

An Examination of Ex-day Price Effect of Stock Split in Indian Stock Market

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Abstract

During the post-reforms era, stock market of our country has witnessed a series of developments as a part of overall financial sector developments. Regulators of stock market have formulated and implemented various policies and measures to regulate the activities issuers of securities and market intermediaries with the objectives to ensure efficient functioning of the market and protect the interest of the general investors dealing with securities in stock market. As a part of those initiatives, stock split was introduced by SEBI in Indian stock market in the year 1999. Both from the perspective of split issuing firm and shareholders of split issuing firm, stock split has no real significance as it only increases the number of outstanding shares by dividing the existing shares into more parts on the basis of split ratio. But, the literature on stock split documents that split is associated with price reaction in the bourses on its announcement and execution. In the present study, price effect of stock split on and around its execution date has been examined using a sample of splits executed by BSE-listed companies during the period from 2010-11 to 2016-17. Empirical findings of the study document that stock market reacts favourably and significantly to execution of stock split but not on that date or immediately after that date, rather on successive two days after day after ex-split date. But it is very difficult to provide justification for those observed price reaction as the ex-split date is prefixed in the annual general meeting of the shareholders in which split is approved. However, that might happen for not becoming public the split information of less known firms in leading financial media.

The study, thus, lends support to the findings of most of the studies conducted in the context of stock market of our country contradicting a very few in which negative market reaction to stock split has been observed on and around the effective date of stock split.

Keywords: Stock Split, Ex-split Day, Abnormal Return, Market Reaction.

JEL Classification Codes: E44, G02, G14, G10.

I. Introduction

The stock market of our country has witnessed significant developments during the post-reforms period in terms of regulatory framework to regulate the activities of issuers of securities and market intermediaries, modernization stock exchanges, efficiency of clearing and settlement systems, introduction of new financial instruments in the market, disclosure levels and corporate governance, risk management system, investors education, etc. The objectives of such initiatives were to protect the interest of general investors dealing with securities in the market and enhance the level of efficiency of stock market of our country. As a part of those initiatives, stock split was introduced by

SEBI in Indian stock market in the year 1999. As a result of such split, the number of outstanding shares of split issuing company increases and face value of each share decreases on the basis of split ratio without having any impact on capital structure, cash flow position, market capitalization, value of holdings and proportionate ownership of shareholders. Thus, no real significance is associated with stock split either from the perspective of split issuing firm or the shareholders of split issuing firm. But, the literature on stock split documents that split is associated with price reaction in the bourses on its announcement and execution. The most important explanations for such market reaction to split as documented in the literature are information signalling and liquidity of stocks. The first explanation postulates that firms split their stocks to communicate favourable information about performance and prospects of their firms while as per liquidity conjecture, firms split their stocks to restore their stock prices which have increased considerably to a more favourable trading range thereby attract new and small investors into the stocks which in turn helps to increase trading volume and liquidity of the stock. In the present study, price effect of stock split and hence impact of stock split on shareholders' value on its execution has been examined using a sample of stock splits occurred during the period 2010-2018 in Indian stock market. In case of stock split, execution date or ex date means the date on and from which the splitted stocks start to trade in the market at their split adjusted reduced prices. As, the actual changes in number of outstanding shares and face value of shares take place on the execution date, we have examined the impact of split on shareholders' value on and around such date.

II. Review of Literature

As stock split was introduced in our country in the year 1999, the number of empirical as well as survey-based studies on impact of split on shareholders' value in Indian stock market is much lower than those conducted in the context of stock markets abroad. The studies conducted in the context of stock markets abroad have documented that stock markets generally react positively to split announcement and execution changing shareholders value favourably surrounding such dates though a few studies also have observed that shareholders' value remains unaltered or decreases on and around stock split announcement and execution date. As the objective of the present study is to examine the impact of split on shareholders' value surrounding ex-split date in Indian stock market, a review of those studies has been made in this section which has investigated price impact of stock split on and around announcement and execution dates of stock split in Indian stock market.

The first study on stock split in Indian context was undertaken in the year 2002 by Lukose PJ and Rao and in their study they examined the announcement and execution effects of stock split in Indian stock market along with impact of stock split on trading volume and volatility of stock returns using the stock splits undertaken by BSE-listed companies during the period from January 1992 to June 2001. For analysing behaviour of stock returns around the split announcement and execution dates, they computed abnormal stock returns using standard event study methodology with market model. In their study they observed that statistically significant abnormal returns are realised both around split announcement and execution dates. In his study Mishra (2007) investigated the impact of stock splits on stock returns, volume of trade and return volatility on and around the effective date of stock splits using a sample of stock split undertaken in Indian stock market during the period from 1999-2005 for a large sample of stock splits of BSE-listed companies. The findings of his study were inconsistent with most of the studies conducted in the context of global stock markets and previous

