

AN EMPIRICAL STUDY ON IMPACT OF STOCK SPLIT ANNOUNCEMENT IN THE INDIAN STOCK MARKET

ATHULYA SHAJI

Abstract

Stock split is a corporate strategy to increase the liquidity of shares by dividing the shares into multiple shares. As per efficient market hypothesis (EMH) introduced by Eugene. F. Fama says that the capital market is efficient enough to fully reflect or absorb all available information in the market. Bonus issue, dividend declaration and stock split announcement are important decisions in the stock market based on this announcement the investors make decision. This study examines the stock market reaction to stock split announcement of CNX nifty 100 companies and also examines the trend of closing price of the companies after and before the stock split announcement. An event model of pre announcement and post announcement 90 days is used for this study. We found that every piece of information in the stock market affects the stock prices either positively or negatively.

Keywords: Stock split announcement, Average abnormal return, Cumulative average abnormal return, Pre - announcement, post – announcement period, CNX Nifty 100

1.1 Introduction:-

A stock split is a corporate action that increases the number of the corporation's outstanding shares by splitting a share into two or more. The stock market capitalization however remains same. When companies choose to split their shares so they can lower the trading price of their stock to a range deemed comfortable by most investors and increase liquidity of the shares. This announcement news will affect the stock market either positively or negatively. In general, a company resorts to stock split when its share become very expensive and when investors finds hard to invest in the company's share. Split can occur at any ratio and the

ratios like 2:1, 3:2 etc are commonly used. Stock split does not affect the fundamental value of the share but splitting shares enables many retail investors to invest and take advantage of low prices. This might also increase the demand of the shares and hence prices too. The main concept of stock splitting is to make share prices at a much affordable level and accessible to as many investors as possible. Recently, several companies have opted for stock splits.

1.2 Significance of the Study:-

The reactions of investors towards the news or information related to stocks are different. Events like announcement of earnings, dividend declaration, acquisition and mergers, stock split and declaration of any macro event like announcement of budget, change in political party have some impact on the reaction of investors. It is necessary to study whether these events or information will influence the stock price and how this news affects the movement of stock price either it affects positively or negatively.

1.3 Objectives:-

- To examine the stock market reaction to stock split announcement of CNX nifty100 companies
- To study the trend of closing price of the companies after and before the stock split announcement
- To find the normality of the distribution of the companies during the event window

1.4 Methodology:-

The study is descriptive in nature and secondary data has been used. In this study, the date of stock split announcement is defined as day 0 or source day. If source day is a non trading day then the immediately following trading day is considered as source day. Pre announcement period includes 90 trading days prior to the stock split announcement days -90 to -1. Post announcement period includes 90 trading days after the stock split announcement +1 to +90. Thus the event window of 61 trading days have considered for the study.

1.4.1 Variables:- Expected return, daily return, abnormal return, average abnormal return, cumulative average abnormal returns.

1.4.2 Data:- Secondary data from NSE, companies listed in Nifty 100 which had announced their stock split are selected for the study. The companies listed in Nifty 100 made stocksplit announcement during 2010 to 2019 were selected, the companies are;

Table.1
Companies with Stock Split Announcement

SL.NO	Company Name	NSE Symbol	Date of announcement
1	Asian paints	ASIANPAINT	30 th July 2013
2	Axis bank	AXISBANK	28 th July 2014
3	JSW Steel	JSWSTEEL	4 th January 2017
4	Kotak Mahindra	KOTAKBANK	13 th September 2010
5	Lupin	LUPIN	27 th August 2010
6	United Spirits	MCDOWELL-N	15 th June 2018
7	Tech Mahindra	TECHM	19 th March 2015
8	Housing Development Corporation Finance	HDFC	18 th August 2010
9	HDFC	HDFCBANK	14 th July 2011
10	ICICI	ICICIBANK	19 th June 2015
11	Infosys	INFY	15 th June 2015
12	Larsen and Turbo	LT	5 th May 2016
13	ONGC	ONGC	8 th February 2016
14	Reliance industries	RELANCE	7 th September 2017
15	State Bank of India	SBIN	20 th November 2014
16	Tata Motors	TATAMOTORS	12 th September 2011
17	Tata Consultancy Service	TCS	31 st March 2018

Review of literature is one of the most important steps in research process. Through review only one can identify the research gaps. There are several scholars who studied in the similar topic helps to get more clarifications. The following are the main literatures that were reviewed.

ALBERT S KYLE (1985) made a study about “continuous auctions and insider trading”. This paper examines a model of speculative trading in which an insider maximizes profit by exploiting strategically his monopoly power in a dynamic context. It illustrates that modeling price innovations as functions of quantities

traded is not inconsistent with modeling price innovations as the consequences of new information. Simultaneously, it illustrates that the strategic exercise of monopoly power by an insider is in no way inconsistent with prices being set efficiently in the semi-strong sense. The model shows how a discrete model of sequential trading converges in the limit as trading takes place very frequently to a simple model of continuous trading. In doing so, it illustrates that constant volatility of prices need not require that information upon which trades are based be produced in a smooth manner. Finally, the model demonstrates how liquidity characteristics of an efficient frictionless market can be derived from underlying information asymmetries in a dynamic trading environment which captures some relevant features of trading in organized exchanges.

F.M DE BONDT and RICHARD H THALER (1987) made a study about the topic “Further Evidence on Investor Overreaction and Stock Market Seasonality”. This paper discusses about new empirical findings that are relevant to the winner-loser, size and January effects as well as broader issues of time varying risk premia and market efficiency. In addition, they address the issue of whether the winner loser anomaly can be explained by difference in CAPM- betas. The main findings of this study are excess returns for losers in the test period are negatively related to both long term and short term formation period performance. For winners, January excess returns are negatively related to the excess returns for the prior December, possibly reflecting a capital gains tax lock in effect. The winner loser effect cannot be attributed to changes in risk as measured by CAPM betas. The winner loser effect is not primarily a size effect. The small firm’s effect is partly a losing firm effect, but even if the losing firm effect is removed there are still excess returns to small firms. The earnings of winnings and losing firms show reversal patterns that are consistent with overreaction.

ALBERT S KYLE and ALBERT WANG (1997) made a research on “Speculation Duopoly with Agreement to Disagree can overconfidence survives the market test?”. This research examines the survival of overconfident beliefs in a model of speculative trading with asymmetric information. The model is based on a duopoly version of the trading model in Kyle (1984, 1985). In a duopoly model of informed speculation, they shows that overconfidence may strictly dominate rationality since an overconfident trader may not only generate higher expected profit and utility than his rational opponent, but also higher than if he were also rational. This occurs because overconfidence acts like a commitment device in a standard cournot duopoly. As a result, for some parameter values the Nash –equilibrium of a two – fund game is a prisoner’s dilemma in which both funds hire overconfident managers. Thus, overconfidence can persist and survive in the long run.

KENNETH L FISHER and MER STATMAN (1998) made study on “Investor Sentiment and Stock Returns” in this paper they studied the sentiments of three groups of investor’s small, medium and large investors. They found that sentiments of the three groups do not move in lockstep and the relationship between sentiment and predict stock returns was found negative to individual and newsletter and it is statistically significant in the individual investors and not statistically significant to newsletter. In case wallstreet strategist the relationships is negative and statistically significant. The combination of three groups provides forecast of future returns. There is no support for the claim that the sentiment of small investors

influenced primarily by the returns of small cap stocks whereas the sentiment of large investors is influenced mostly by returns of large cap stocks.

KENT DANIEL, DAVID and AVANDHIAR SUBRAHMANYAM (1998) made a study on “Investors Psychology and Security Market under and overreactions”. This paper develops a theory based on investor overconfidence and on changes in confidence resulting from biased self attribution of investment outcomes. This theory implies that investor overreact to private information signals and underreact to public information signals. The theory also offers an explanation for the phenomenon of average public event stock price reactions of the same sign as post event long run abnormal returns.

ALEXANDROS .V. BENOS (1998) made a study on “Aggressiveness and Survival of Overconfident Traders”. This paper, try to address directly the implications on financial markets of specific human behavior, such as over confidence or persistent errors. This paper explicitly introduces behavioral traits into financial theory. First, they found traders may make higher individuals profits than their rational colleagues and survive in the market. Second, they increase market depth, price variability informativeness and volume when the market maker is risk neutral.

HARRISON HONG and JEREMY.C.STEIN (1999) “A Unified Theory of Underreaction, Momentum Trading and Overreaction in Asset Markets”. In this paper, they model a market populated by two groups of boundedly rational agents: news watchers and momentum traders. Each news watcher observes some private information, but fails to extract other news watcher information from prices. If information diffuses gradually across the population, prices under react in the short run. The under reaction means that the momentum traders can profit by trend chasing: if they only implement simple strategies their attempts at arbitrage must inevitably lead to overreaction at long horizons. The main findings of the study is both short run continuation and long run reversals should be more pronounced in those (small, low, analyst-coverage) stocks where information diffuses more slowly; there may be more long run overreaction to information that is initially private than to public news announcements and there should be a relationship between momentum traders horizons and the pattern of return autocorrelation.

JORDI CABALLE and JOZSEF SAKOVICS(2003) “Speculating against an overconfident market” in this paper they study how independent changes in private self confidence and public self confidence component affects the trading strategies. Then calculate the unique linear symmetric equilibrium and the major indicators of market performance in a financial market with imperfect competition where investors submit limit orders. If the level of self confidence is common knowledge, then both price volatility and trading volume increases with the level of speculators of self confidence in limit order market. The volume traded is increasing in private self confidence very high levels of volume can only be explained by extreme public self confidence. The variance of asset prices is decreasing in the level of private self confidence up to a threshold value and from then on it s increasing in it.

JAEHO CHO and KYOOSUNG JO (2006) “Overconfidence and Information: The difference between individuals and institutions”. This paper has prescribed a behavioral model that explains both short term momentum and long term reversals. In addition, the model explains the empirical evidence that the institutions traders are positively correlated and individual investors investors traders are negatively correlated with subsequent price changes. The model relies on two key assumptions that institutional investors are less overconfident and they uncover relevant information earlier than individual investors. Individual investor’s underestimation of institutional investor’s information is the driving force for the momentum in short run. Though the mean reversion in the long run is caused by overconfidence of both investors, the influence of more overconfident individual investors is greater.

PETER.E.EARL, TI-CHING PENG AND JASON POTTS (2007) “decision rule cascades and the dynamics of speculative bubbles”. This paper has introduced the notion of a decision rule cascade as a means of explaining interdependent changes in the speculative decisions that people make and how this can result in the sorts of herding phenomenon that, given certain conditions of optimism and liquidity, seem to manifest recurrently in stock market and real estate booms and bubbles. The explanation of why things go up is the same as explanation of why things go down, namely the evolutionary consequence of the adoption of new behavioral rules. They consider mainly in the specific context of speculative investment in residential property, but the principle is general. The structure of investment is a function of the investment rules that agents have acquired and the structure of these rules evolves whenever rules are introduced and are subsequently adopted and retained.

