

Market Reaction to Rights Offering Announcements in the Indian Stock Market

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ABSTRACT

Stock market efficiency has been considerable importance in financial literature. The efficiency with which the capital formation is carried out depends on the efficiency of the capital markets and financial institutions. A capital market is said to be efficient with respect to corporate event announcement (stock split, buyback, right issue, bonus announcement, merger & acquisition, dividend etc) contained information's and its disseminations. How quickly and correctly the security prices reflect these event contained information's show the efficiency of stock markets. This study examines the stock price reaction to announcement of rights offer of equity in India made during the period 2001 to 2012. We find that announcement of rights issues of equity are met with insignificant negative reaction (Value neutral) which is similar to a number of developing countries. As propounded by earlier scholars, rights issue should not have any effect on the price of the share in an informationally efficient market.

Keywords: Efficient Market Hypothesis, Rights, Issue, Announcement date, Average Abnormal Return, Cumulative Average Abnormal Return

1. INTRODUCTION

Offering additional shares on a pro-rata basis to the existing shareholders, commonly referred to as "Rights issues", is one important way by which corporate entities raise fresh equity capital. As a method of raising additional equity capital, the rights issue route has its own advantages and limitations. Sometimes it can be employed as the preferred option by the management; at other times, the managements may be forced to go to this route as the last resort, depending upon the market conditions. Regardless of the underlying motive of the managements in employing rights issues as the means of raising fresh equity capital, it is almost a rule that the further shares offered to the existing shareholders by means of rights issues will be offered at a discount to the ruling market price. The extent of the discount offered by the Indian companies in the past was substantial. Recently – roughly over the period of past two decades or so - the extent of discount offered by the Indian companies has contracted by a considerable extent.

The element of discount extant in the rights issue pricing can be regarded as a proxy for the stock dividend offered by the company to its existing shareholders. Consequently, it is normal to expect that if the markets are fully efficient in the informational sense, the stock price should adjust downwards to account for the bonus element in the rights issue, after the ex-rights date. In other words, the rights issues are value-neutral in an informationally efficient market. Hence, the natural expectation is that the reaction of the market to the rights issue announcements has to be consonant with the value-neutral hypothesis. That is, the stock price reactions should not be statistically

significant either in the positive direction or in the negative direction.

However, the premise that the market's reaction to the rights' issue announcements has to be accordant with value-neutrality is based on the condition of '*ceteris paribus*' - *other things remaining the same*. In the normal course, the market would associate the act of raising additional funds, the intended and actual use of the so raised funds, and the consequent increase in the supply of the stock with fundamental and technical factors that could have a bearing on the value of the firm. In that sense, there is a possibility that there might be a mediate reason for the market to react in a way that is not in accordance with the value-neutral sense. In other words, there are possibilities that the stock price reactions to the rights issues will be value-additive or value-negative.

The empirical evidence on record also shows that the reaction of the market for the rights issue announcements is not always value-neutral. In fact, the evidence is dispersed at both the ends of the spectrum- some studies have found that the reaction of the market is indicative of the presence of value-positivity while there are others which point to the fact that the rights issue announcements evince reactions that are in accordance with value-negativity. There are yet other studies which reflect the fact that the market's reactions manifest value-neutrality. A cursory look at the patterns of market reactions to the rights issue announcements reveals an interesting insight. The Anglo-American markets seem to have witnessed a negative returns' pattern. Studies in the US, UK, Australia, Hong Kong, South Korea have generally found that there are statistically significant negative rights issue announcement effects. Marisetty et al (2008), Shahid et al

(2010), Tsangarakis (1996), Adoglu (2001), etc, are the prominent examples that can be cited in this regard. Interestingly, the Continental Europe and Japanese markets appear to react positively to the rights issue announcements. In markets like Finland, Norway, Switzerland, Greece, Sweden and Japan, studies have found positive reactions of stock prices to rights issue announcements. Some of the important studies that can be cited in this regard are Cooney, Kato and Schallheim (1997) and Kang and Stulz(1999).

In India, Marisetty, Marsden and Veeraraghavan (2008) and Miglani (2011) found significant excess returns on the announcement date while Suresh and Naidu (2012) report insignificant excess returns on the announcement date. Thus, there are indications that the reaction of market to the rights issue announcement may not be value neutral, even in a reasonably efficient market. Clearly, the results appear to be mixed in nature. Some studies have found significant positive returns while others have found insignificant positive returns. There appears to be slim evidence of the rights issues eliciting a negative returns response, as far as Indian markets are concerned.