study conducted in Indian context as the study has reported statistically significant negative abnormal returns on ex-split date. Along with examining liquidity effects associated with stock split Gupta and Gupta (2007) has explored price effects of stock split on announcement and execution of stock split. For their study they used a sample sixty stock splits announcement during the period 1999 to 2004 and found that there is no impact of split announcement on shareholders' value but observed a significantly positive price effect on its ex-date. The study conducted by Dhar and Chhaochharia (2008) examined the market reaction to stock split and bonus issue announcements in Indian context using ninety split and eighty two bonus issues undertaken by BSE-500 companies during the period 2001-2007. They considered the board meeting date in which split or bonus issue was proposed as the announcement date of split and bonus issue announcement date (event date). They analysed market reaction to stock split and bonus issue by employing event study methodology with the market model using a 81-day event window centred on the event date. In their study they documented that market reacts positively and significantly to both stock splits and stock dividend announcement. They also observed that market reacted more positively to bonus issue announcement than the split announcement on the announcement date but for the entire event window reaction to split was more prominent than the bonus issue announcement. Choudhary and Choudhary (2009) in their study analysed the behaviour of stock returns surrounding split announcement and execution dates along with liquidity effect associated with stock split in Indian stock market using stock split announcement occurred during the period 1999 to 2007. The study documented positive market reactions to stock split announcement and execution in India. Using stock splits undertaken by S&P CNX 500 companies during the period 2002-2007, Joshipura (2009) examined price and liquidity effects of stock split on and around its announcement and execution dates. The study did not find any significant price impact on its announcement date but found significant positive market reaction to split on its execution date. Banerjee et al. (2010) examined market reactions to stock splits on its announcement and execution dates using stock split executed during the period 2000 to 2008 employing event study with market model and using a 21-day event window. Though the study found significantly positive abnormal returns on and before both the announcement and execution dates of stock splits, no short-term wealth effect was associated with split as the positive abnormal returns observed on and before the announcement and effective dates got reversed immediately after such dates. Using stock splits of 187 NSE-listed companies during the period 2002-2009, Singh (2010) examined the price effect of stock splits on its effective date. The study found that stock split had significantly positive impact on shareholders' wealth around its effective date but as such effects of split differed significantly across industries, the author argued that the effects are industry-specific and not general for all firms. Alex et al. (2011) in his study examined price and liquidity effects associated with split announcement using a sample of stock splits undertaken by S&P Nifty companies during the period 2000 to 2010 and found no significant impact of split on stock returns surrounding such announcement date. Using a sample of twenty splits announcement by BSE-listed companies during the period from 2006-2008, Chavali and Zahid (2011) examined impact of stock splits announcement on the stock prices. The findings of the study documented that split was associated with significantly positive abnormal returns around the announcement date and stock prices began to increase well before the formal announcement of split. In a research article Ghatak (2011) examined price impact of stock split and bonus issue announcements using a convenience sample of 12 stock splits and 15 bonus issues announcements

by NSE-listed IT companies during the period 2000 to 2010. For the study he employed event study methodology and used a 41-day event window. The study found that split generated more returns to the shareholders than the bonus issue announcement surrounding their announcement dates. Using stock split and bonus announcement occurred during the period 1996-2008, Ray (2011) examined impact of stock splits and bonus issues announcements on shareholders' returns and liquidity of stocks conducting event study using a 61-day event window. Though a significantly positive abnormal return was observed on announcement day of stock split no such significant stock price reaction was observed for bonus announcement. Chakraborty (2012) investigated execution day effect of stock split on stock returns in Indian stock market considering all splits undertaken by BSE-listed companies during the period 1999 to 2008 and documented significantly positive average abnormal return on its execution date. Thirunellai (2014) examined market reaction to stock split along with its liquidity effects using a sample of forty four splits executed by CNX 100 companies during the period 2002 to 2013 and observed that stock prices started to react positively to split announcement well before the formal proposal date enhancing shareholders' value during that period.

As the technique of stock split was introduced for the first time in India in the year 1999, the literature on stock split at large and impact of stock split on stock returns and hence on shareholders' wealth surrounding its ex-day is not so rich in Indian perspective as available in the context of stock markets abroad. In the present study an attempt has been made to analyse empirically the ex-day effect of stock split using a sample of stock split occurred during the period 2010-11 to 2016-17 in Indian stock market.

III. Objectives of the Study

In the present study an attempt has been made to examine empirically the impact of stock split on shareholders' value surrounding the ex-date of stock split (the date on and from which split becomes effective and splitted stock starts to trade in the market at split-adjusted price) in Indian stock market by analyzing observed cross-sectional average abnormal stock returns on and around such date.

