'The Study On Impact Of Stock Split On Stock Performance Of Selected Companies'

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Abstract

The study is about the stock split and analysing the market condition or reaction to the stock split announcement by the companies during the period of study. It also studies about the abnormal returns around the stock split announcement that is the window period of +12 and -12 days of the stock split date and the study is based on the stock market data of 2 years 2014 to 2016. The implication of the study is confined to the industries in which the selected companies are operated the cumulative average abnormal return test(CAAR) were used to find that market reaction is positive or negative abnormal returns during the stock split.

Keywords: stock split, abnormal return, window period, CAAR

Introduction

A stock split refers to the splitting up of Stock. It may either be split forward or in reverse. A forward stock split occurs when a company issues additional shares of stock while a reverse split occurs when stocks are reduced in number and their prices increase, Stock split is done to infuse liquidity and to make shares affordable for various investors who could not buy the shares of that company before due to high prices. People often confuse bonus shares with stock split. Distribution of bonus shares only changes its issued share capital whereas stock split splits the company's authorized share capital. Stock splits are considered as financial puzzles by many researchers When a company splits its shares, the market capitalization before and after the split takes place remains stable, meaning the shareholder now owns more shares but each are valued at a lower price per share. Often, however, a lower priced stock on a per-share basis can attract a wider range of buyers. If that increased demand causes the share price to appreciate, then the total market capitalization rises post-split. This does not always happen, however, often depending on the underlying fundamentals of the business. The impossible nature of stock splits has two different views: one view holds that stock split is a costly exercise that cannot affect the value of the firm, while the other view advocates that the value of the firm immediately and significantly increases upon the announcement of stock splits. There have been numerous research studies in India and abroad on the market reaction to stock splits. However, these studies have been conducted mostly for companies listed on NSE and BSE Sensex and for periods up till 2005, which gave mixed results. This provided the primary impetus to conduct this study for the BSE500 listed companies in the more recent period from April 2006 to September 2008. The objective of this research is to analyse the impact of stock splits on the stock price performance.

In India, SEBI (Securities Exchange Board of India) permitted stock splits in the year 1999 and this was followed by a majority of the companies splitting stock frequently in a short period of time. Companies that were already trading in a nominal price range were resorting to stock splits. This was evident during the period 2005-2009 and again in 2012-2014. Since companies announcing stock splits were on the rise, it has puzzled investors and academicians on what could be the probable factors which influence stock split decisions in India. A lot of studies have been done on stock splits and the studies were centered around the effect of stock splits on the price, returns, volatility and trading volume.

EXCEL is a popular way for doing event study analysis, but it involves lots of copying and pasting to run the data analysis—a time consuming process with high frequency of errors. The idea for building this event study analysis software is to meet the demand of efficiently dealing with the event study data analysis process with no error. The software will calculate the Alpha and Beta of the return generating model together with the Cumulative Abnormal Return, Average Abnormal Return and Significance Test results based on the pre-settings of the user,who can get his/her needed result data to aid further event analysis just within a few clicks.

Review of literature

During the study, the following research to stock split were studied.

Empirical Evidence of Market Reaction to Stock Splits

M.Sriram2015

In this study, they have analysed the market reaction to stock split which the companies have announced during the period of study and they called this study has Using event study in which it finds the reaction of the market. In this study, they have used average abnormal returns (AAR) and Cumulative Abnormal Returns (CAR) and compared before and after the split date. It was found that AAR has increased considerably in the post- split period thereby indicating a slow momentum in the reaction to stock split announcements. Average Security Return Valuation (ASRV) shows that there is no association between the stock splits as a news and valuation of stocks. Liquidity and Trading Range Hypotheses holds good for the period of study.

A Study on Stock Split Announcements and its Impact on Stock Prices in Colombo Stock Exchange (CSE) of Sri Lanka

By Liu Hua& Skanthavrathar Ramesh Volume 13 Issue 6 Version 1.0 Year 2013

In this study, they have told that there is no much evidence linked to stock split announcements and stock prices behaviour available to investors. In this study, they have taken a sample of 64 events (52 companies) from 14 different sectors of the emerging market during the period 2009 to 2012. This study finds that stock splits have a significant signal and information content in the Colombo Stock Exchange (CSE), and it finds that on average market positively reacts significantly to the announcement and later the large negative cumulative average abnormal return (-6%) is observed during the period of (0, 10). This result support the semi strong form efficient market hypothesis for the sample companies within the study period since stock prices adjust so fast to public information that investor can not earn an abnormal return by trading in the stocks following the stock split announcement day.