Any serious student of finance is thus forced into a situation where he would feel the necessity to further explore the present issue in order to chronicle additional evidence, one way or the other. Further evidence needs to be compiled and investigated with the purpose of identifying the real nature of the stock price responses to announcements regarding major corporate events which possess the potential to influence the prices in the real economic or behavioural sense.

To sum up, there appears to be no conclusive proof as to the nature, direction and magnitude of the impact of rights issue announcements on the stock prices. The present study is a sincere attempt at finding out whether the Indian stock market offers opportunities for realizing abnormal returns in response to the announcement of rights issues.

2.LITERATURE REVIEW

For the sake of presentational clarity, the reviewed literature has been classified into three segments: the first one presents the studies that have recorded value neutral results; the second part covers the ones that found significant negative returns; and the third part portrays those studies that have chronicled significant positive returns.

Value neutral

Nelson (1965) examined 380 rights offerings in the US by using monthly data for the period of 1946-1957 and found no announcement effects. He concluded that six months prior to the rights offerings announcement and six months after rights offerings, shareholders wealth neither increased nor decreased. Smith Jr. (1977) analyzed 38 rights offerings and 56 rights with standby underwriting offerings in the US for the period of 1971-1975. He found no significant abnormal returns for either type during the month of the rights offerings. Loderer & Zimmermann (1988) investigated 122 rights issues announced by 56 industrial corporations in Switzerland for the period of 1973-1983. They observed insignificant average abnormal returns, which was an indication of no

announcement effects. Suresh & Naidu (2012) explored the wealth effect of Nifty stocks and found no evidence of existence of significant abnormal returns on event day. V.B. Marisetty et al (2008) reported insignificant positive abnormal returns in the Indian markets.

Significant Average Negative Abnormal Return:

Eckbo & Masulis (1992) used daily data to examine 192 rights issues in the US for the period 1963-1981. Their findings indicated a decrease of shareholders' wealth of around 1%. Kabir & Roosenboom (2003) observed statistically significant negative abnormal returns associated with announcement effect of rights issues in the Netherlands. Chen & Chen (2007) examined 205 rights issues in China and found that the market reacts negatively around the announcement date, but positively during the post-announcement period (in +10 to +20 days expiration period). Other studies which have reported significantly negative abnormal returns are: Myers and Majluf (1984); Masulis and Korwar (1986); Asquith and Mullins (1986); Mikkelsen & Partch (1986); and Jung et al (1996); Hansen (1989); and Ching et al (2001).

Significant Average Positive Abnormal Return

Tsangarakis (1996) explored 59 rights offering in Greece and reported a significant excess return of as much as 4%. However, he was not clear of the cause of these abnormal returns. Mishra (2005) examined the stock price reaction to information content of bonus issues. The results indicated significant positive abnormal returns for a five day period prior to bonus announcement. The results indicated the semi- strong market efficiency of the Indian stock market. Shahid et al (2010) observed the positive market reaction after the announcement of rights issues in China. Miglani (2011) observed positive excess returns of 32 rights issues from India. He reported a gain of 1.42% in the shareholders' wealth on the day of rights issue announcement.

Other prominent studies that have reported significant positive returns include: Kang and Stulz (1996) who studied the Japanese markets; Tsangarakis (1996) who focused on the Greece markets; Kang (1990) and Dhatt et al (1996) both of which investigated the Korean markets; Shen and Xiao (2001) in the Chinese markets.

Objectives of the study

Two objectives have been set up for the present research effort. The primary objective is to examine the nature and pattern of market reactions to the announcement of rights issues in the Indian markets. The secondary objective, which is concomitant to the first one, is to test the efficiency of Indian stock market.

Hypotheses of the Study

The following mutually exclusive hypotheses are proposed to be tested in the study:

Rights issue announcements have no significant impact on the market price on the announcement date; or,
Market reacts significantly negatively to the rights issue announcements; or,
Market reacts significantly positively to the rights issue announcements.