IV. Data Base and Methodology

During the period 2010-11 to 2016-17 a total of 506 stock splits has been executed by BSE-listed companies. Initially all such splits was taken into consideration for the study. Thereafter, those firms for which all the information and data required for the study were not available in the two data base packages 'Capitaline' and 'Prowess'; or website of BSE or SEBI as well as those firms which announced or declared any price-sensitive corporate event like, earnings announcement, buy back of shares, bonus issue, etc. within the event window for the study have been excluded from the initial sample which reduced the size of the sample to 276 splits representing 19 broad industries of the economy. From these 276 splits, a sample of 30 splits have been drawn by selecting one split from each of 19 industries randomly and the remaining 11 splits have been selected from the rest splits using simple random sampling without replacement. We have collected the ex-split dates (the date on and from which split becomes effective) and all the necessary share price data of the sample firms from 'Capitaline' data base packages.

For examining impact of stock splits on stock returns, the behaviour of cross-sectional average abnormal returns surrounding ex-split date has been analysed by employing standard event study

methodology with market model using a event window of 31 days centred on the ex-split date. The normal returns of each sample firm within the event window have been estimated by the following market model:

$$\ln R_{it} = \alpha_i + \beta_i \ln R_{mt} + \varepsilon_{it}$$

where R_{it} is the price relative of security i for the period t ; R_{mt} is the BSE-Sensex relative for the period t ; \ln implies natural logarithm; α_i and β_i are the parameters of the model and ε_{it} is a random disturbance term which satisfies the usual assumptions of the linear regression model. The values of the parameters of the market model for each sample firm have been estimated using daily closing share price data and daily closing values of BSE-Sensex for a period of one year ending on one month prior to the split execution date using OLS regression. Then normal returns of each sample firm within the event windows have been estimated using the fitted market model and abnormal returns (AR) for each sample firm within the event window have been estimated by subtracting estimated return from actual or realised return. In order to find out average abnormal return (AAR) for each day within the event window, abnormal returns of sample firms have been averaged cross-sectionally and cumulative average abnormal return ($CAAR_t$) for each day t within the event has been estimated in similar way. We have applied cross-sectional t-test to test the statistical significance of AAR_t for each day within the event window.

V. Findings on Ex-day Price Impact of Stock Split

Table-1 presents Average Abnormal Returns (AARs) and Cumulative Average Abnormal Returns (CAARs) along with t-value of AARs and percentage of firms which observe positive AAR on each day within the event window. From Table-1 it is seen that within the 21-day event window AAR for only two days are statistically significant viz., for day 2 and day 3. A cross-sectional AARs of 2.33% and 2.16% are observed on these two days respectively and those AARs are statistically significant at 1% and 5% level respectively. It is also observed that the statistically significant AARs are not due to presence of outliers as the percentage of firms those observed positive AARs on those days are 73.33% and 80% respectively. The AARs for all other days are statistically insignificant. Moreover apart from those two days, AARs for 11 days are positive while those for 8 days are negative which demonstrate that AARs within the event window move in a random manner. In case of CAARs, it is evident from Table-1 that a CAAR of 8.06% is observed during the entire event window starting from 10 days prior to the split to 10 days after the split.

Thus, the observed behaviour of cross-sectional AARs on and around ex-split date demonstrates that ex-split date is associated with significant price impact for the stock gone for split but not on the ex-split date or day immediately after ex-split date. The ex-day positive price effect of split is observed on successive two days after two days from the ex-split day enhancing shareholders' wealth on those days. The AARs for post effective date are also predominantly positive though none of them are significant in statistical sense. The observed behaviour of AARs are very much expected as the actual result of split occurs only on the effective date and on and from this date the splitted stock begins to trade on the stock market at split-adjusted reduced prices. But, the reaction which is observed in the study might be due to the fact that the investors come to know about the split when they observe the lower price of the stock and get attracted to those stocks after the execution of split. It might also be

happened for those splits for which neither proposal nor approval news about the split published in the leading financial media. The observed behaviour is thus in consistent with the findings of most of the studies conducted in the context of stock market of our country except a very few in which negative market reaction to stock split has been observed on its effective date.

