

Impact of Bonus Announcements on Share Price: Evidence from Bombay Stock Exchange

Subhendu Kumar Pradhan

Research Scholar, Department of Management Studies, Pondicherry University, Puducherry

Dr. R Kasilingam

Associate Professor, Department of Management Studies, Pondicherry University, Puducherry

Abstract

The proposed study attempts to assess the impact of bonus announcements on share price. For this purpose, secondary data has been collected from ten companies listed in S&P BSE 500 index. Event study has been used to calculate the abnormal returns and cumulative abnormal returns of the companies. Paired sample T-test has been employed to compare share prices before and after bonus announcements. Correlation between share price and S&P BSE 500 index has also been analysed to assess whether the share price has changed due to change in market index during the estimation period. The study has been conducted for the seven year period of 1st January 2005 to 31st December 2012 while the estimation window period is taken as 10 days before and after announcement of bonus issue. Results reveal that companies earn positive abnormal returns before bonus announcement and negative abnormal returns after bonus announcement in short period. Further results reveal that share price changes are irrelevant to market changes.

Keywords:

Buy back announcement effect, Share price, Abnormal Returns, CAR

Introduction

Bonus share is a free share distributed by a company to its existing shareholders based on the proportion of shares held by them. This practice of issuing bonus shares is a tool used by companies to retain their shareholders for a longer duration. Issue of bonus shares increases total number of outstanding shares of the company and the value of ownership of shareholders while value of the company does not get affected. Hence, value of the company remains unaltered even after resorting to bonus issue. However, bonus issue of a company may have an announcement effect on its share price. Shareholders, who are the real owners of a company, should be aware of the impact which might be exerted by bonus announcements on share prices and market movements. In addition, bonus announcements also influences investors decision whether to dispose their shares or hold them back. This study has been conducted to assess the impact of bonus

announcement on share prices and also to analyse the relationship between the company's share price and market price during the estimation period.

Review of Literature

The past studies reveal that bonus announcement exerts a negative effect in the countries of US, UK and Europe. However, in many emerging markets, rights issue is the primary flotation method. Slovin et al (2000) has found that Rights issue results in negative returns in the UK Gajewski while this negative effect persists in the countries of France and New Zealand (Ginglinger, 2002 and Marsden, 2000). However, this effect is positive in the case of countries such as Switzerland, Japan, Malaysia, Korea, Greece, Germany and Norway (Loderer & Zimmermann, 1988; Kang and Stulz, 1996; Salamudin et al., 1999; Tsangarakis, 1996).

Muradoglu and Aydogan (2003) have examined the reaction of share price to announcements of stock dividends and rights issue. He has found that investors who are attracted by lower relative prices are not expected to be prompt in timing excess returns persists over longer event windows and are accompanied by increasing trading volumes.

Amuthan R. and Ayyappan S. (2011) have found that bonus issue is followed by a positive movement of share prices in the short run while this movement is on the negative side in the long run.

Objectives of the Study

1. To assess the impact of bonus announcement on share prices;
2. To analyse the relationship between company's share price and market index BSE 500.

Research Methodology

The proposed study is descriptive in nature, purely based on secondary data. Companies listed under the BSE 500 index have been selected at a random basis. Data pertaining to the movement of share prices of these companies for the period of ten days before and after bonus announcements have been collected from capitaline website. The bonus announcement date is taken as the event date and is denoted as 0 while the before announcement date and after announcement date has been denoted as 0 to -10 and 0 to 10 respectively. The study covers the seven year period of 1st January 2005 to 31st December 2012. The data collected have been represented suitably in tables and analysed using the Statistical Package for Social Science (SPSS).

Tools for Analysis

Calculation of Abnormal Returns

Abnormal return for the purpose of this study has been calculated using the Market-Adjusted Model. Abnormal

return is the difference between actual returns and expected returns. The expected return is also referred to as marketed returns. Abnormal returns can be calculated using three models of market model, market adjusted model and mean adjusted model. Cumulative abnormal return is sum of abnormal returns. Abnormal return has been calculated using the following formula:

$$AR_{jt} = R_{jt} - R_{mt}$$

Daily return of the company is calculated using the following formula:

$$\text{Daily return of a company} = \frac{P_{jt} - P_{j(t-1)}}{P_{j(t-1)}}$$

The same formula has also been used for calculation of market return.

$$\text{Daily market return} = \frac{P_{mt} - P_{m(t-1)}}{P_{m(t-1)}}$$

Where

AR_{jt} = Abnormal return of a company j at time t,

R_{jt} = Observed daily return for the share of a company j at time t,

R_{mt} = Observed daily returns for the market index at time t.