Sample, Data and Methodology

Sample

Purposive sampling technique has been employed for the present study. The frame of the companies selected for this study covers the constituents of the NSE - CNX 200 index. The CNX 200 Index is designed to reflect the behaviour and performance of the top 200 companies measured by free float market capitalization. It is being used for a variety of purposes such as benchmarking fund portfolios, launching of index funds, ETFs and other structured products. Since the basic objective of the study is to know how quickly the value changing information contents of rights issue are incorporated into the security prices, the researcher has selected CNX-200 companies which are more liquid and frequently traded in the Indian stock market.

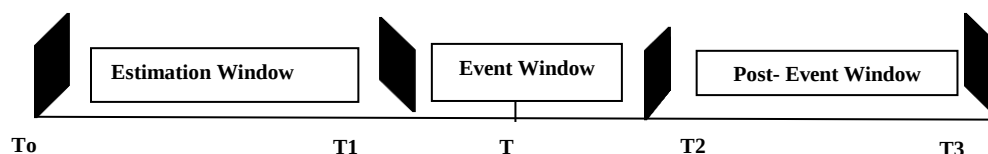
Data:

The data relating to Rights issue announcements has been obtained from the websites of the NSE, the BSE and from the **Capital-Line** database. The study covered all those rights issues announced by the CNX – 200 constituent companies over the period from 2001 to 2011. The daily closing prices of CNX -200 constituent companies were obtained from the NSE website and capital data base.

“Event day”, for the purposes of this particular study has been defined as the day on which rights issue announcements are made. In particular, the day on which board meeting held for the declaration of the rights issue has been considered as the event day.

3.METHODOLOGY

The methodology adopted for the present research effort is that of ‘the Event study’. This methodology is basically used to find the effect of an event – in the nature of a determinant variable - on a specific dependent variable, the stock prices.



Time Line for an event Study

In this study, the parameters of the normal performance are estimated using estimation window, which is set before the event window. The estimation window is 120 days prior to the event window i.e., 130 days prior to the announcement to 10 days prior to the announcement (T0 to T1). Usually event period is not included. A 21 day event window is selected for the study period i.e., is 10 days prior to the announcement and 10 days post announcement (T1 to T2). The post announcement window is kept at 30 days after the event period to capture effect of event subsequent to the announcement.

Tools used for the Analysis

Daily returns

The daily returns were calculated for both individual securities as well as Market Index using the following equation

An event study records and analyses the changes in stock price beyond expectation (Abnormal returns) over a specified period of time (event window). Any abnormal returns observed during the event window are attributed to the effects of the ‘**event**.’ The event study methodology seeks to determine whether there is an abnormal stock price effect associated with an event. The effect of economic events must immediately be reflected in the share prices to prove that the markets are efficient. An event’s impact on the value of a firm can therefore be measured by using the firm’s historic share price in an isolated manner or in a relative manner, using an index as a benchmark.

Event definition: ‘Event’ is a form of corporate action that is generally expected to affect value of the company. In this proposal, the researcher has selected rights issues as the underlying ‘value-changing’ event.

Selection criteria: It is important to develop specific characteristics for the data sample. So researcher has selected the companies which are constituent of S & P CNX 200. These companies are more or less same character in terms of size magnitude and market share. Moreover these are most traded securities on the National stock exchange.

Estimation Window: The variables such as stock, beta, alpha etc., are the major parameters in the model. The estimation window is prior to the event period. Estimation window is 120 days prior to the event window. A “moving window” might include periods both before and after the event window. The event window is normally excluded from the estimation period so that parameters are not biased by the events. In an event study, the event window should be kept shorter for more accurate results. At the same time post event window should also be kept short so that there should not be any confounding effect.

$$R_{i,t} = \frac{\ln P_t - \ln P_{t-1}}{P_{t-1}} \times 100$$

Where,

$R_{i,t}$ = Logarithmic Returns on Security i on time t .