Stock Dividends, Stock Splits, and Signalling

Maureen McNichols and *Ajay David* ,1990

This study involves where they provide the private firms the signals and information about the future earnings of split factor they have the error in the forecast of increase in earnings and after controlling for differences in pre-split price and firm size. Furthermore, price changes at stock dividend and split announcements are significantly correlated with split factors, holding other factors constant, and with earnings forecast errors. These correlations suggest that management's choice of split factor signals private information about future earnings and that investors revise their beliefs about firm value accordingly. The analysis also suggests, however, that announcement returns are significantly correlated with split factors after controlling for earnings forecast errors. This suggests that earnings forecast errors measure management's private information about future earnings with error, that split factors signal other valuation-relevant attributes, or that a signalling explanation is incomplete.

Impact of stock splits on stock price performance of selected companies in Indian context

Kavita Chavali and Zaiby Zahid July 2011

In this study, they aim to investigate the impact of stock splits on the stock price performance of selected companies in the Indian stock market. A purposive sampling method was employed, and a sample of 20 stock splits announced by BSE-listed companies from the beginning of April 2006 to the end of September 2008 was selected pertaining to different sectors. The study employs the market model-event study methodology with an event window of 81 days (40 days prior to split and 40 days' post-split) and split announcement date as the event date, to examine the market reaction. The findings indicate that the market is found to react positively with significantly positive average abnormal results on to and very near to the date during the evident. The empirical results find the semi-strong form of efficient market hypothesis to be true in the Indian context.

Event Study Analysis of Share Price and Stock Market Index Data

Lihuang Tong, 2010 In this study they have said about the event study analysis which is used for the finance to evaluate the value of the firm and this study takes lot of time so this study is mostly done by the EXCEL software where there is so much of copy paste work in the software this helps to analysis the data and another drawback is the high frequency of errors when workload is huge, there are many other choices of commercial software, but the user has to buy the membership and sometimes the complicated interfaces are not suitable for the new user. In addition to providing share price and market index patterns, this software also gives accurate calculation of needed data. This dissertation aims to analyse the MSc project software by comparing it with two similar types of paid commercial software available online. This software has been implemented by using Java, a programming language that can provide user-friendly interface, object-oriented and independent platform that can be run on almost all kinds of operating systems.

Long-Run Common Stock Returns following Stock Splits and Reverse Splits

Hemang Desai and *Prem C Jain*, 1997

In this study,they examine one-three-year performance of common stocks following 5,596 stock split and 76 reverse split announcements made during the period 1976-91. For stock splits, on average, the one- and three-year buy-and-hold abnormal returns after the announcement month are 7.05 percent and 11.87 percent, respectively. For reverse splits, the corresponding abnormal returns are -10.76 percent and -33.90 percent. The results suggest that the market underreacts to both the stock split and the reverse split announcements. The authors also find that the announcement period and the long-run abnormal returns are both positively associated with an increase in dividends.

Research Methodology

a. Title of the Project

The title of project is **'The Study On Impact Of Stock Split On Stock Performance Of Selected Companies'**

b. Statement of the problem

A stock split refers to the splitting up of Stock. It may either be split forward or in reverse and there have been numerous research studies in India and abroad on the market reaction to stock splits. However, these studies have been conducted mostly for companies listed on NSE and BSE Sensex.

This study is undertaken to find out the impact of stock split and their performance after the split and before the split by using CAAR test and also stock performance is measured in terms of their returns based on their market price.

c. Objectives

I. To identify the selected companies which have announced the stock splits

II. To measure the returns of these companies pre-and post-stock split.

III. To compare the returns of stocks and market pre-stock and post stock split.

IV. To measure the impact of stock split on stock performance using CAAR test.

d. Hypotheses

Following hypotheses have been used in the project:

H0: There is no significant impact of stock split on stock performance.