ABHIJEET CHANDRA (2008) “Decision making in the stock market incorporating psychology with finance”. The objective of this paper is to explore the impact of behavioral factors and investors psychology on their decision making and to examine the relationship between investors attitude towards risk and behavioral decision making. In this study, they found that individual investors do not always make rational investment decisions. Their investment decisions making is influenced to a great extent by behavioral factors like greed, fear, heuristics, mental accounting.

SALMA ZAIANE and EZZEDDINE ABAOUB (2009) made a study on the “Investor overconfidence and trading volume: the case of an emergent market”. The most prominent explanation of excess volume is overconfidence. High market returns make investors trade more subsequently. The aim of this paper is to study the impact of the phenomenon of overconfidence on the trading volume and its role in the formation of the excess volume on the Tunisian stock market; finally they found a contemporaneous significant positive relation between volume and volatility.

RICHARD DEAVES, ERIK LUDER and MICHAEL (2010) they made study on “the dynamics of overconfidence: evidence from stock market forecasters”. The purpose of this paper is to examine both the statistics and dynamics of overconfidence of stock market forecasters. They found that some rational learning does seem to have taken place as respondents increase the widths of their confidence intervals with failure as

much as they decrease them with success less amenable to rationality though is evidence at the level of the market, with high past returns inducing increased aggregate overconfidence.

KOUSTUBH KANTI RAY (2011) stated that stock split and bonus issue has impact over market movements. These events are tested for abnormal returns and liquidity. -30 to +30 days investigation window were taken for all events to test the abnormal returns and the change in liquidity. The results suggested that the Indian market reacts to the stock split announcements but not to bonus issues, and change in liquidity is significant for stock splits at 1% significance level.

MASOUMEH NADERI (2012) they conducted a study on “An analysis of short term overreaction to stock market news: Iranian evidence”. The aim of this paper is to analyze overreaction of investors to news and information includes earning announcements in bear and bull market in Tehran stock exchange(by using data over 2005 to 2011) over the window of 14 days before and 14 days after the news announcement. The results shows that the market being affected by the news published information and they found that in the bull market investors underreact to company’s pleasant information and had short term reaction to unpleasant information but after announcement of news because of bull market stock had positive price move. It was also expected in bear market investors under react to pleasant information and overreacts to unpleasant information.

Dr. SITANGSHU KHATUA and Dr. H.K PRADHAN (2013) made a study on “Examining overreaction in BSE using event study approach stock split announcement”. The objective of the study is to find how the smaller firms and larger firm’s overreaction vary with market condition or market uncertainty or volatility to firm specific news. Finally, they address the impact of size, volatility and symmetry in the terms of investor’s overreaction to the firm specific news not only individually but also jointly to size and volatility, size and news and news and volatility. In this study they have taken stock split announcement for 100 firms listed in BSE for the period of 3rd January 2005 to 31st may 2011. 2007-2008 is taken as base year. 102 announcements are taken from this period. Out of 102 stock split announcements 15 are good news, 35 are bad news and rest 52 are no news or noise. In the case of stock split study, the market overreaction has been investigated during the stock split announcements. While excess stock returns around this event have already been evidenced for a couple of years, in this study they also found that these excess returns change on the level of market volatility. It has also been evidenced that positive CARs around the event are caused by periods of high volatility and are more significant for large firms. This study finds that market overreacts more on any good news.

SULTAN SINGH and KUMARI SUPNA (2013) examined the efficiency of Indian stock market around stock split announcement in India during the period 2006 – 07 to 2009 – 10. A database of 309 observations by complete enumeration method had been constructed, which reduced to 219 observations after implementing the criteria. The event study methodology had been used for calculating the abnormal returns. Percentile method and the paired t - test for means have been used for examine the impact of announcement

on liquidity. The study found significant CAAR and mixed results regarding liquidity aspect. From percentile method it was found that number of transactions results had increased only in few companies but the results of the paired t-test were contradictory to the results.

D. BHUVANESHWARI AND DR. K.RAMYA (2014) conducted a study on “Impact of stock split announcement on stock prices”. This study attempts to contribute to the understanding of the behavior of Indian share prices in relation to stock split announcements. A standard event study methodology is adopted in this study to examine the impact and price reactions of CNX Nifty companies of NSE from January 2006 to December 2013 surrounding sixty days of the announcement dates. Abnormal returns were calculated and t tests are conducted to test the significance. From this study, it can be inferred that stock split announcement have positive impact of stock prices around announcement dates.

BAYU SINDHU RAHARJA, DAHLI SUHADI and MUJI MRANANI (2017) made study on “Research of the stock price overreaction and investor overconfidence issues”. This paper examines the existing of investor overconfidence in the capital market and the phenomenon of stock price reversal in the future due to the existing of this behavior. To test the existing of investor overconfidence by introducing firm’s growth as the information which has triggered many investors to behave overconfidently. The firm’s growth has a significant positive relation to the higher trading volume of stocks. But the firm’s growth negatively to its long term performance, the reason is that higher growth firms could not control its growth and trapped in the situation of higher debt financing, too much cost of debt and breakeven point. Due to regardless of this evidence and overconfident on good and successful past performance, higher firms growth in the future investors will suffer the loss on their investment in the capital market.

3. Basics of the study (Theories):

3.1. Behavioral Finance:-

Behavioral finance is the study of the influence of psychology on the behavior of investors or financial analysts. It is commonly defined as the application psychology to finance. Behavioral finance, at least in name, including behavioral science, investor psychology, cognitive psychology, behavioral economics, experimental economics and cognitive science. Behavioral finance encompasses many concepts, but four are key: mental accounting, herd behavior, anchoring and high self rating. Mental accounting refers to the propensity for people to allocate money for specific purposes. Herd behavior is that people tend to mimic the financial behaviors of majority or herd. Anchoring refers to attaching a spending level to a certain reference,

such as spending more money on what is perceived to be a better item of clothing. Lastly, high self rating refers to a person's tendency to rank him/ herself better than other's or higher than on average person.

Behavioral finance attempts to understand and explain actual investor and market behavior versus theories of investor behavior. This idea differs from traditional finance, which is based on assumptions of how investors and markets should behave. As professor Statman's quote puts it, standard finance people are modeled as "rational", whereas behavioral finance modeled as "normal".

- Behavioral finance micro examines behaviors or biases of individual investors that distinguish them from the rational actors envisioned in classical economic theory.
- Behavioral finance macro detects and describes anomalies in the efficient market hypothesis and behavioral models may explain.

It includes the subsequent effects on the markets. It focuses on the fact that investors are not always rational, have limits to their self control and are influenced by their own biases.

3.1.1 Biases studied in behavioral finance:

Out of the four concepts, two (herd instinct and self attribution) are biases that significantly affect financial decisions. A prominent psychological bias is the herd instinct which leads people to follow popular trends without any deep thought of their own. Herding is notorious in the stock market as the cause behind dramatic rallies and sell offs. The herd instinct is correlated closely with the empathy group, which is an inability to make rational decisions under emotional strains, such as anxiety, anger or excitement. The self attribution bias, a habit of attributing favorable outcomes to expertise and unfavorable outcomes to bad luck or an exogenous event, is also closely studied within behavioral finance.

3.2. Efficient market hypothesis:

The efficient market hypothesis states that the market price for shares incorporates all the known information about the stock. This means that the stock is accurately valued until a future event changes that valuation. Because the future is uncertain, an adherent to efficient market hypothesis is far better off owning a wide swath of stocks and profiting from the general rise of the market. The random walk theory is based on the efficient market hypothesis which is supposed to take three forms – weak form, semi-strong form and strong form.

3.2.1 Weak form:

The weak form of the market says that current prices of stocks reflect all information which is already contained in the past. This form of theory is just the opposite of the technical analysis because according to it,

the sequence of prices occurring historically does not have any value for predicting the future stock prices. In the weak form of efficient market, the past prices do not provide help in giving any information about the future prices.

3.2.2 Semi-strong form:

This form of the market reflects all information regarding historical prices as well as all information about the company which is known to the public. According to the theory, any analyst will find it difficult to make a future forecast to stock prices because he will not be able to get superior and consistent information of any company continuously. No one can, therefore, take undue advantage of the market. The semi-strong market maintains that as soon as the information becomes public, the stock prices change and absorb full information. Therefore, the stock prices adjust with the information that is received. This information may not be correct but the analyst will not be able to make superior judgments consistently because the correct adjustment of stock price will soon take place. Sometimes, there will be over-adjustments in the market, while some other time there will be under adjustments.

3.2.3 Strong form:

The strong form of the efficient market hypothesis suggests that it is not useful to any investor or an analyst to make any future forecast of prices because he can never make any returns which are superior to others consistently. Each investor is fully aware of the new pieces of information in the market and so even if the analyst has inside information, he cannot continuously earn superior investment returns. The strongly efficient market hypothesis is not found to be fully acceptable. The efficient market model acknowledges that the stock exchange has many imperfections and all information may not be immediately reflected in stock prices due to delays in communication and also transaction cost and delays in information dissemination too far off places. It is possible to have some profit above the normal profit by developing a kind of trading strategy but thus theory is not merely based on price or return levels but all changes of prices between successive levels.

3.3. Overreaction in stock market:

Overreaction is an emotional response to new information. In finance and investing, it is an emotional response to a security like a stock or other investment, which is led either by greed or fear. Investors, overreacting to news, cause the security to become either overbought or oversold, until it returns to its intrinsic value. Investors are not always rational instead of pricing all publicly known information perfectly and instantly, as the efficient market hypothesis assumes, they are often affected by cognitive and emotional biases. Some of the most influential work in behavioral finance concerns the initial under-reaction and subsequent overreaction of prices to new information. Overreaction and under- reaction to new information s more likely to be permanent and is caused by anchoring, a term that describes people's attachment to old

information, which is especially strong when that information is critical to a coherent way of explaining the world (also known as hermeneutic) held by the investor.

3.4. Announcement effect:

Announcement effect broadly refers to the impact that any type of news or public announcement especially when issued by government or monetary authorities has on financial markets. It is most often used when speaking of a change in security prices or market volatility those results directly from a piece of significant news or a public announcement. The announcement effect assumes that the behavior of systems or people can change merely by announcing a future policy change or divulging a newsworthy item. The news may come in the form of a press release or report. Mergers and acquisitions, growth in money supply, inflation, changes in monetary policy, hike or cut in interest rates, stock split, dividend policy etc are some announcements.

3.5. Stock split:

A stock split is a corporate action by a company's board of directors that increases the number of outstanding shares. This is done by dividing each share into multiple ones – diminishing its stock price. A stock split, though, does nothing to the company's market capitalization. There are several reasons companies consider carrying out a stock split. The first reason is psychology. As the price of a stock gets higher and higher, some investors may feel the price is too high for them to buy, while small investors may feel it is unaffordable. Splitting the stock brings the share price down to a more attractive level. While the actual value of the stock doesn't change one bit, the lower stock price may affect the way the stock is perceived, enticing new investors. Splitting the stock also gives existing shareholders the feeling that they suddenly have more shares than they did before, and of course, if the price rises, they have more stock to trade.