P_t = Price of the security at time t

P_{t-1} = Price of the security at time $t-1$

The rationale for the event study examination is to see any abnormal investor behavior around the event announcement for excess return. In other words, the event study identifies difference between realized stock return (R) and it’s expected return, that is, abnormal return (Fama, 1970). The abnormal return (AR_{it}) for a stock (i) in given period (t) is obtained by considering the *ex post* return (R_{it}) and subtracting from the expected return

($E(R)$) in the same period (t) on the presumption that investors expect equivalent market return such that:

Abnormal Return, $AR_{it} = R_{it} - E(R)$ -----Eqn. (2)

Market Model

The market model represents a potential improvement over the constant-mean return model. By removing the portion of the return that is related to variation in the markets return, the variance of the abnormal return is reduced. Return for the estimated period is calculated using equation (1) and is used to estimate the market model;

$(R_{it}) = \alpha + \beta R_{mt} + e_{it}$, -----Eqn. (3)

Where $E(R_{it})$ = Expected return on security 'i' during time period 't';

α = Intercept of a straight line or alpha coefficient of ith security;

β = Slope of a straight line or beta coefficient of ith security;

R_{mt} = Expected return on index during period 't'; and,

e_{it} = Error term with a mean zero and a standard deviation which is a constant during time period 't'.

This term captures the variations of the individual security returns that are not captured by the market index. The following simplified model of regression was used for estimating the returns on each security by taking the actual returns on market, expected Return on each security R_{mt} ; **$E(R_{it}) = \alpha_i + \beta R_{mt}$. -----**

-----Eqn (4)

The ARs are computed using the following model: $AR_{it} = R_{it} - E(R_{it})$,

Where R_{it} = Actual Returns.

The actual returns are used to study whether or not individual securities have earned abnormal returns. In order to eliminate the effect of any one or group of securities on the ARs and CAARs, the ARs are averaged over the number of rights issues. The AR's and CAAR are calculated around the event day using the below equations.

$$\underline{AAR_t} = \frac{\sum_{t=1}^n \underline{AR_t}}{N} \text{ -----Eqn (5)}$$

$$\underline{CAAR_t} = \sum_{t=1}^n \underline{AAR_t} \text{ -----Eqn (6)}$$

Where,

- $CAAR_t$ = Cumulative Average Abnormal Returns for the k th period. Hereafter, it is referred to as CAAR,

- AAR_t = Average Abnormal Returns of sample stock at time t which is calculated by using the above equation

Empirical Analysis and Results

The results of this study are presented in Tables 1 and 2 while figures 1 and 2 illustrate the findings graphically. The AAR shows the average deviation of the returns of the i^{th} stock from their normal returns with the market index. The CAAR is the cumulative deviations of the securities' returns from their normal return with the market over the periods surrounding the event-day (from

– 10th day to +10th day). This shows the cumulative effects of the residual of all stocks. In an efficient market, no one can consistently earn superior returns since the publicly available value-changing information is incorporated in the security prices instantaneously. Therefore, AARs can neither be positive nor negative consistently for a long time either before or after the event-day. However, the AAR can be positive for some time immediately preceding the event-day if the market expects good news from the rights issue announcement and negative if the market expects bad news. In an efficient market the AAR should tend to be zero after the event-day. From this, it follows that the CAARs should level out after the earnings announcement. If it does not, the market is not efficient in the semi-strong form

Table1: Average Abnormal Return

Days	AAR	t- Value
-10	-0.002248	-.481
-9	-0.000873	-.273
-8	0.010522	2.009
-7	0.002156	.360
-6	0.000971	.275
-5	0.011669	2.440
-4	-0.004329	-1.073
-3	-0.003456	-1.003
-2	-0.003321	-1.123
-1	-0.004625	-1.426
0	-0.002122	-.352
1	-0.003816	-.605

2	-0.005590	-1.449
3	0.001635	.396
4	0.001520	.378
5	-0.000081	-.020
6	-0.000301	-.076
7	-0.012493	-3.945
8	-0.002009	-.484
9	-0.004118	-1.038
10	-0.003053	-.676