Ha: There is a significant impact of stock split on stock performance.

e. Operational definitions

Stock split: When a company declares a stock split, the number of shares of that company increases, but the market cap remains the same. Existing shares split, but the underlying value remains the same. As the number of shares increases, price per share goes down

Reverse stock split: In finance, a reverse stock split or reverse split is a process by which shares of corporate stock are effectively merged to form a smaller number of proportionally more valuable shares. A reverse stock split is also called a stock merge.

Abnormal return: In finance, an abnormal return is the difference between the actual return of a security and the expected return. Abnormal returns are sometimes triggered by "events." Events can include mergers, dividend announcements, company earnings announcements, interest rate increases, lawsuits, etc. all of which can contribute to an abnormal return. Events in finance can typically be classified as information or occurrences that have not already been priced by the market.

Liquidity: Liquidity means how quickly you can get your hands on your cash. In simpler terms, liquidity is to get your money whenever you need it.

Event study: An event study is oftentimes the first step in a sequence of analyses that aims at identifying the determinants of stock market responses to distinct event types. Event studies yield as an outcome abnormal returns (ARs), which are cumulated over time to cumulative abnormal returns (CARs) and then 'averaged' - in the case of so called sample studies - over several observations of identical events to AARs and CAARs - where the second 'A' stands for 'average'. These event study results are then oftentimes used as dependent variables in regression analyses.

Standard deviation of CAAR t test

$$\hat{\sigma}_{CAAR(T_1,T_2)} = \sqrt{\frac{1}{N(N-d)}\sum_{i=1}^{N}(CAR_i(T_1,T_2) - CAAR(T_1,T_2))^2}$$

Cross sectional t test

$$T_{Cross} = \frac{CAAR(T_1,T_2)}{\hat{\sigma}_{CAAR(T_1,T_2)}}$$

Critical value =TINV (probability, degree of freedom)

Data collection

Primary Data – Primary data for the study purpose was collected through interview schedule and actual interaction with the professionals in the stock market such as brokers, regular traders and investors (Refer to Appendix). Fifty were selected randomly for the study purpose.

Secondary Data – secondary data was collected from money market and from NSE and BSE websites

g. Statistical Tools used for research

two tail test T test with t- critical value is used to test the hypotheses as it is test of one sample of proportions.

h**. Sampling Technique**

i. Sampling Unit

stock market data of 35 companies which have gone for the stock split from two years which are identified from stock market

ii. Sample Size A sample size of fifty respondents from the professionals of stock market that is brokers regular traders were taken for the purpose of the study.

iii. **Sampling Method**

Probability sampling requires complete knowledge about all the sampling units in the universe. Due to time constraint, non-probability sampling was chosen for the study.

i. **Plan of Analysis**

The data pertaining to the stock performance of 35 companies for 24 days that is 12 days before and 12 days after the stock split and was compared with the market returns. Compared and division in term of abnormal return are determined and CAAR test is applied to determine the level of significance and it was analysed using Microsoft™ Excel software. Each company's calculation was interpreted. Further hypothesis test for CAAR.

Limitation of the study

The study is based on the stock market data of 2 years 2014 to 2016. The implication of the study is confined to the industries in which the selected companies are operated.

CAAR t-Test

Company	**ARR**	**CAAR**	**$CAAR^2$**
KPR	-0.42574	26.06266434	679.2625
Indo	-0.71663	25.77176787	664.184
Grasim	-0.82621	25.66219189	658.5481
Lambo	-0.95932	25.52908061	651.734
Samtex	-1.02219	25.46621017	648.5279
Vivimed	-0.85796	25.63044235	656.9196
Granules	-0.81289	25.67551374	659.232
sequent	-0.87856	25.60984401	655.8641
Zyden	-0.80396	25.68444314	659.6906
Hikal	-0.90884	25.57955624	654.3137
Sharom	-0.90254	25.58585812	654.6361
Menon	-0.56814	25.92025867	671.8598
JMT	-0.35757	26.13082811	682.8202
Minda	-0.75119	25.73720617	662.4038
setco	-0.81933	25.6690681	658.9011
Jamna	-0.4576	26.03079721	677.6024
Atul	-0.55903	25.92936861	672.3322
Vama	-0.57688	25.91152347	671.407
V Guard	-0.92123	25.56716642	653.68
Kesar	-0.6245	25.86390075	668.9414
greenply	-0.83233	25.65606897	658.2339
gulshan	-0.85054	25.63786295	657.3
chembond	-0.52796	25.96044204	673.9446
solar	-0.7485	25.73990441	662.5427