P_{jt} = Closing share price of a company j at time t,

$P_{j(t-1)}$ = Closing share price of a company j at time t-1

P_{mt} = Closing share price of the market at time t

$P_{m(t-1)}$ = Closing share price of the market at time t-1

Paired Sample T Test

Paired sample t test has been used to explore the existence of a significance difference in the share prices before and after announcement of bonus issue. Paired sample t test is calculated using the following formula:

$$t = \frac{\bar{x} - \Delta}{\frac{s}{\sqrt{n}}}$$

Where

\bar{x} = Mean of the change share price

Δ = Hypothesized difference

s = sample standard deviation of the differences

n = Sample size.

Correlation

Correlation has been used to explore the relationship between company's share price movement and market index movement. The correlation is calculated using the following formula:

$$r = \frac{n \sum xy - (\sum x)(\sum y)}{\sqrt{(n \sum x^2 - (\sum x)^2)(n \sum y^2 - (\sum y)^2)}}$$

n= Sample size

Analysis and Interpretation

The study proposes to analyse the effect of bonus announcement on share prices. For this purpose, abnormal return and cumulative abnormal return, paired sample t test and correlation has been used.

Where

x = Share price of company i

y = Share price of market index BSE 500

Table 1: Abnormal Returns of Different Companies

| Day | Titan Company Ltd. | Kotak Bank | Sterlite Industries Ltd. | Adani Enterprises Ltd. | Exide Industries Ltd. | South India Paper Mills Ltd. | Pantaloon Fashion & Retail Ltd. | Vakrangee Ltd. | Rajesh Exports Ltd. | Eih Limited |
|-----|--------------------|------------|--------------------------|------------------------|-----------------------|------------------------------|---------------------------------|----------------|---------------------|-------------|
| -10 | 0.00 | -0.01 | 0.01 | 0.00 | 0.03 | 0.00 | -0.01 | 0.01 | 0.01 | 0.00 |
| -9 | 0.01 | -0.02 | -0.02 | -0.01 | 0.00 | -0.02 | 0.00 | -0.03 | -0.03 | 0.01 |
| -8 | 0.02 | 0.01 | -0.02 | 0.04 | 0.01 | 0.01 | 0.01 | 0.00 | 0.02 | -0.03 |
| -7 | 0.01 | 0.00 | 0.01 | 0.02 | 0.02 | 0.01 | -0.02 | -0.01 | -0.01 | 0.05 |
| -6 | 0.02 | 0.07 | -0.01 | 0.01 | -0.03 | 0.01 | -0.02 | -0.02 | -0.02 | -0.02 |
| -5 | -0.01 | 0.07 | -0.02 | 0.02 | 0.00 | 0.01 | 0.00 | 0.14 | 0.00 | 0.02 |
| -4 | 0.02 | -0.03 | -0.01 | 0.03 | 0.05 | -0.03 | -0.02 | 0.05 | -0.01 | -0.01 |
| -3 | 0.00 | -0.03 | -0.01 | -0.02 | -0.01 | -0.05 | -0.01 | 0.01 | -0.01 | 0.00 |
| -2 | 0.01 | 0.02 | 0.00 | 0.01 | 0.09 | -0.06 | 0.00 | 0.08 | -0.02 | 0.04 |
| -1 | 0.01 | 0.01 | -0.02 | 0.02 | 0.00 | 0.06 | 0.03 | 0.02 | -0.02 | 0.10 |
| 0 | -0.01 | 0.01 | 0.06 | 0.05 | 0.12 | 0.02 | -0.01 | -0.07 | -0.04 | 0.00 |
| 1 | -0.02 | -0.01 | -0.01 | 0.01 | 0.07 | -0.02 | -0.03 | 0.01 | -0.04 | -0.01 |
| 2 | -0.01 | -0.01 | 0.00 | 0.02 | -0.04 | -0.02 | 0.02 | -0.03 | -0.02 | -0.04 |
| 3 | 0.02 | 0.00 | 0.01 | 0.03 | 0.02 | -0.02 | 0.01 | 0.00 | 0.06 | 0.02 |
| 4 | 0.03 | -0.01 | 0.00 | 0.02 | -0.01 | 0.02 | 0.02 | -0.04 | 0.00 | -0.02 |
| 5 | 0.00 | 0.00 | -0.02 | -0.01 | -0.01 | 0.01 | -0.01 | -0.03 | 0.02 | -0.01 |
| 6 | 0.00 | -0.02 | -0.03 | -0.05 | -0.02 | 0.03 | 0.02 | -0.01 | -0.01 | -0.04 |
| 7 | -0.01 | 0.00 | -0.03 | -0.03 | 0.02 | -0.01 | 0.02 | 0.01 | 0.00 | 0.01 |
| 8 | 0.01 | -0.01 | -0.01 | 0.01 | 0.05 | -0.01 | 0.00 | -0.02 | -0.01 | 0.06 |
| 9 | 0.01 | -0.01 | -0.02 | 0.01 | 0.05 | 0.02 | -0.01 | 0.05 | 0.02 | 0.00 |
| 10 | 0.00 | -0.01 | 0.03 | -0.01 | 0.01 | 0.00 | -0.02 | -0.01 | 0.01 | -0.03 |