3.6. Event study:

An event study is an empirical analysis performed on a security that examines the impact of significant catalyst occurrence or contingent event on the value of that security. Event study can reveal important information about how a security is likely to react to a given event. An event study can also be used as a macroeconomic tool to analyze the impact of an event on an industry, sector or the overall market. Theoretically, a stock price takes into account all available information and expectations about the future. So a stock's price is equal to its current price plus the summation of its expected future dividends. According to this theory, it is possible to analyze the effect of a specific event on a company by looking at the associated impact on the company's stock. The market model is the most common analysis is used for an event study. This methodology looks at the actual returns of a baseline reference market and tracks the correlation of a firm's stock with the baseline. This model tracks the abnormal returns on the specific day of an event. Thus it reveals the difference between the stock's returns on that day and compares it to the normal or average returns. The difference is the actual impact on the company. The market model can be used over time,

analyzing consecutive days to understand how an event affects a stock over time. An event study can reveal greater market trends or patterns. If the same type of model is used to analyze multiple events of the same type, it can predict how stock prices typically respond to a specific event.

3.7. Volatility:

Volatility is a statistical measure of the dispersion of returns for a given security or market index. In the securities markets, volatility is often associated with big swings in either direction. Volatility often refers to the amount of uncertainty or risk related to the size of changes in a security's value. A higher volatility means that a security's value can potentially be spread out over a large range of values. This means that the price of the security can change dramatically over a short time period in either direction. A lower volatility means that a security's value does not fluctuate dramatically, and tends to be steadier.

3.8. NIFTY CNX 100:

NIFTY 100 is a diversified 100 stock index representing major sectors of the economy. NIFTY 100 represents top 100 companies based on full market capitalization from NIFTY 500. This index intends to measure the performance of large market capitalization companies. The NIFTY 100 tracks the behavior of combined portfolio of two indices that IS NIFTY 50 and NIFTY NEXT 50. NIFTY 100 is owned and managed by NSE indices limited (formerly known as India index services and products limited) (NSE indices). NSE indices are India's specialized company focused upon the index as a core products.

- The NIFTY 100 index represents about 76.8% of the free float market capitalization of the stocks listed on NSE as on march 29, 2019.
- The total traded value for the last six months ending March 2019 of all index constituents is approximately 66.2% of the traded value of all stocks on the NSE.

3.9. News Effects:

Stock prices tick up and down constantly due to fluctuations in supply and demand. If more people want to buy a stock, its market price will increase. If more people are trying to sell a stock, its price will fall. The relationship between supply and demand is highly sensitive to the news of the moment. Negative news will normally cause people to sell stocks. A bad earnings report, a lapse in corporate governance, big picture economic and political uncertainty, and unfortunate occurrences all translate to selling pressure and a decrease in the prices of many if not most stocks. Positive news will normally cause individuals to buy stocks. Good earnings reports, an announcement of a new product, a corporate acquisition and positive economic indicators all translate into buying pressure and an increase in stock prices.

3.10. Event studies:

Event studies are used to test the validity of semi-strong form of efficiency. In event studies, researchers check whether investors can earn abnormal returns around the announcement of public information. Here abnormal returns mean the excess of returns over the market return. Semi strong form of efficient market hypothesis argues that abnormal returns move around zero. Therefore, significant positive or negative returns around public announcements reject the semi strong form of efficient market hypothesis. To measure the total impact of an event over a particular period of time (termed the 'event window'), one can add up individual abnormal returns to create a 'cumulative abnormal return'. The most common event window found in studies is a three day event window starting $t_1 = -1$ and ending at $t_2 = 1$.

3.11. Abnormal return:

An abnormal return describes the unusual profits generated by given securities or portfolios over a specified period. The performance is different from the expected or anticipated, rate of return for the investment. The anticipated rate of return is the estimated return based on an asset pricing model, using a long run historical average or multiple valuations. An abnormal return can be either positive or negative.

3.12. Cumulative abnormal return:

Cumulative abnormal return is the total of all abnormal returns. Usually, the calculation of cumulative abnormal return happens over a small window of time, often only days. A cumulative abnormal return is used to measure the effects of lawsuits, buyouts, and other events have on stock prices. Cumulative abnormal return is a financial term used to describe the value

of an investment. Specifically, it describes the relationship between the expected value of a stock given the performance of the market as a whole and the stock's actual value.

4. Models and Analysis:-

4.1 Introduction:-

The companies that announced stock split among Nifty 100 listed companies of NSE during January 2010 to December 2019 have been considered as the sample for the analysis. During the period 17 companies listed in Nifty 100 made stock split announcement and these companies are selected for the study. The analysis have been divided in four parts the first part shows the impact of stock prices before and after the stock split announcement in the company itself, second part shows the average of return of the companies during the period and how much the returns are varied from the expected returns etc for this several descriptive statistics are used. The third part of analysis shows the stock market reaction to stock split information of Nifty 100 companies. In the fourth part shows the regression analysis and it is a form of inferential statistics.

Companies made stock split announcement and its price changes:

Stock split announcement in the companies are reflected either positively or negatively in the stock prices. Now here are different companies which listed in Nifty 100 were announced stock splits in different years starting from 2010 to 2019.

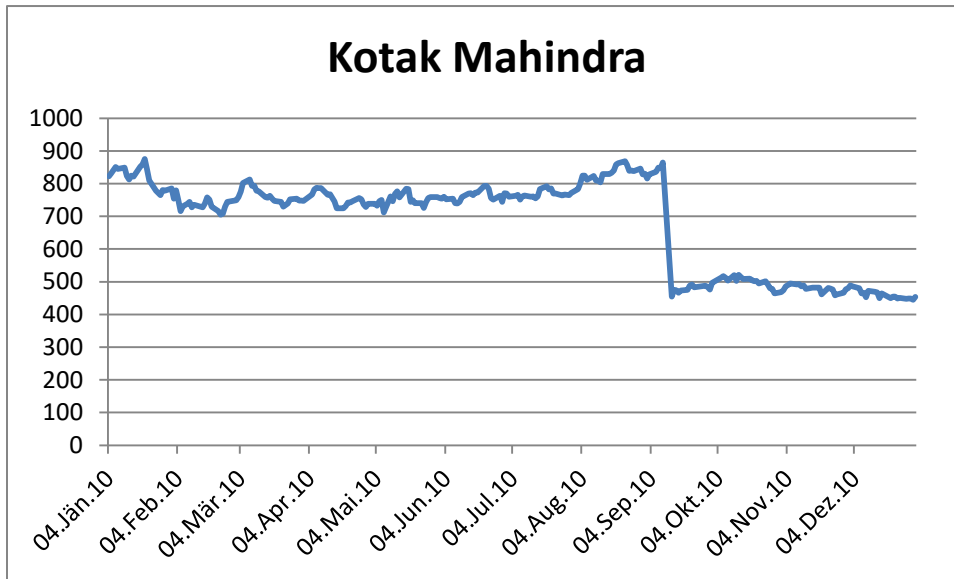


Fig.1 price series of kotak Mahindra

Kotak Mahindra is a banking company which is listed in CNX NIFTY 100 made a stock split announcement in September 13 2010. After stock split announcement the price were reduced. From the chart it is evident that the prices in the pre announcement are fluctuating always and after the announcement the price fluctuation was reduced.

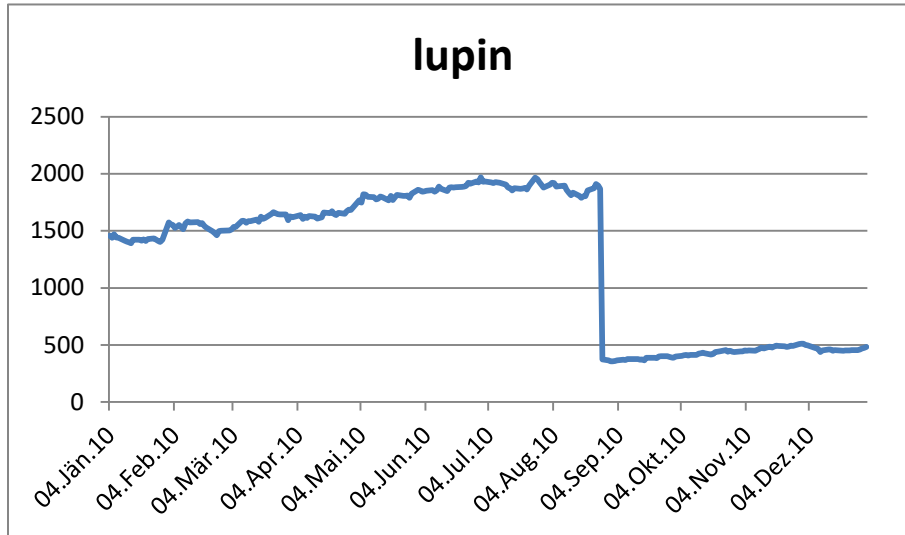


Fig.2 price series of lupin

In August 2010 Lupin a company which belongs to the pharmaceuticals industry made a stock split announcement. Before the stock split announcement that means in pre announcement period the price of stocks in the company are changing. The prices in the previous days of stock split announcement were increasing and this shows the efficiency in the market. In post announcement days the prices were stabilized.

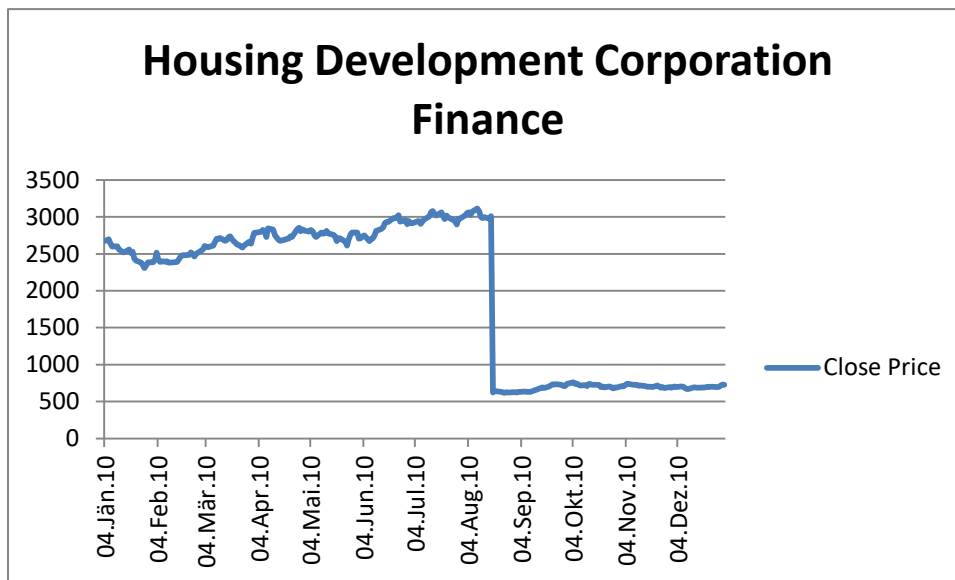


Fig.3 closing price series of Housing Development Corporation finance

Housing development corporation finance made stock split announcement in August 18 2010. Before the stock split announcement, in last days the prices were increased to its maximum. After the stock split

announcement the prices were reduced to small denomination. Prices after the announcement period doesn't show any frequent fluctuation it were stabilized.