KesarPetro	-0.36351	26.12488628	682.5097
Fineotex	-0.73414	25.75425719	663.2818
camplin	-0.46984	26.01855723	676.9653
Deepak	-1.18302	25.30537764	640.3621
Alankit	-0.35	26.13839564	683.2157
Stampede	-1.12234	25.36605693	643.4368
Urja	-0.94235	25.54605314	652.6008
Signet	-0.81625	25.67215155	659.0594
PMC	-0.75614	25.7322614	662.1493
VKC	-0.86986	25.61854091	656.3096
Atlanta	-1.17128	25.31711853	640.9565
Total	-26.4884	900.61	23175.73
CAAR	-0.75681	25.73158928	662.1147

Standard deviation for CAAR t-Test

$$\hat{\sigma}_{CAAR(T_1,T_2)} = \sqrt{\frac{1}{N(N-d)}\sum_{i=1}^{N}(CAR_i(T_1,T_2) - CAAR(T_1,T_2))^2}$$

$$\sqrt{\frac{1}{35(35-24)} \times 23175.73}$$

=60.196

CROSS SECTIONAL t-Test

$$\hat{\sigma}_{CAAR(T_1,T_2)} = \sqrt{\frac{1}{N(N-d)}\sum_{i=1}^{N}(CAR_i(T_1,T_2) - CAAR(T_1,T_2))^2}$$

T cross= -0.75681

60.196 = -0.01257

From the t cross test, it can be inferred that the cumulative average abnormal return per unit of risk across the sample is -0.01257. this indicates the existence of negative abnormal return around the stock split event in 35 companies.

Summary Findings

I**. To identify the selected companies which have announced the stock splits**

We have identified 35 companies which have announced stock split during last two years and we have selected from different sectors as mentioned below.

NAME OF THE COMPANY	INDUSTRY GRUOP	DATE OF STOCK SPLIT
KPR MILLS	TEXTILE	29/NOV/2016
INDO COUNT	TEXTILE	11/NOV/2016
GRASIM IND	CHEMICALS	06/OCT/2015
LAMGODHARAN	TEXTILE	15/OCT/2015
SAMTEX FASHION	TEXTILE	29/SEPT/2015
VIVIMED	PHARMACEUTICALS	06/APR/2016
GRANULES	PHARMACEUTICAL	23/MAR/2015
SEQUENT	PHARMACEUTICAL	25/FEB/2016
ZYDEN GENETRIC	PHARMACEUTICAL	18/FEB/2015
HIKAL	PHARMACEUTICAL	27/FEB/2015
SHARON	PHARMACEUTICAL	20/FEB/2014
MENON BEARING	BEARING	20/OCT/2016
JMT	AUTO ANCILLARIES	29/SEPT/2016
MINDA	AUTO ANCILLARIES	12/SEPT/2016
SETCO	AUTO ANCILLARIES	16/DEC/2015
JAMNA	AUTO ANCILLARIES	03/DEC/2015
ATUL	AUTO ANCILLARIES	12/SEPT/2014
VAMA	IT SOFTWARE	02/NOV/2016
V GUARD	CHEMICALS	30/AUG/2016
KESAR	MISCELLANOUS	11/AUG/2016
GREENPLY	INTERIOR INFRSTUTURE	06/JAN/2016
GULSHAN	CHEMICALS	27/DEC/2016
CHEMBOND	CHEMICALS	06/SEPT/2016