Table 1 displays the abnormal returns of different companies making bonus announcements. It can be inferred from the table that on the announcement date, abnormal return is positive for Kodak bank, Sterlite industries ltd., Adani enterprises ltd., Exide Industries ltd., South India paper mills ltd. and negative for Titan company ltd., Pantaloon fashion & retail ltd., Vakrangee ltd, Rajesh export. However, Eih limited has not earned any additional return during this period. Before the bonus announcement date, abnormal returns is positive for Titan company ltd., Kodak bank, Adani enterprises ltd., Exide Industries ltd., Vakrangee ltd. and Eih limited while it is negative for South India paper mills ltd. and Rajesh export ltd. This trend is prevalent

during the short run while during the long run, abnormal return is zero for Sterlite Industries ltd. and Pantaloon fashion & retail ltd. While it is on the negative side in respect of Kodak bank and Pantaloon fashion & retail ltd. And on the positive side in the case of Sterlite industries ltd., Exide Industries ltd., Vakrangee ltd. and Rajesh exports ltd. Titan company ltd., Adani enterprises ltd., South India paper mills ltd. and Eih limited have not earned any abnormal return during the long run before bonus announcement.

During the post bonus announcement period, Kodak bank, Titan company ltd., Exide Industries ltd., South India paper mills ltd. and Rajesh exports ltd, Vakrangee ltd. and Eih limited have earned negative abnormal returns while Adani

enterprises limited and Pantaloons fashion & retail ltd have earned positive abnormal return during the short run while Kodak bank, Adani enterprises ltd., Pantaloons fashion & retail ltd., Vakrangee ltd. and Eih limited have earned negative returns and Sterlite industries ltd., Exide Industries ltd. and Rajesh exports ltd. have earned positive return in the

long run. At same time South India paper mills ltd. and Titan company ltd. have not earned any additional returns after bonus announcement. Thus, it can be concluded that bonus announcements result in magnifying of earnings for the investors in majority of cases.