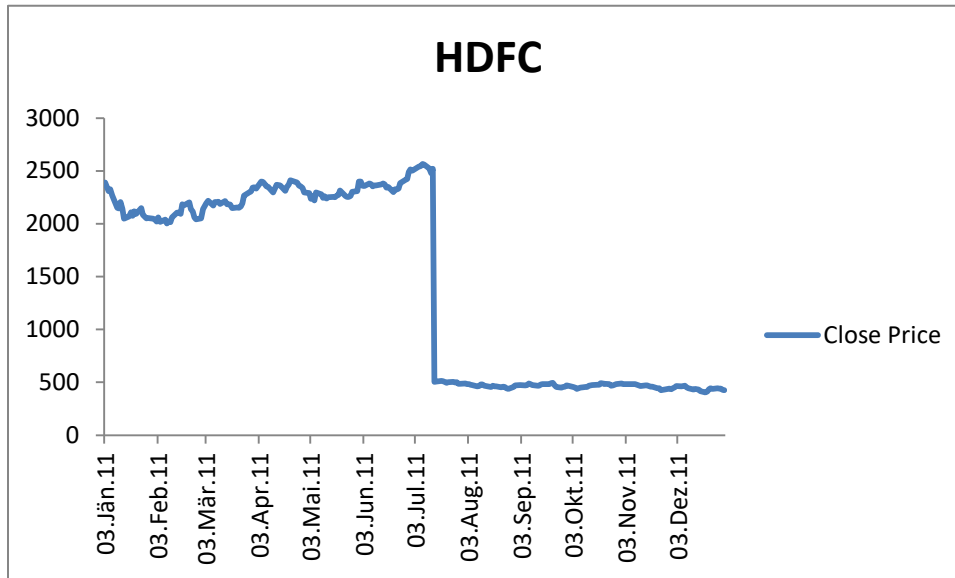


Fig.4 closing price series of HDFC

The chart shows a sudden deep decline in the closing price of the company in between July and August. This deep decline shows the stock split announcement of July 14. The prices were reduced to ₹500 and these were shown as sharp decline. After the announcement the price were stabilized and before the announcement the price was fluctuated many times.

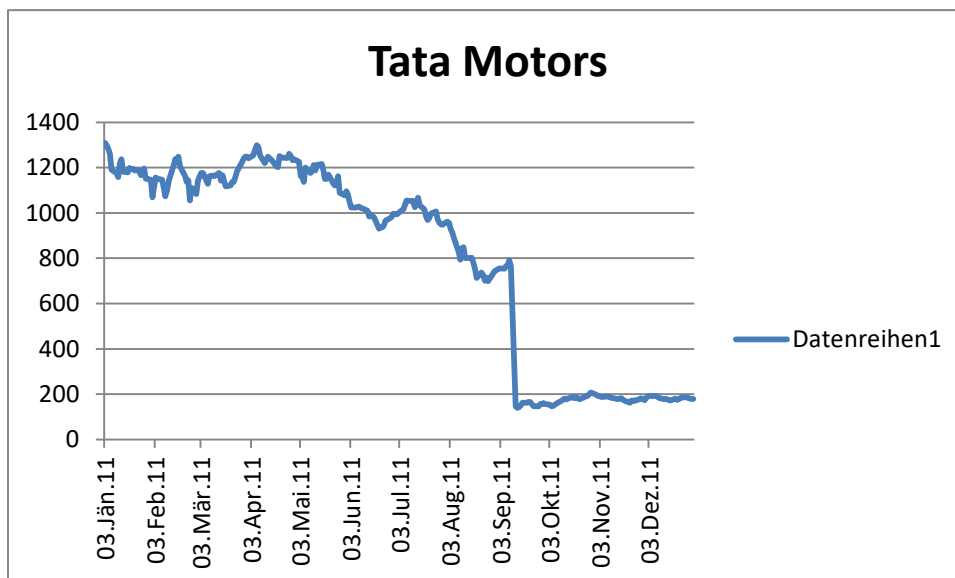


Fig.5 closing price series of Tata Motors

One of the major companies in automobile industry in India was made a stock split announcement in September 12 2016. In this period from the chart, it is identified that in the last months of pre announcement period the price of the shares were reduced and after the announcement the price of shares were stabled.

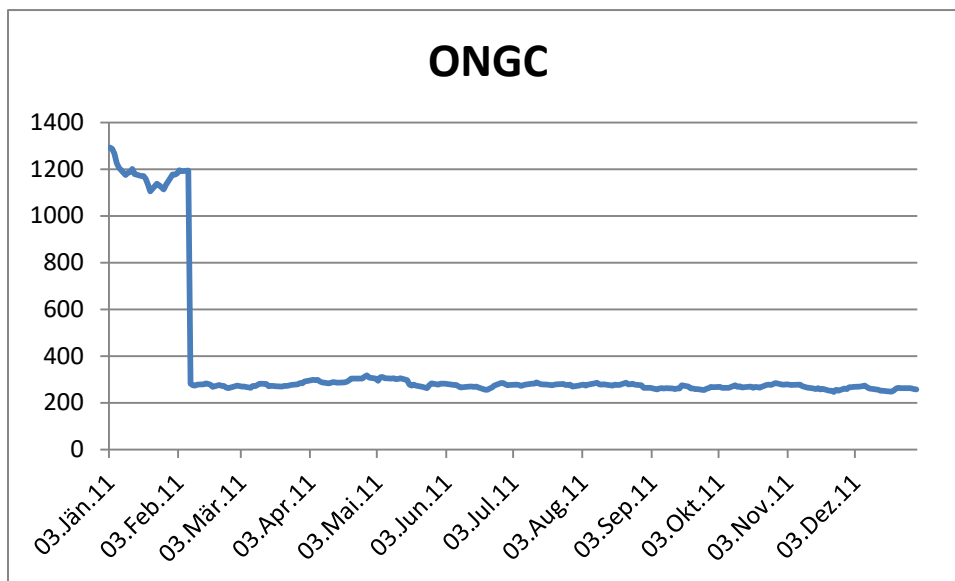


Fig.6 closing price series of ONGC

Oil and Natural Gas Corporation made a stock split announcement in February 8 2011 it is depicted in the chart by a deep decline in the price of the shares in February. The price of the shares were reduced to ₹250 in pre announcement period we can see price fluctuations and after the announcement in post period there is no large deviation in prices only some small deviations can be identified.

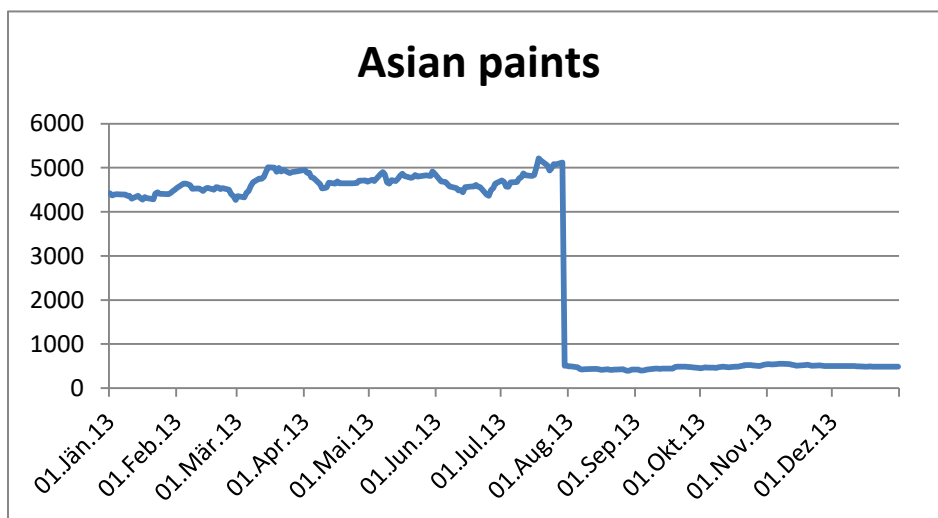


Fig.7 closing price series of Asian paints

Asian paints made a stock split announcement in 30th July 2013. From the chart it is evident that in the pre announcement period the price were fluctuated in frequently and in the last days of pre announcement period the prices were reached its maximum. After the stock split the price were reduced to less than ₹1000 and the prices in the post announcement period were consistent. From the price increase in the last days of pre announcement shows the efficiency of the market.

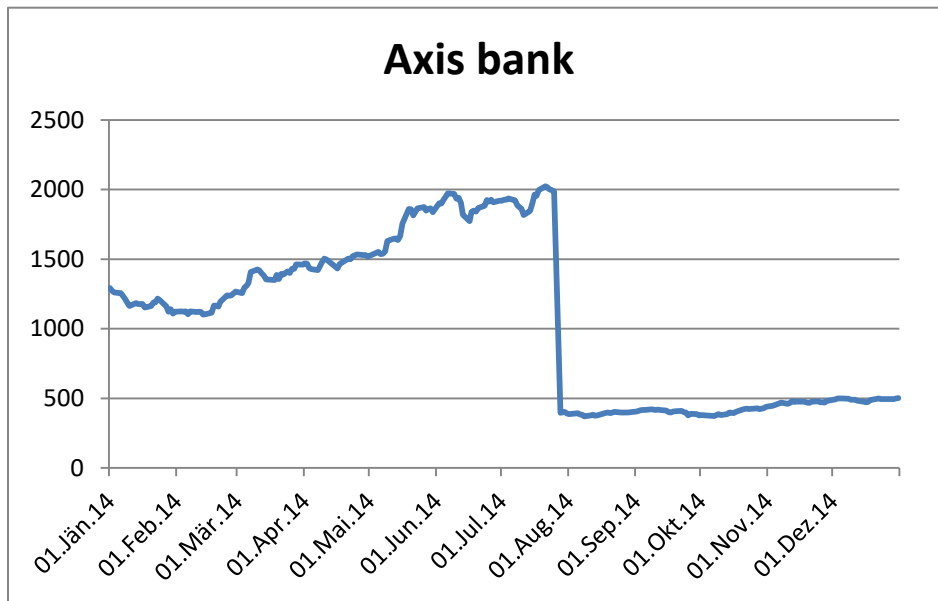


Fig.8 closing price series of Axis bank

In 28th July 2014 Axis bank were made a stock split announcement. In the pre announcement period, the first phase the price was low and in the second phase in the pre announcement period the price were increased its maximum. The chart shows a sudden change in the previous days of the announcement day and then again increased to maximum price then after the stock split announcement the price was reduced to less than ₹500 and in the post announcement period the price were only minor fluctuations.