SOLAR	**CHEMICALS**	**13/JUL/2016**
KESAR PETRO	**CHEMICALS**	**30/NOV/2015**
FINEOTEX	**CHEMICALS**	**11/JUN/2015**
CAMLIN FINE	**CHEMICALS**	**04/SEPT/2014**
DEEPAK	**AUTO ANCILLARIES**	**20/JUN/2014**
ALANKIT	**FINANACE**	**15/DEC/2016**
STAMPEDE	**FINANACE**	**07/JAN/2016**
URIJA	**FINANACE**	**16/SEPT/2015**
SIGNET	**FINANACE**	**17/AUG/2015**
PMC	**FINANACE**	**22/OCT/2014**
VIKAS	**FINANCE**	**27/MAR/2014**
ATLANTA	**CONSTRUCTION**	**14/MAR/2014**

II. **To measure the returns of these companies pre-and post-stock split.**

In the 35 companies which the data have been collected that is the pre-and post-data of each companies, in that many of the companies have the normal returns in the pre-stock split as well as the post stock split only on the stock split date they have the abnormal return during other dates the returns are positive normal returns and few are negative returns.

III. **To compare the returns of stocks and market pre-stock and post stock split.**

The returns of the companies are normal during the returns calculation we found that only during the stock split date the is an abnormal return for all the 34 companies and only one company that is kesarpetro(Ref pg.no 124) is having normal returns even during the stock split date and other companies also have abnormal returns during pre and postdates of stock split dates but only one day or two day of pre and post stock split dates and they were mixed reactions like they had both positive and negative returns.Ref pg. no.71to140

IV**. To measure the impact of stock split on stock performance using CAAR test.**

The CAAR test is been used and found the CAAR value for each company from the event window of +12 and -12 days of the stock split some dates have the normal returns and some have negative return. From the t cross test, it can be inferred that the cumulative average abnormal return per unit of risk across the sample is -0.01257. this indicates the existence of negative abnormal return around the stock split event in 35 companies.

Summary finding derived from primary data

Stock splits are mainly carried out with the intention of increasing liquidity. Once liquidity increases, more buyers and sellers trade in the stock, which, in turn, helps to discover its true value. The prime intention behind the stock split is to enhance liquidity in the stock and also to make the stock more affordable. This is witnessed more when the price of a stock moves up significantly. Thus, a stock split is usually resorted by companies that have seen their share price increase to levels that are either too high or are beyond the price levels of peer companies. The intention behind a stock split is to enhance liquidity and to make the shares more affordable.

If you own a stock that declares a split, the number of shares you would own after the split increases. However, the price per share reduces. This is because the market capitalisation remains the same. So, as an investor, though the price you get for each share actually declines, the total number of shares increases. Market capitalisation is calculated by multiplying a company's outstanding shares by its current market price.
In theory, a split should result in an increase in the number of shareholders as more investors would buy at lower prices.
Investors assume that there could be some benefit resulting from an increase in trading activity and the consequent price movement. They should try to understand the objectives of the split and the potential benefits as well as disadvantages.

Market experts believe that investors should look at the fundamentals of the company before taking a position immediately after a stock split.

CONCLUSION

There exists an abnormal return across the stock split date this abnormal return may be positive or negative. The stock split increases the number of shares and therefore increase in the trading activity and create more depth in the market for the stocks. Though there will be a temporary fluctuation in the returns the long-term investors will possibly gain in terms of higher return on lower share value.
Stock splits are mainly carried out with the intention of increasing liquidity. Once liquidity increases, more buyers and sellers trade in the stock, which in turn helps to discover its true value. This is witnessed more when the price of a stock moves up significantly. Thus, a stock split is usually resorted by companies that have seen their share price increase to levels that are either too high or are beyond the price levels of peer companies. The intention behind a stock split is to enhance liquidity and to make the shares more affordable.
It seems that a stock split may not automatically result in benefits for investors who bought the split share at lower price. One of the possible reasons for the increase in share price, if it happens, is that a stock split provides a signal to the market that the company's share price has been increasing prior to the split and people assume this growth will continue in the future.
Market experts believe that investors should look at the fundamentals of the company before taking a position immediately after a stock split, they may be negative returns during the event window, if the return is negative than the expected market return it is better to buy the stocks so that the stock's price may increase after the event window and can earn good profit.

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