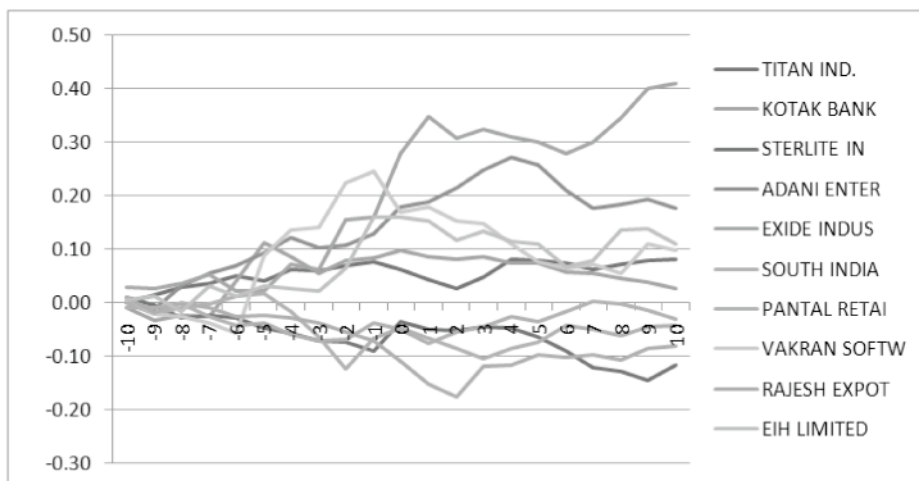


Figure 1: Cumulative Abnormal Returns of Different Companies

Figure 1 portrays the cumulative abnormal returns of the ten selected companies. It can be inferred from the figure that Titan company ltd., Kodak bank, Sterlite industries ltd., Adani enterprises ltd., Exide Industries ltd. and South India paper mills ltd. have positive cumulative abnormal return

and Pantaloons fashion & retail ltd., Vakrangee Ltd., Reajesh Exports ltd. and Eih limited have negative cumulative abnormal returns after bonus announcement. Hence, it can be concluded that bonus issue announcements is promptly followed by reactions in the share market.

Table 2: Cumulative Abnormal Return During Different Periods

| Day | Titan Company Ltd. | Kotak Bank | Sterlite Industries Ltd. | Adani Enterprises Ltd. | Exide Industries Ltd. | South India Paper Mills Ltd. | Pantalons Fashion & Retail Ltd. | Vakrangee Ltd. | Rajesh Exports Ltd. | Eih Limited |
|----------|--------------------|------------|--------------------------|------------------------|-----------------------|------------------------------|---------------------------------|----------------|---------------------|-------------|
| -2, +2 | 0.27 | 0.43 | -0.30 | 0.82 | 1.25 | -0.39 | -0.29 | 0.97 | -0.56 | 0.66 |
| -5, +5 | 0.64 | 0.92 | -0.63 | 1.91 | 2.34 | -0.72 | -0.57 | 1.67 | -0.99 | 1.09 |
| -10, +10 | 0.08 | 0.03 | -0.12 | 0.18 | 0.41 | -0.04 | -0.03 | 0.10 | -0.08 | 0.11 |

Table 2 displays the cumulative abnormal returns of different periods. It can be inferred from the table that cumulative abnormal return is not equal to zero after the announcement both in the short and long run. This implies that the market reacts positively to bonus announcements

made by Titan company ltd., Kodak bank, Adani enterprises ltd., Exide Industries ltd., Vakrangee ltd. and Eih limited, while this reaction is on the negative side for Sterlite industries ltd., South India paper mills ltd., Pantalons fashion & retail ltd. and Rajesh exports industries.

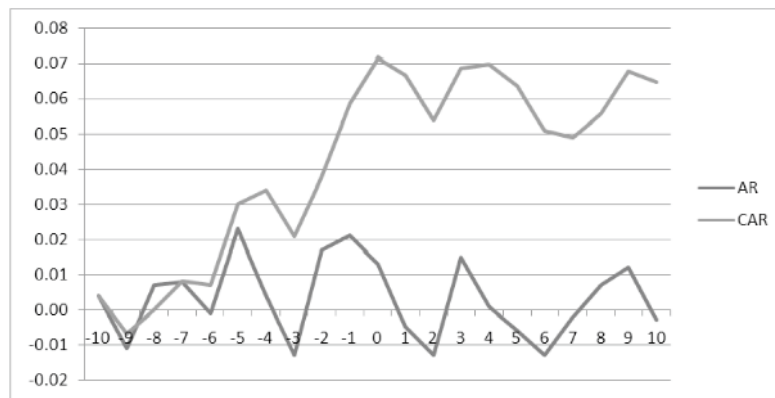


Figure 2: Abnormal Returns and Cumulative Abnormal Returns of Overall Companies

Figure 2 depicts the abnormal returns and cumulative abnormal returns of all the companies. It can be inferred from the figure that three days before bonus announcement, abnormal return is positive and it is displaying an increasing trend. Hence, it can be said that the market reacts positively

to bonus announcement. The market starts reacting in the negative direction after two days from bonus announcement. Hence, it can be affirmatively said that bonus announcements does exert a significant impact on share prices.