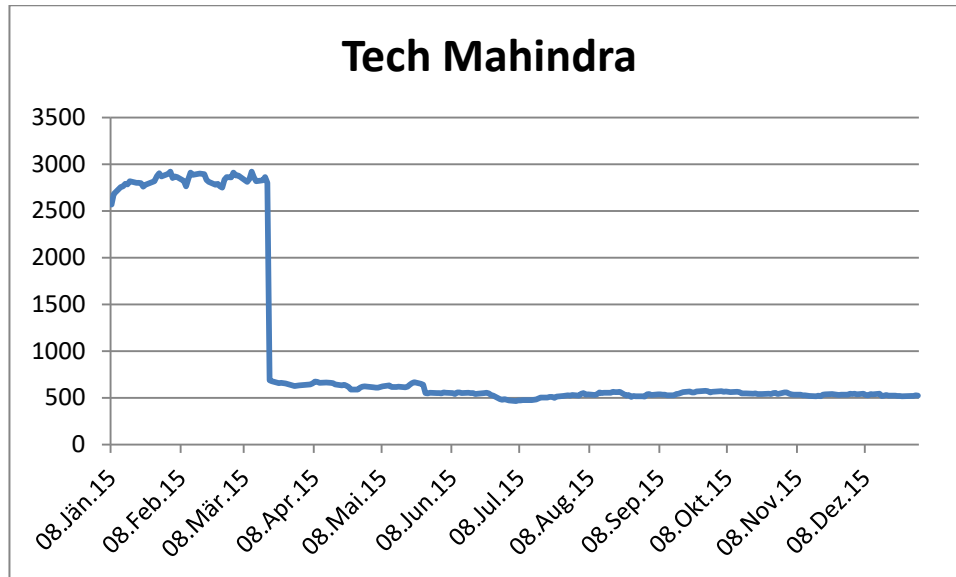


Fig.9 closing price series of Tech Mahindra

Tech Mahindra company which belongs to the IT industry made a stock split announcement in March 19 2015. The company's price chart shows only small deviations in the closing price of the company in the pre announcement and in post announcement period the price doesn't shows any deviation the trend of closing price shows no increase in the closing price.

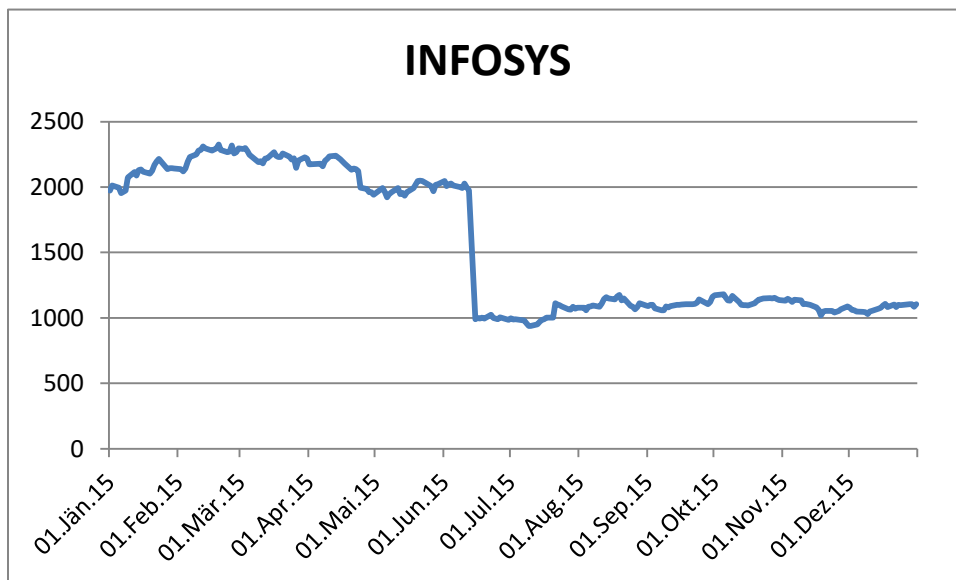


Fig.10 closing price series of Infosys

Infosys, one of the leading companies in India in IT sector made a stock split announcement in 15th June 2015. The sharp decline in the chart shows the announcement, in the pre announcement period the price shows

rapidly increasing and decreasing trend in prices and after the announcement also there is rapid changes the prices but comparing with the pre announcement period the post announcement period fluctuation is low.

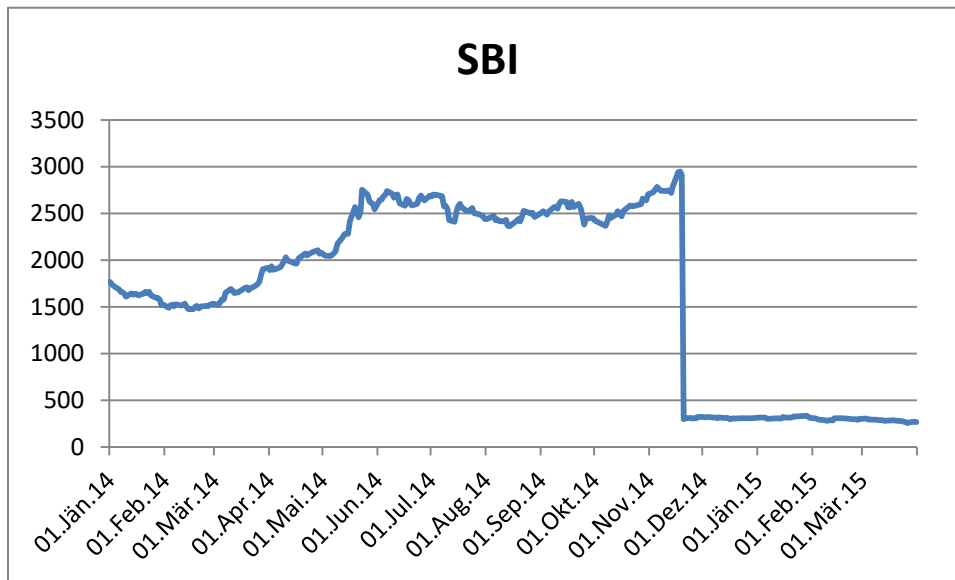


Fig.11 closing price series of SBI

State Bank of India one of the oldest and main banks of India was made a stock split announcement in November 20th 2014. In the pre announcement period we can see that the prices are in the first phase was too low and it started to increase in the second phase and it again reduced before the announcement date. In the entire pre announcement we can see a random fluctuation in the prices. After the stock split prices were fall down to less than ₹500 and the prices after the stock split announcement were doesn't show any variations. The prices in the post announcement are moving stable there is no variations.

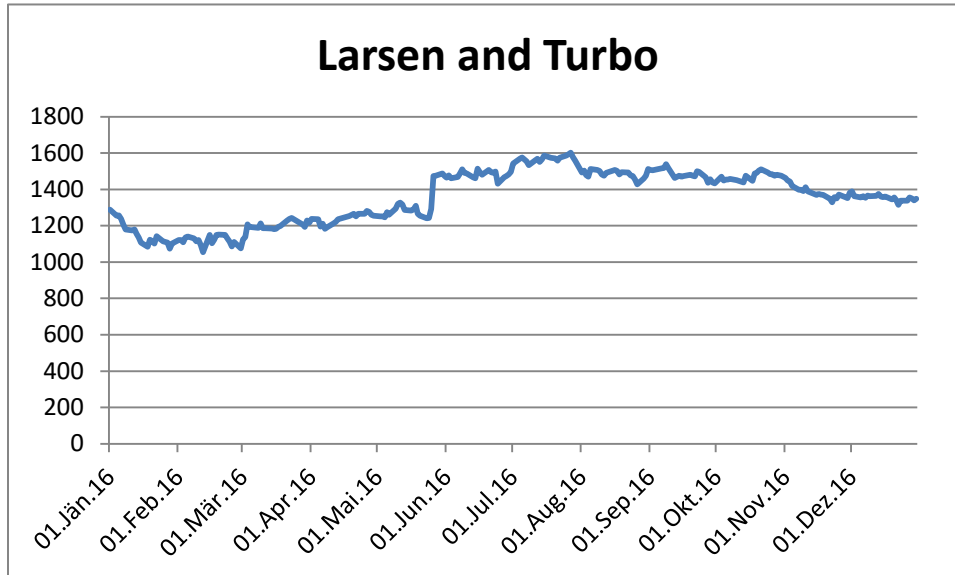


Fig.12 closing price series of Larsen and Turbo

On May 20th 2016 Larsen and Turbo made a stock split announcement. In the chart it shows that in the pre announcement period the price was low comparing to the post announcement period. The prices of the shares were increased after the announcement this shows a positive behavior of investors towards the stock split announcement. During the entire period the prices are fluctuating randomly.

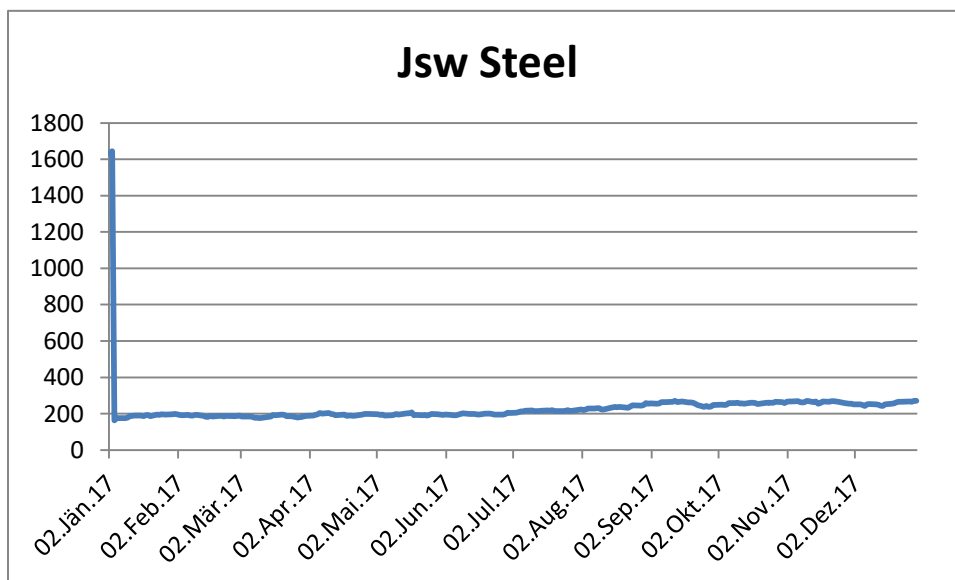


Fig.13 closing price series of JSW Steel

JSW Steel made a stock split announcement on January 4th 2017. The post announcement period shows stability in the price. Before making the stock split announcement the price was more than ₹1600 and after the announcement the price were decreased to ₹200.