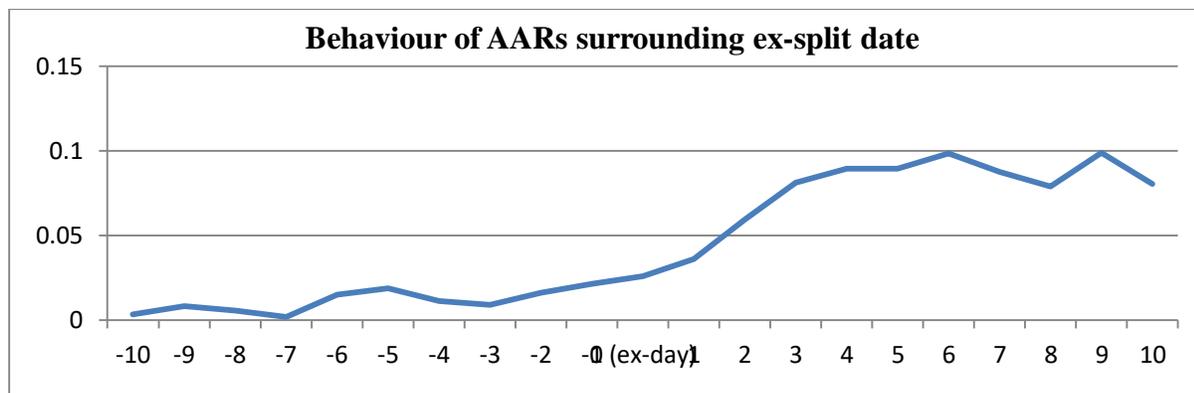
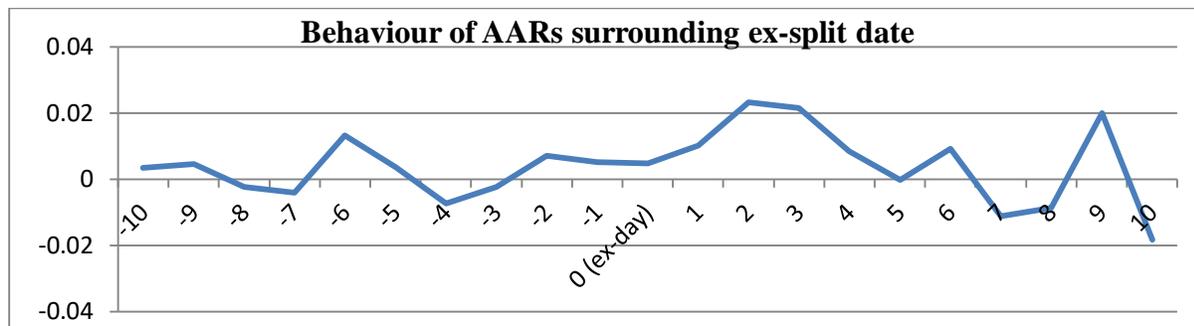
VI. Conclusion

The price effect of stock split and hence impact of split on shareholders' value on and around its effective date has been investigated in the study using a sample of stock split occurred in Indian stock market during the period from 2010-11 to 2016-17. Findings of the study document that stock market reacts favourably and significantly to execution of stock split but not on that date or immediately after that date, rather on successive two days after day after ex-split date. But it is very difficult to provide justification for those observed price reaction as the ex-split date is prefixed in the annual general meeting of the shareholders in which split is approved. However, that might happen for not becoming public the split information of less known firms in leading financial media.

Table- 1: Average Abnormal Returns (AARs) and Cumulative Average Abnormal Returns (CAARs) of Sample Firms on and around Ex-day of Stock Split

| Day relative to split ex-day | AAR | t-value | CAAR | Percentage of firms having positive Abnormal Return |
|------------------------------|---------|---------|--------|---|
| -10 | 0.0034 | 0.532 | 0.0034 | 43.33 |
| -9 | 0.0047 | 0.598 | 0.0081 | 50.00 |
| -8 | -0.0023 | -0.031 | 0.0058 | 60.00 |
| -7 | -0.0041 | -0.322 | 0.0017 | 49.33 |
| -6 | 0.0133 | 1.589 | 0.015 | 70.00 |
| -5 | 0.0037 | 0.521 | 0.0187 | 40.00 |
| -4 | -0.0074 | -1.044 | 0.0113 | 53.33 |
| -3 | -0.0023 | -0.102 | 0.009 | 43.33 |
| -2 | 0.0072 | 0.816 | 0.0162 | 60.00 |
| -1 | 0.0051 | 0.639 | 0.0213 | 56.67 |
| 0 (ex-day) | 0.0048 | 0.671 | 0.0261 | 40.00 |
| 1 | 0.0102 | 1.488 | 0.0363 | 70.00 |
| 2 | 0.0233 | 4.01* | 0.0596 | 73.33 |
| 3 | 0.0216 | 2.232** | 0.0812 | 80.00 |
| 4 | 0.0084 | 0.940 | 0.0896 | 56.67 |
| 5 | -0.0002 | -0.023 | 0.0894 | 40.00 |
| 6 | 0.0092 | 1.002 | 0.0986 | 46.67 |
| 7 | -0.0111 | -1.233 | 0.0875 | 50.00 |
| 8 | -0.0086 | -0.954 | 0.0789 | 30.00 |
| 9 | 0.0201 | 2.002 | 0.099 | 36.67 |
| 10 | -0.0184 | -1.672 | 0.0806 | 63.33 |

Note: * and ** imply significance at 1% and 5% levels respectively.



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