorporation of information in the price and trading volume of shares would depend upon the form of efficiency of the market. viz.,Weak, Semi strong or Strong. So the effect of bonus issue information can use for drawing a conclusion on the efficient market hypothesis with regard to the Indian Stock Market.

1.2 Review of Literature

Ramachandra (1985) analysed the impact of announcement of the issue of bonus shares and the results indicate that the market corroborates the information and the price of share was determined after taking into account all available information. Rao and Geetha(1996) estimated cumulative abnormal return of 6.31 percent around the three days of the announcement of bonus. This proves that the capital market is not inherently a semi-strong form of EMH. Barnes and Ma (2001) analysed stock price reaction to bonus issue for China by using event study methodology. Results shows that the issues with high bonus ratio attract positive returns and the issues with low bonus ratio are rewarded with negative returns. Mishra (2005) examined the stock price reaction to the information content of bonus issue with a view to study whether the Indian stock market is semi-strong efficient or not using event study methodology for sample of 46 bonus issues. The results indicate that there are significant positive abnormal returns for a five-day period prior to bonus announcement and emphasise semi strong efficiency of the Indian capital market. Raja (2009) examined the information efficiency of capital market with regard to bonus issue announcement by the IT companies. The result showed that the security prices reacted to the announcement of bonus issue. Zahir (1992) made an attempt to compare the behavior of more volatile shares with those of less volatile shares and found that bonus issue, dividend per share, EPS, and RBI security price index were the important factors influencing the prices of equity shares in India.

1.3 Objectives of the Study

1. To study the security price and trading volume reaction to bonus issue
2. To study the security price and trading volume reaction to bonus issue, while taking into account of the effect of market movements.
3. To draw a conclusion on efficient market hypotheses with regard to Indian stock market.

1.5 Hypotheses of the Study

1. Bonus issue information release influences share price and trading volume
2. Bonus issue information release influences share price and trading volume after discounting the firm specific effects and impact of market index

1.6 Limitations of the Study

1. Only the BSE 100 companies are selected.
2. The period of study is limited to 5 years (1st April 2004 to 31st March 2009)

2. Research Methodology

The effect of Bonus issue information on share price and volume traded in the market were analysed by considering share price and volume traded on 30 - days before and 30- days after the announcement of information for each company.

100 companies of BSE 100 index form the study units. Those companies having bonus issue information during the study period were considered for the analysis.

The event date is defined as the date of the meeting of the Board of Directors for the approval of bonus issue. The event dates are cross checked with the Prowess Data base maintained by Centre for Monitoring Indian Economy (CMIE). The daily securityprices and BSE 100 index closing values are taken from BSE Website. The study is based on secondary data and the data collected are:

1. Share price and trading volume of each company for 5 years

2. BSE 100 index value for 5 years
3. Bonus issue announcement dates of each company during the study period

2.1 Framework of Analysis

The analyses could be broadly classified into two sections viz., price and trading volume.

Abnormal returns are analyzed over a time frame from thirty days prior to the announcement of bonus issue to thirty days post announcement.

Abnormal Return of security i during period t
ARit = Rit - ERit

Rit is the actual return of security i during period t. The daily returns for each sample company have been computed for the event window period and the equation is

Rit = (Pit- P it-1) / P it-1

Where, Pit and Pit-1 are respective daily prices of company i at time t and t-1

Expected return (ERit) is the return expected on security i during period t and is calculated using market model using BSE 100 index as a proxy for the market portfolio. The market model, which is used for evaluating the expected return is mathematically expressed as:

ERit = αi + βi Rmt+eit
Rmt is the market's rate of return at time
αi is the average rate of return the stock would realize in a period with a zero market return. βi measures the stock sensitivity to the market return which is the slope of a straight line. ei is known as residual which is the stock's return over and above what one would predict presumably due to the event in question is has an expected value of zero
Hence the above equation provides a decomposition of expected return into market and firm specific factors. The estimates of the constant and coefficient obtained from the regression are then used to generate a time series of return predictions and, ultimately, a time series of excess returns, which are then divided by the prediction to compute the standardized excess return.

The abnormal returns are computed using the following model:
ARit = Rit-ERit
Rit = Actual Returns of the ith security during time t

β and α of the companies having the announcement were calculated for each event window, by solving the regression equation,

ERit = αi + βi Rmt

The abnormal returns of individual securities are averaged for each day before and after the event day in the event window and the Average Abnormal Return (AAR) are obtained

$$AARit = \frac{\sum_{i=1}^{N} ARit}{N}$$

To test whether there is significant difference in abnormal returns before and after the announcement of information parametric't- test' and non-parametric Wilcoxon U test are used.

$$\text{The test Statistics are } t = \frac{(\bar{x}_1 - \bar{x}_2)}{\sqrt{\frac{n_1 s_1^2 + n_2 s_2^2}{n_1 + n_2 - 2}\left(\frac{1}{n_1} + \frac{1}{n_2}\right)}} \quad \text{and} \quad Z = \frac{(\bar{x}_1 - \bar{x}_2)}{\sqrt{\frac{s_1^2}{n_1} + \frac{s_2^2}{n_2}}}.$$

Even though parametric tests are very much useful tests, there are restrictive assumptions about the population from which the sample is drawn like, the population is normally distributed. The population may not always be normal, especially in this study, where market behavior is considered, which is an abnormal process and hence cannot confirm 100 percentage normality. The most popular approach to addressing non-normality of the data can be provided by nonparametric tests.

3. Analysis

The firm specific impact of extraneous factors such as reputation of the company, its size etc. and the effect of market movements may influence share price. The consequent effect of these extraneous factors might be wrongly interpreted as a result of corporate information release. To overcome this limitation, the probable effect due to company specific factors is avoided by averaging Abnormal Returns of all the companies for each day and thereby deriving Average Abnormal Returns (AAR)

To avoid the influence of external market on share price and trading volume variability, *beta* adjusted values were considered instead of taking the absolute values of averages share price and trading volume. The BSE 100 index is considered as the proxy for market portfolio. The concept of beta is defined commonly as that part of the variability of the return of scrip which is relative to the overall variability of the market return. Market model developed by Sharpe (1963) is employed to measure the returns of the stock that is related to market movement. In doing so, the variation in the share price due to the effect of market gets nullified.

Here the analysis is divided into two sections.

In the first section, The objective of the analysis is to know whether there is significant difference in share price and volume before and after the announcement of information. The Average Abnormal Return for 30 days before the announcement is compared to the corresponding value during the post announcement period.

In the second section, effect of announcement of information on share price and trading volume on each day during the event window is analysed to know whether the Average Abnormal return are close to zero and thereby know whether the market is efficient or not.

The average abnormal return of 30 days before the announcement of the bonus is 0.1340 which reduces to -0.1323 after the announcement. t-test and U test results indicate that the difference in price before and after the bonus announcement is not significant and bonus information has no significant impact on price of shares.

In the second section of the analysis the significance of AAR surrounding each day is tested. The AAR of *beta* adjusted values of the companies were found out for the event window and t- test is applied to the AARs of the companies on each day surrounding the event window. The result shows that there is significant increase in AAR during the event window only on 22nd 9th, 6th and 1st days before and 3rd and 22nd days after the bonus announcement.

4 Conclusion

In the analysis, where the market movements and firm specific factors are discounted, the results indicate that neither the security prices nor the traded volume are getting significantly influenced by the bonus announcement. The results of the study suggest that the Indian stock market tends to indicate semi strong form of efficiency as there is no significant change in security prices and trading volume on bonus issue

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