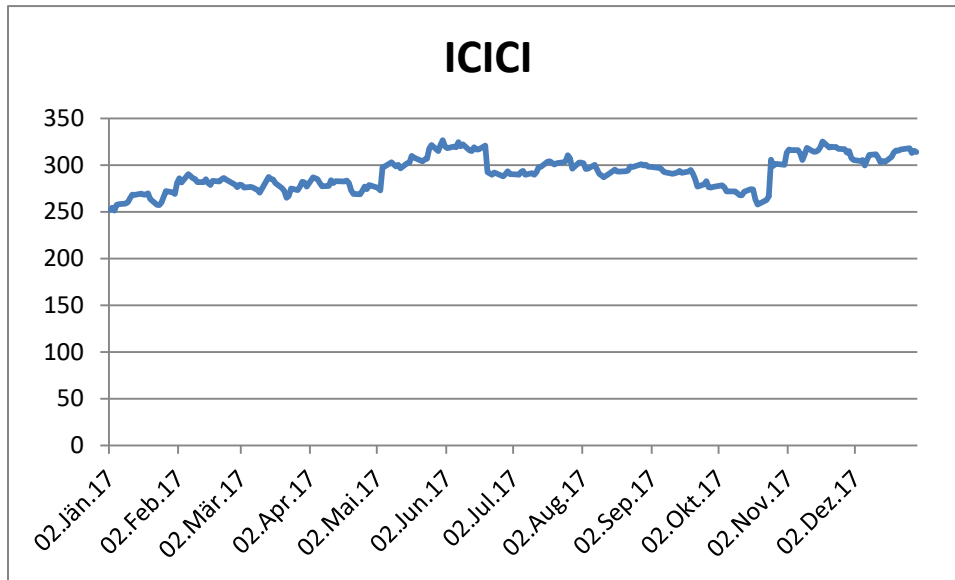


Fig.14 closing price series of ICICI

ICICI bank made a stock split announcement in June 19th 2017. The closing price of the company doesn't show any sharp decline. The trend of closing price of the company is frequently changing. There no high deviation or variation in the closing price.

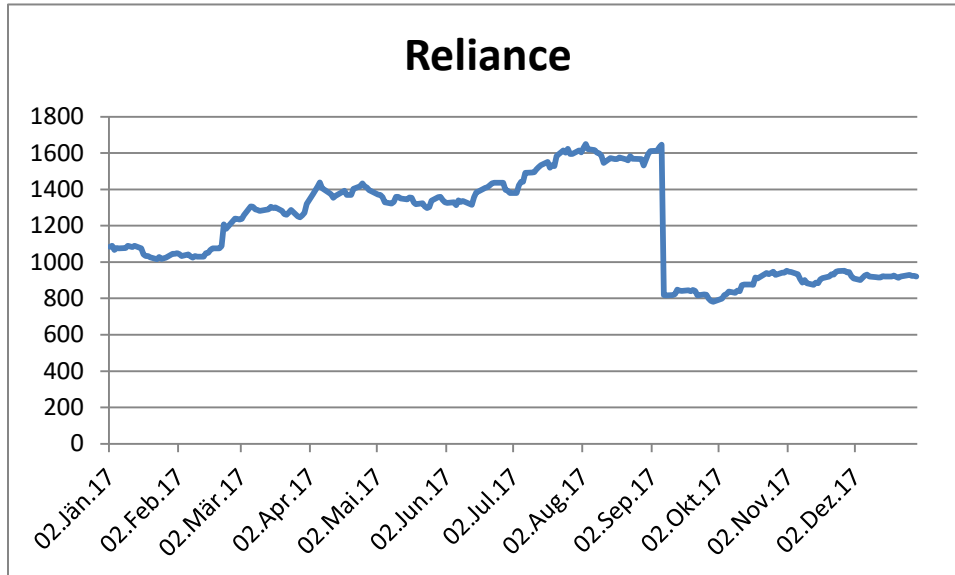


Fig.15 closing price series of Reliance

Reliance industries made a stock split announcement in September 7th 2017. The closing price of the company shows randomly changing trend. In pre announcement period the prices are going up and down many times after the announcement the first the price were reduced and then started to increase. Comparing with the pre announcement period post announcement shows less fluctuation.

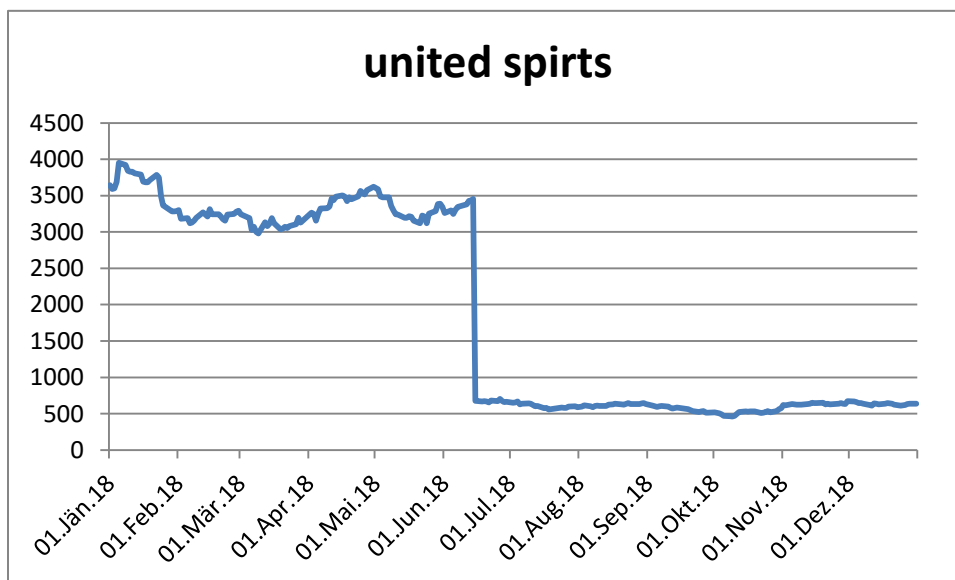


Fig.16 closing price series of United spirits

This company belongs to the alcoholic and beverages industry. In June 15th 2018 the company made stock split announcement. In the pre announcement period the prices were changed rapidly and in the last days the price were decreased after the announcement the price were reduced to more than ₹500. The fluctuations shown the pre announcement period is not shown in the post announcement period. In post announcement period the prices were normalized.

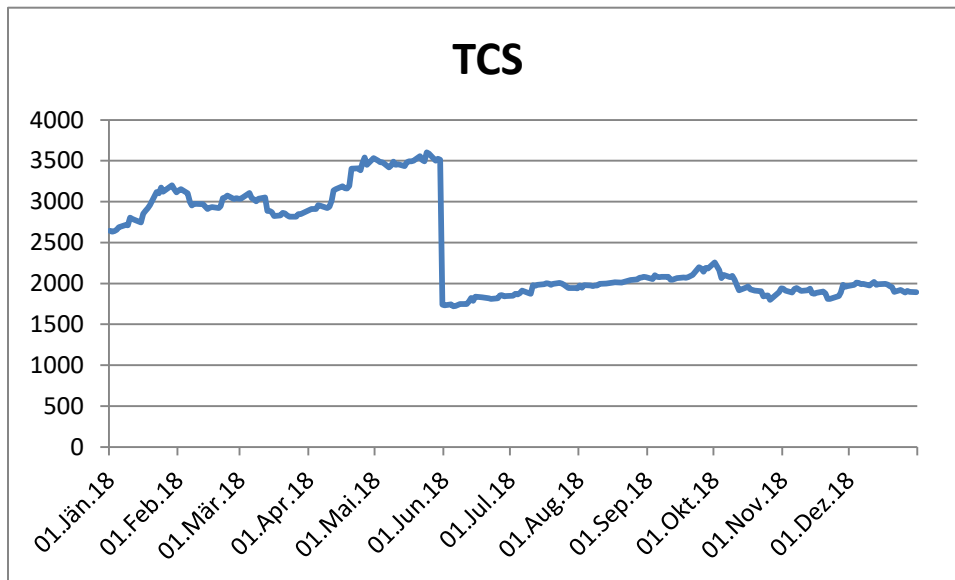


Fig.17 closing price series of TCS

On May 31st 2018 Tata Consultancy Service one of the major company in IT industry were made a stock split announcement. After the stock split announcement made by the company the price doesn't shows large number of variations. Before the announcement in the pre announcement period the prices was moved randomly. In pre announcement period the price shows random ups and downs. In last days of pre announcement period shows increase in prices this happens because of the behavior of the investors.

DESCRIPTIVE STATISTICS

A descriptive statistics is a summary static that quantitatively describes or summarizes features from a collection of information, while descriptive statistics is the process of using and analyzing those statistics. Some measures that are commonly used to describe a data set are measures of central tendency and measure of variability or dispersion. Measures of central tendency include the mean, median and mode, while measures of variability include the standard deviation, the minimum and maximum values of the variables, kurtosis and skewness.

TABLE. 2

Descriptive measurements of companies

Company names	Mean	Median	Standard deviation	Skewness	Kurtosis	Sample variance
Asian paints	-24.351381	-0.65	346.3782972	-13.007345	173.0046171	119977.9248
Axis bank	-4.85166	1.2	120.6322	-12.7417	168.385	14552.13
JSW Steel	-8.66181	0.475	112.0281	-12.6852	167.5836	12550.29
Kotak Mahindra	-1.78989	0.55	32.53884	-10.929	137.5616	1058.776
Lupin	-6.35552	1.05	112.6041	-12.9694	172.3801	12679.68
United spirits	-14.8817	0.25	210.1139	-12.6225	166.8094	44147.84
Tech Mahindra	-11.4003	-1.05	159.0836	-12.8042	170.0332	25307.59
Housing development corporation finance	-11.7085	-0.4	179.1167	-12.9612	172.7945	32082.79
HDFC	-9.60628	-0.4	150.7148	-13.0543	174.5119	22714.94

ICCI BANK	0.078142	-0.45	5.577433	1.799086	17.73705	31.10776
Infosys	-5.42814	0.2	77.43905	-11.2192	142.1997	5996.806
Larsen and Turbo	0.968306	-1.7	26.82681	1.868257	11.40132	719.6778
Oil and natural gas corporation	-6.56831	-0.7	68.58218	-12.7946	169.8533	4703.515
Reliance	-2.68825	1	63.37558	-12.2172	159.7331	4016.465
State Bank of India	-13.4541	-0.7	196.9722	-12.9118	171.3142	38798.04
Tata motors	-5.21547	-0.2	48.94918	-11.0542	138.6248	2396.022
Tata Consultancy Services	-4.5235	2.8	138.6509	-11.4874	147.3465	19224.08

The mean is the most popular and well known measure of central tendency. In this out of 17 companies only two companies have positive mean value. Mean is the average value of the distribution. 15 companies are showing negative mean value which means the average return of 15 companies are negative. The average return of Asian paints is more negative. Larsen and turbo and ICICI Bank shows only positive mean. So it shows that the announcement not made any significant impact in the return of L&T and ICICI bank.

Median is also a measure of central tendency. The median is the middle score in a list of scores, it is the point at which half the scores are above and half the scores are below. 9 companies shows negative median and 8 companies shows positive median.

Standard deviation is a number used to tell how measurements for a group are spread out from the average or expected value. A low standard deviation means that most of the numbers are close to the average. A high standard deviation means that the numbers are more spread out. Out of 17 companies Asian paints shows high standard deviation it indicates the returns are more spread out and ICICI bank shows least standard deviation that means the returns of the company are close to the average.

Skewness assesses the extent to which a variables distribution is symmetrical. The above table shows that the value of skewness is less than -1 and greater than 1 this means that the data are highly skewed.

Kurtosis is the measure of whether the data are heavy tailed or light tailed relative to a normal distribution. The value of kurtosis of the companies in the table are greater than 3 it shows that the dataset are heavy tailed it means these companies are leptokurtic.