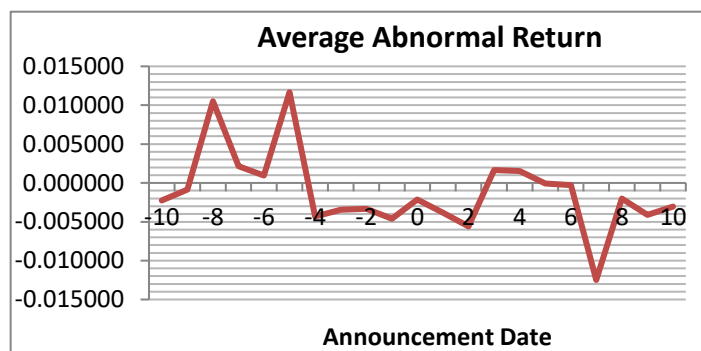


Figure 1: Average Abnormal Return

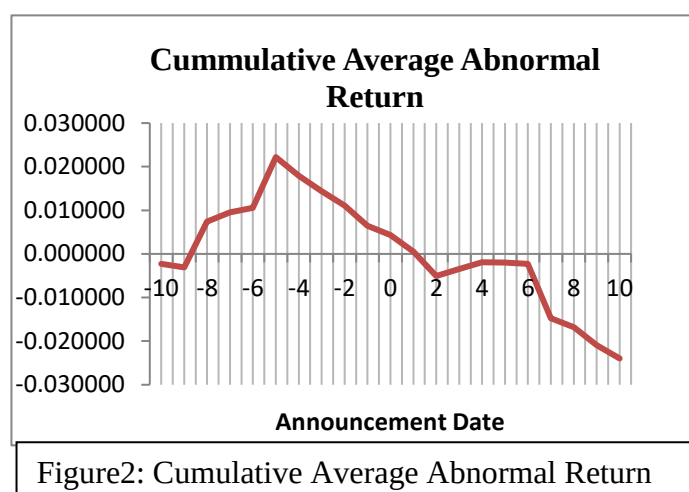
In a semi strong form of EMH, the average abnormal return for the event day (day 0) should be significantly different from zero. However, the study shows that rights issue announcement is statistically insignificant negative return.

Table 1 shows that the of rights issue announcement yielding both positive and negative returns around the event day. It is observed from the above table that during the 21 days event window there are 3 days positive (30%) before the event day and 2 days (20%) after the event and

negative for 7 days (70%) before and 8 days (80%) after the event. Market reacts negatively even on the announcement day of course this is statistically insignificant. This indicates that market reacts both positively as well as negatively during the event window. Thus one can accept the value neutral hypothesis but it is the indication of perfect efficient market because after the announcement market is reacting negatively of course it is not statistically significant negative return

Table2: Cumulative Average Abnormal Return (CAAR)

Days	CAAR
-10	-0.002248
-9	-0.003122
-8	0.007400
-7	0.009555
-6	0.010527
-5	0.022195
-4	0.017866
-3	0.014411
-2	0.011090
-1	0.006465
0	0.004342
1	0.000526
2	-0.005064
3	-0.003429
4	-0.001909
5	-0.001990
6	-0.002291
7	-0.014784
8	-0.016793
9	-0.020911
10	-0.023964



It is evident from the figure 2 that there is initial positive trend and it continues till the announcement date. The CAAR is negative after the announcement period off course with some corrections.

The values of CAARs do not fall in the left-tail of the rejection region on any day either before or after the event-day. The analysis demonstrates that CAAR increases before the announcement date and falls sharply after the announcement date which is an indication of market efficiency. The fact that the t-values do not plot on the left-tail of the rejection region of the t-distribution further strengthens the evidence that the negative returns which are insignificant greater

Summary and Conclusion

This paper has examined the impact of rights issue on firm's equity value. Data analyzed in this study consist of companies which are part of S&P CNX 200. The companies which have reported rights issue during 2001 to 2012 are included in the sample. Using the standard event study methodology the analysis shows that actual performance of the companies was insignificantly negative compared to the expected market adjusted returns. The results showed that the stock value of the firm

decreased on the day of announcement of rights issue by about -0.212%, which is statistically insignificant.

Results indicate that Right issues are associated with positive market reaction. High positive abnormal returns before the board of directors meeting announcement were observed, which is consistent with earlier studies that upward movement of share prices occurred before rights issue announcements (overvaluation indication). On the BOD meeting date / announcement date negative abnormal returns are observed which indicates that rights issues are negative signal to market. On subsequent date the negative price effects was observed to level out the partial information which has been disseminated in the market.

Since the result of this study indicates that Indian stock market is efficient but not perfectly efficient. We find that announcement of rights issue of equity are met with insignificant negative reaction (Value neutral) which is similar to a number of developing countries. As propounded by earlier scholars, rights issue should not have any effect on the price of the share in an informationally efficient market. Financial economist considers rights issue are value neutral information. Our study also supports value neutral event hypothesis

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