Table 3: Average Share Price Before and After Announcement and its Significant Value

| Company name | T value | Sig. |
|--------------------------------|---------|------|
| Titan Company Ltd. | -2.79 | .019 |
| Kotak Bank | 2.11 | .060 |
| Sterlite Industries Ltd. | -9.10 | .000 |
| AdaniEnterprises Ltd. | 10.74 | .000 |
| Exide Industries Ltd. | 22.3 | .000 |
| South India Paper Mills Ltd | -4.79 | .001 |
| Pantaloon Fashion & Retail Ltd | -3.83 | .003 |
| Vakrangee Ltd | -.039 | .970 |
| Rajesh Exports Ltd | -11.12 | .000 |
| Eih Limited | -2.78 | .019 |

It can be inferred from Table 3 that the significance values in respect of Titan company ltd., Sterlite industries ltd., Adani enterprises ltd., Exide industries ltd., South India paper mills ltd., Pantaloon fashion & retail ltd., Rajesh exports ltd. and Eih limited are lesser than 0.05 implying that there is a significant change in share prices of these companies after bonus announcement. However, the significance value is

more than 0.05 in the case of Kodak bank and Vakrangee ltd. indicating that there is no significant change in share price of these companies after making bonus announcement. Hence, it can be concluded that bonus announcement exerts a significant impact on share prices during the estimated period of study.

Table 4: Relationship between Company and Market Index

| Company name | R value | Significance |
|--------------------------|---------|--------------|
| Titan Company Ltd. | .438 | .636 |
| Kotak Bank | .701 | .000 |
| Sterlite Industries Ltd. | .587 | .152 |
| AdaniEnterprises Ltd. | .002 | .993 |
| Exide Industries Ltd. | .129 | .557 |

| | | |
|---------------------------------|------|------|
| South India Paper Mills Ltd | .502 | .370 |
| Pantaloons Fashion & Retail Ltd | .159 | .734 |
| Vakrangee Ltd | .611 | .002 |
| Rajesh Exports Ltd | .208 | .870 |
| Eih Limited | .490 | .540 |

Table 4 displays the correlation between company's share price and market index. It can be inferred from the table that the significance values in respect of Kodak bank and Vakrangee ltd. are less than 0.05, implying that significant relationship prevails between market index and changes in share prices of these companies. Hence, it can be affirmatively said that any rise or fall in share prices of these two companies is due to rise or fall in the market index. However, the significance values is higher than 0.05 in respect of Titan company ltd., Sterlite industries ltd., Adani enterprises ltd., Exide Industries ltd., South India paper mills ltd., Pantaloons fashion & retail ltd., Rajesh exports ltd. and Eih limited, indicating that there is no significant relationship between movement in share prices of these companies and the movement in market index. Hence, it can be concluded from this study that change in share price is attributed to largely by bonus announcements rather than market changes.

Conclusion

Six companies have positive cumulative abnormal returns and abnormal return while four companies have negative cumulative abnormal returns during short run as well as long run. Eih Limited does not earn any surplus return on the announcement date while Titan company ltd. and South India paper mills ltd. does not earn any additional returns in long run after bonus announcement. Overall company analysis shows that abnormal return is positive before bonus announcement and negative immediately after announcement. Hence, it can be stated that market reacts to bonus announcement positively before announcement and negatively after the announcement. Paired sample t test proves that bonus announcement exerts an impact on share price. Correlation analysis proves that share price changes largely due to the bonus announcement effect as change in share price is irrelevant to market movements.

This study is of immense utility to investors as they can understand changes in share prices of companies and market movement during bonus announcements that would be helpful to them for making good portfolio investment decision in the right time.

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