Variance in statistics is a measurement of the spread between numbers in a data set. That is, it measures how far each number in the set is from the mean and therefore from every other number in the set. In this table, Asian paints shows more variance and ICICI bank shows the least variance it means that the return are more spread out in Asian paints and least spread out in ICICI bank.

In order to analyze the effect of the announcement, Event study methodology is conducted by calculating the Abnormal return of each stock, Average abnormal returns and Cumulative average abnormal return 90 days prior to the stock split announcement and 90 days after the stock split announcement. To calculate the abnormal return, market model is employed by regressing the daily stock return with corresponding market return on the estimation period.

TABLE.3

Average abnormal return and cumulative abnormal return of stock split announced companies

Pre Announ cement Period	AAR	CAAR	Post Announ cement Period	AAR	CAAR
-1	-0.63831	-0.333566	90	-0.0036881	-0.0002169
-2	0.00136689	-0.332199	89	0.00080285	0.00058590
-3	0.00163484	-0.330564	88	0.00912048	0.00970638
-4	0.00521357	-0.325351	87	0.01140951	0.021115902
-5	0.001115721	-0.3242354	86	0.003188023	0.024303926

-6	5.890205	-0.3241765	85	-0.001543071	0.022760855
-7	0.004870992	-0.3193055	84	0.005909355	0.02867021
-8	-0.00086676	-0.3201723	83	-0.001509524	0.027160687
-9	0.002952053	-0.3172202	82	-0.00409791	0.023062776
-10	0.000902756	-0.3163175	81	0.00963698	0.032699756
-11	0.00792718	-0.3083903	80	0.003979758	0.036679514
-12	-0.00296162	-0.3113519	79	0.002331342	0.039010855
-13	-0.00490077	-0.3162527	78	0.00089245	0.039903305
-14	0.000641966	-0.3156107	77	0.005283339	0.045186644
-15	0.002297301	-0.3133134	76	0.000458567	0.045645212
-16	4.2161705	-0.3132713	75	0.001233194	0.046878406
-17	-0.00458296	-0.3178542	74	0.007834823	0.054713229
-18	0.002363517	-0.3154907	73	0.002502213	0.057215442
-19	-0.00384492	-0.3193357	72	-0.002079754	0.055135688
-20	0.002789176	-0.3165465	71	-0.003097278	0.05203841
-21	-0.00349225	-0.3200387	70	-0.00079814	0.051240269
-22	-0.00340889	-0.3234476	69	-0.005832348	0.045407922
-23	-0.00209813	-0.3255458	68	0.000335772	0.045743694
-24	-0.00183551	-0.3273813	67	-0.003854235	0.041889459
-25	0.004776612	-0.3226047	66	-0.003866539	0.03802292
-26	0.003343738	-0.3192609	65	0.001956315	0.039979234
-27	-0.00380941	-0.3230703	64	0.006734695	0.046713929
-28	0.002277717	-0.3207926	63	0.004029939	0.050743868
-29	0.003476256	-0.3173164	62	0.007843102	0.058586969
-30	-6.8495805	-0.3173849	61	0.006960013	0.065546983
-31	-0.00241013	-0.3197950	60	-0.001601176	0.063945807
-32	-0.00286386	-0.3226589	59	0.000685388	0.064631195
-33	0.007654173	-0.3150047	58	0.003156115	0.06778731
-34	-0.00145766	-0.3164624	57	0.008519064	0.076306374
-35	-0.00089803	-0.3173604	56	0.002571304	0.078877677

-36	-0.00374049	-0.3211009	55	0.002617425	0.081495103
-37	-0.00363986	-0.3247407	54	0.004742615	0.086237718
-38	-0.00029839	-0.3250391	53	0.003828622	0.09006634
-39	-0.00358557	-0.3286247	52	0.006006012	0.096072353
-40	0.001240182	-0.3273845	51	0.005099722	0.101172075
-41	0.00306958	-0.3243150	50	0.003414011	0.104586086
-42	-0.00741696	-0.3317319	49	0.003706285	0.108292371
-43	0.008297791	-0.3234341	48	-0.000260174	0.108032197
-44	0.003352629	-0.3200815	47	0.012495587	0.120527784
-45	0.001873448	-0.3182081	46	0.007787051	0.128314835
-46	0.005000948	-0.3132071	45	-0.008375445	0.11993939
-47	0.005734466	-0.3074726	44	-0.000404684	0.119534705
-48	0.002875406	-0.3045972	43	0.00393883	0.123473535
-49	-0.00306798	-0.3076652	42	0.007963292	0.131436827
-50	7.58058	-0.3075894	41	0.001872757	0.133309584
-51	0.002994669	-0.3045947	40	0.002093453	0.135403037
-52	-0.00034705	-0.3049418	39	0.006295484	0.14169852
-53	4.40807	-0.3048977	38	0.002733138	0.144431659
-54	-0.00101500	-0.3059127	37	0.006601611	0.151033269
-55	-0.01000539	-0.3159181	36	0.004707396	0.155740665
-56	0.001207923	-0.3147102	35	-0.000176159	0.155564506
-57	-0.00026819	-0.3149784	34	0.000625021	0.156189527
-58	0.002278585	-0.3126998	33	0.001118718	0.157308245
-59	0.001715617	-0.3109842	32	0.004319936	0.161628181
-60	-0.00018782	-0.311172	31	0.005184676	0.166812857
-61	0.00196082	-0.3092112	30	0.009693307	0.176506163
-62	-0.00163410	-0.3108453	29	0.007957316	0.184463479
-63	-0.00032850	-0.3111738	28	-0.003424394	0.181039085
-64	-0.00074051	-0.3119143	27	0.001487297	0.182526383
-65	-0.00086273	-0.3127770	26	0.013461854	0.195988236

-66	0.003317699	-0.3094593	25	0.006792787	0.202781023
-67	-0.00012082	-0.3095802	24	0.011257207	0.21403823
-68	0.000168744	-0.3094114	23	-0.000993623	0.213044607
-69	-0.00436096	-0.3137724	22	0.005536894	0.218581502
-70	0.002503493	-0.3112689	21	-0.006902645	0.211678857
-71	-0.00116674	-0.3124356	20	0.008542565	0.220221421
-72	-0.00329527	-0.3157309	19	0.007154938	0.227376359
-73	-0.00863147	-0.3243624	18	0.0067939	0.23417026
-74	-0.00027884	-0.3246412	17	0.008693256	0.242863515
-75	-0.00247394	-0.3271152	16	0.001945318	0.244808833
-76	0.000397844	-0.3267173	15	0.002126944	0.246935777
-77	-0.00010917	-0.3268265	14	0.007550653	0.25448643
78	-0.00640867	-0.3332352	13	0.00251432	0.257000749
-79	-0.00354791	-0.3367831	12	0.008527047	0.265527796
-80	-0.00457601	-0.3413591	11	0.004829435	0.270357231
-81	-0.00320969	-0.3445688	10	0.000363803	0.270721034
-82	-0.00310584	-0.3476747	9	0.000731027	0.271452061
-83	0.008687974	-0.3389867	8	0.00320346	0.274655521
-84	-0.00239303	-0.3413797	7	0.002274235	0.276929755
-85	0.004014113	-0.3373656	6	0.002400129	0.279329884
-86	0.001528676	-0.3358369	5	0.016689052	0.296018937
-87	-0.00073998	-0.3365769	4	0.00523609	0.301255026
-88	0.005378033	-0.3311989	3	0.002718967	0.303973993
-89	0.000355403	-0.3308435	2	-0.00039627	0.303577723
-90	-0.00103026	-0.3318738	1	0.004640785	0.308218509

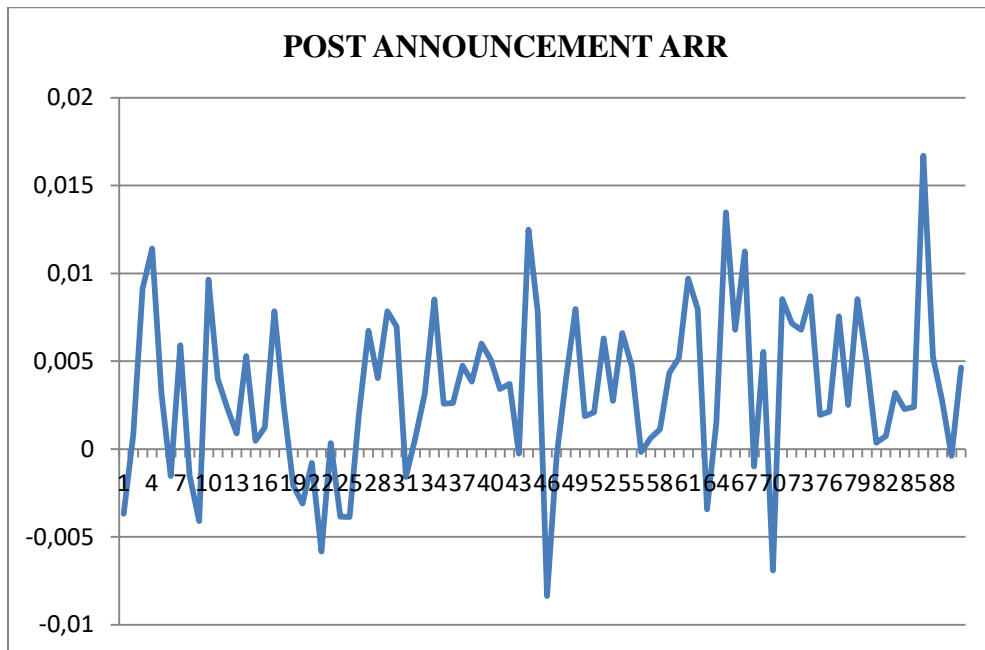


Fig.18 : AAR of stock split (post window)

The average abnormal return in the post announcement period shows both negative and positive variation. 90 days window period is selected, 90 days after the stock split announcement is taken as post window. From the above chart and table the average abnormal return shows large variations and the variations are happening randomly. The first days after the announcement it shows a positive average abnormal return. The last days in the window period also shows a positive average abnormal return. In the post window period more positive abnormal returns are found. During the period 19 negative AAR and 71 positive AAR that means more positive return during the post event window.

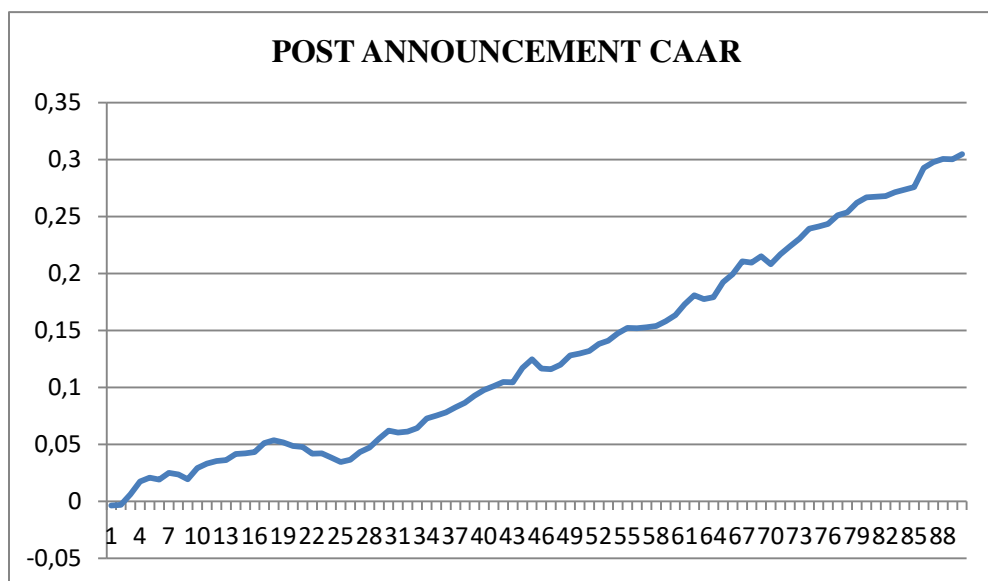


Fig.19 : CAAR of stock split (post event window)

The cumulative abnormal return of period shows positive returns. 90 days after the announcement is taken as the post window period and during the period a consistent rise in the return is shown in the chart there is no negative CAAR during the period and CAAR are increasing in nature.

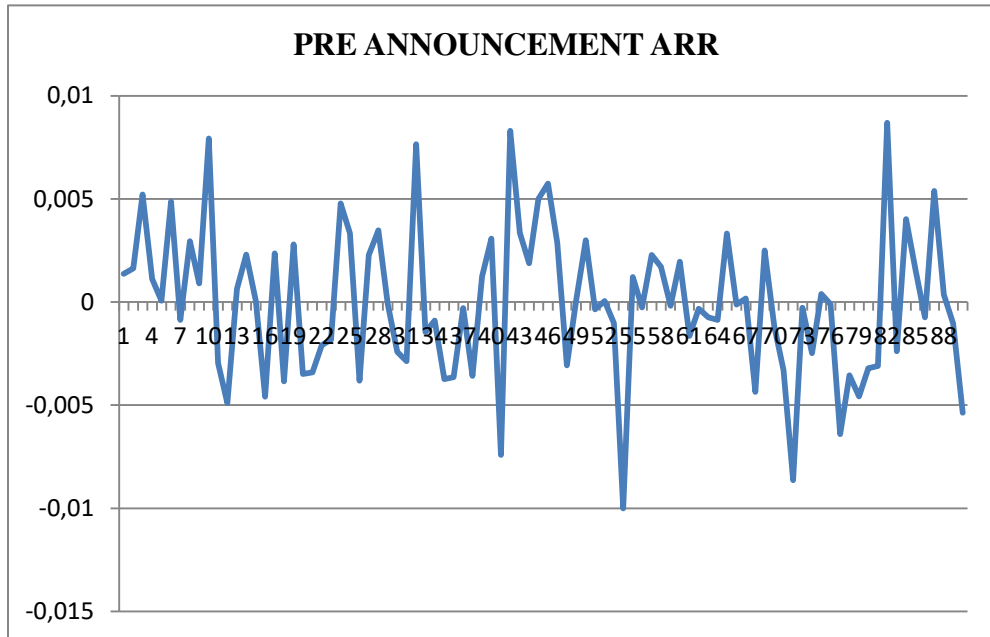


Fig.20: ARR of stock split (pre announcement)

90 days prior to the stock split announcement is taken as pre announcement window. During this period the average abnormal return shows both negative and positive equally. High positive and high negative returns were shown in this period. Comparing with the ARR in the post announcement in pre announcement more negative returns are identified.

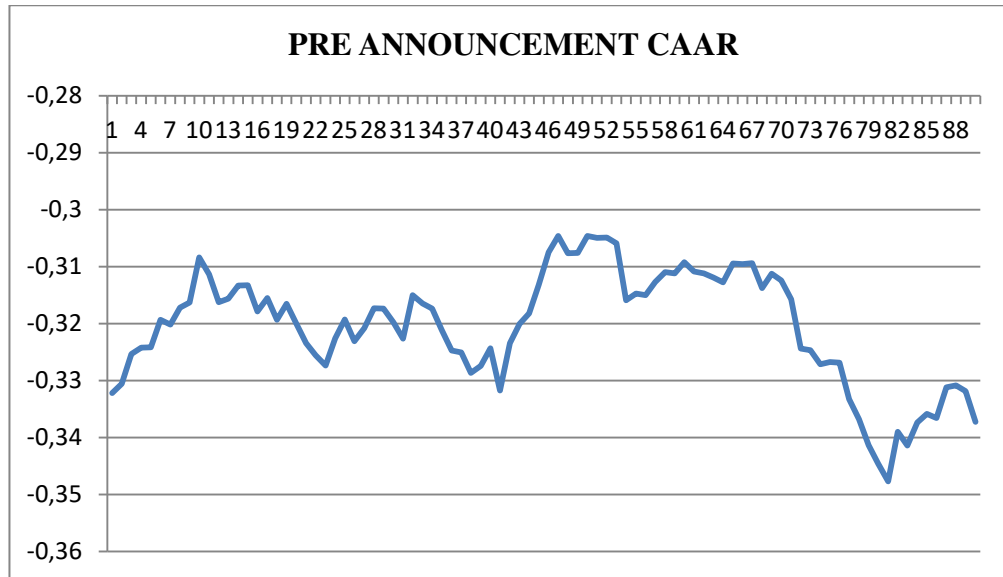


Fig.21: CAAR of stock split (pre announcement period)

The cumulative abnormal return during the pre event window shows negative all the times. In that period the chart and table doesn't show any positive cumulative abnormal return but in post announcement period the CAAR is positive in nature.

TABLE.4

REGRESSION BETWEEN COMPANY AND INDEX

COMPANY & INDEX	CO- EFFICIENT	P.VALUE	R ²
Asian paints & nifty 100	23.63937438	0.171666113	0.482550074
Axis bank & nifty 100	30.03385726	0.13389	0.402367903
JSW Steel & nifty 100	41.22603094	0.073112	0.547665976
Kotak Mahindra & nifty 100	15.2325135	0.131726	0.76485791
Lupin & nifty 100	20.66941271	0.167402	0.483164083

United Spirits & nifty 100	40.3605	0.145213	0.619151
Tech Mahindra & nifty 100	-0.82624686	0.87924	0.006616729
Housing development corporation finance & nifty 100	3.601994	0.304647	0.003221
HDFC bank & nifty 100	-5.95763	0.157836	0.013123
ICICI bank & nifty 100	9.198708	0.005639	0.224623
Infosys & nifty 100	-0.60396	0.910935834	0.019882
Larsen and Turbo & nifty 100	0.579434957	0.878592	0.416437876
ONGC & nifty 100	-5.8350476	0.166417	0.015084098
Reliance & nifty 100	10.53450296	0.004992	0.010000328
State Bank of India & nifty 100	32.58255	0.129148	0.313648
Tata Motors & nifty 100	-3.47855	0.373508	0.166455

Tata Consultancy Services & Nifty 100	0.83505	0.884784299	0.000169
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Regression analysis is a form of inferential statistics. P values and coefficients in regression analysis work together to tell which relationships in the model are statistically significant and the nature of those relationships. The coefficients describe the mathematical relationship between each independent and dependent variable. The p- values for the coefficients indicate whether these relationships are statistically significant. Out of 17 companies the p value of dependent variable that is Nifty 100 shows the values which is greater than and less than the significant level, out of these 15 companies shows p value greater than the significant level and one company shows p value equal to the significance level and one company shows p value less than the significance level.

The sign of coefficient says there is positive or negative correlation between each independent variable and the dependent variable. A positive coefficient indicates that as the value of the independent increases, the mean of the dependent variable also tends to increase and vice versa. In this study both negative and positive coefficient are identified, the coefficient of dependent variable of 4 companies shows negative coefficient it means as the independent value increases the dependent value tends to decrease.

R^2 measures the strength of the relationship between the model and the dependent variable on a convenient 0 – 100%. Tech Mahindra, housing development corporation finance, HDFC, Infosys, Reliance, Tata motors, TCS shows low R^2 value this means that the regression model doesn't fit to this observations. The higher R squared values represent smaller differences between the observed data and the fitted values. Out of 17 companies 8 companies shows least R square this means that the independent variable is not able to explain the variation in the dependent variable. The other companies show comparatively good R square this means that the independent variables are able to explain the variation of dependent variable.

Conclusion:

In this chapter the companies which made stock split announcement from 2010 to 2019 were taken to study. The companies which listed in the Nifty 100 is taken for this and the companies which having price sensitivity is avoided and other companies which made the stock split announcement is taken, 17 companies were taken which made stock split announcement

during this period. For studying the impact of stock split announcement in the stock market the market index taken as the base for calculating the average abnormal return and cumulative average abnormal return. For studying the impact and event window created of 90 days prior to the announcement and 90 days after the announcement. For analyzing the normality of the data descriptive statistical measures were computed. For

understanding the impact of stock split in the closing price of the company the line charts were drawn and from the charts we get clear idea about how the prices are moving before and after the stock split announcement. For identifying the significance level of the study, fitness of model and relationship between independent and dependent variable regression between the company returns and index returns were calculated.

5. Conclusion and findings:-

5.1 Introduction

Every information in the stock market affects the stock prices either positively or negatively. Efficient market hypothesis theory states that share prices reflect all the information. Bonus issue, dividend declaration and stock split announcement are important decisions in the stock market based on this announcement the investors make decisions. Now many companies are announcing the stock split decision and the investors who are not able to purchase the shares having high prices will take this opportunity as a best time to make purchase. For analyzing the impact of announcement pre and post event window created and studied to find whether the announcement made any impact in the stock market.

5.2 Findings

- Out of 17 companies 15 companies shows a negative mean value of returns.
- Asian paints shows high standard deviation and ICICI bank shows least standard deviation
- The value of skewness of 17 companies is less than -1 and greater than 1.
- The kurtosis value is greater than 3 for all companies.
- In the post announcement period of 90 days in 71 days positive AAR is recorded and in 19 days negative AAR is recorded.
- Post event announcement period CAAR is positive in all days.
- Pre announcement period of 90 days, 45 days shows positive value and 45 days shows negative value.
- In pre announcement period CAAR is negative in all days.
- Out of 17 companies shows p value greater than the significance level(.05)
- 4 companies' shows negative coefficient value and 13 companies are showing positive coefficient value.
- 8 companies are showing least R^2 and out of 8 companies TCS and Tech Mahindra shows the least R^2 .

5.3 Suggestions

On the basis of the findings certain suggestions are made

- Decrease the days in the event window helps to get more precise information.
- Increase the number of companies selected for the study
- For getting more clarity about the impact of stock split announcement in the sector, compare with company returns and industry returns before, during and after the announcement period.

5.4 Conclusion

From the investigation, it is clear that the stock split announcement made positive and negative impact to the return of the company. The stock split announcement made a positive impact in the stock market in the post announcement period and it is identified through the AAR and CAAR. Comparing with the pre announcement period the stock split announcement made a positive impact in the stock market.

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