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Understanding Stock Returns as a Combination of Speculative and Fundamental Growth: An Emperical Study

Sanishtha Bhatia, Anshika Lara, Danvi Shah, Shanav Jalan, Shreejit Sawant

Student, NMIMS Mumbai, Maharashtra, India

ABSTRACT

The Indian stock market returns are largely speculative in nature. Taking twenty stocks off of the Sensex, the Total return of the stock was split into the fundamentally arising returns and the speculative return. This revealed the speculative nature of the Indian Stock market. What this means is that, the good stocks with strong fundamentals may have a low total return as a result of low speculative returns, similarly fundamentally weak stocks may potentially have high speculative returns, resulting in high total returns. Thus, a bifurcation of this sort can help investors with different investment objectives, horizons and risk appetite, invest to achieve their goals.

KEYWORDS: *Behavioral Biases, Stock Market Returns, Speculation, Time-bound Returns*

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INTRODUCTION

Decision-making is a complicated process which encompasses study of a number of factors and follows various steps. It is deemed that decision making is centred chiefly around the following two things.

1. Personal Resources and Factors
2. Technical factors

This is true, decision making in almost all areas, including financial decisions of investors. While effecting decisions in stock markets, investors tend to rely on these factors. Typically, individual investors make decisions based on factors particular to them. These include income, education, age and investment portfolio etc. Concurrently, their investment decisions are also, consequential to complex financial models. The mentioned financial models include risk based asset pricing models like the *Capital Asset Pricing Model* and those based on probable returns and risks associated with an investment. However, a set of factors that must not be excluded from the decision-making process are the *Situational Factors*. These include factors not only extended to the problem faced by the decision maker, but also to the environment. Hence, in order to make fitting decisions, the problem variables need to be mediated by applying cognitive psychology and analysed.

Decision-making can be described as the practice of selecting a discrete alternative from a number of available alternatives, post proper evaluation of the alternatives. To carry out the said proper evaluation, the decision makers thus, need to keep themselves updated by acquiring knowledge and data from diverse fields so as to be able to undertake informed decisions.

The paper aims at understanding the process of financial decision making, by understanding the impact of cognitive biases in the returns of the Indian stock markets. These are achieved by understanding, what makes up the stock returns in the markets.

India is one of the fastest growing emerging economies which by extension makes the Indian stock markets one of the most prominent markets in the world. Returns on the equity market unlike fixed income markets, are an amalgamation of two factors:

1. Fundamental returns
2. Speculative returns.

Fundamental Returns: These are the intrinsic factors pertaining to the company. It concerns with the earnings of the enterprise, as well as the dividend pay-out to the shareholders during the period.

Speculative Returns: The speculative element is a reflection of investor optimism or pessimism, in reaction to various extrinsic events. These events may be macro-economic, policy changes or other social or political events which may impact the markets in the short or long term. Thus, these returns concern with the changes in the current performance appraisal and prospective profitability expectations of the various market participants, which have a bearing on the PE expansion and contraction, and by extension the shareholder returns.

The paper aims to understand the Sensex returns as a culmination of the fundamental and speculative returns. The true value of the stocks can be thus, determined basis the fundamental which may be used for value investing. Similarly, the speculative returns can be used to approach and understand contrarian investing sentiments.

Aim

The paper is aimed at dissecting performance of the given 20 companies of Sensex for the last 5 years to understand what proportion of the return is fundamental (performance based) and what proportion is speculative (cognitive).

Review of Literature

(Pathade, 2017)[1], explains the probability of achieving long run investment goals in capital markets is greatly dependent on fundamental factors. A company's performance is judged based on its financial data, competition level, management, the rate at which the company is achieving its short-term goals, etc. A company and its security/securities performance share a direct relationship i.e. if a company is performing well its share will gain investor attention, investors would want to gain returns based on the company's performance, thus investors would buy the security, showing a bullish trend for the security. However, the downside to company analysis is that it is greatly affected by other factors, i.e. a company belongs to a certain industry, the industry is part of the entire economy hence factors affecting the economy and industry will have a major impact on the company and its security. The role of fundamental analysis is also to observe and analyse other factors that might affect the stock prices and help investors make a reliable informed decision. Through the eyes of an investor looking for maximum returns by taking minimum risks, fundamental research approach is ideal to achieve this goal.

According to **Silpa K S** (al, 2017)[2], before making investment related decisions every investor is expected to have enough if not complete knowledge about the stock market and its working. Capital markets can be analysed by means of fundamental or technical analysis.

The purpose of this paper is to fundamentally analyse select IT companies listed on the NSE. Fundamental analysis comprises of 3 parts; Economic analysis takes into consideration fundamental factors such as GDP, fiscal deficit, inflation, current account deficit etc; Industry analysis, this paper analyses the IT sector based on entry barriers, government interference etc; lastly, Company analysis focuses on ratios such as EPS, P/E , dividend pay-out etc. Quick decision making involves the intrinsic and market value of stocks. If the market value is greater than the intrinsic value then the stock is said to be overvalued and if the market value is lesser than the intrinsic value, the share is said to be undervalued. The Indian IT sector at present is one of the rising sectors in the Indian economy. Over the years it has shown rapid growth and potential. As compared to other developed countries, the Indian IT sector shows high cost efficiency in terms of skilled professionals. After analysing select IT companies under Indian conditions, this research paper concludes that Wipro, TCS and Infosys shares are undervalued which means that their value is likely to rise to reach market equilibrium hence buying and holding the stock is the ideal strategy.

[3](Kumar, 2013)This paper studies the impact of financial factors on the stock market, it talks about the different financial factors that indicate whether the economy is flourishing and decide the future investments. It studies how financial factors influence things like price determination process in an economy. A pertinent factor to a broad economy at the regional or National level affects a large population rather than a few select individuals.

They are indicators of economic performance and financial performance. Indicators of listed companies are closely monitored by governments, businesses and consumers. This papers studies evidences from the Indian, US and the UK market. Thus, studying the New York stock exchange, London stock exchange and Indian Stock Exchange.

According to this paper the study of the stock markets is important because it is a vital component of the financial sector of any economic system. It plays a vital role in mobilisation and liquidation of capital in market. The main objectives of the paper is to analyse the stock markets in the three countries and the influence of the state. It is also to identify and analyse financial factors and the relationship among the three countries and their stock markets.

The research methodology used is sampling and the technical data collected for research is secondary research the null hypothesis is that there is no relationship among India, US and UK stock markets on financial factors. On the other hand, the alternative hypothesis is that there is no impact of financial factors on the stock market.

(Macroeconomic surprises and stock market responses—A study on Indian stock market, 2019)[4] in this examination breaks down the affectability of a progression of Indian stock lists for the shocking part of fiscal and macroeconomic arrangement with the informational index from 1 April 2004 to 31 July 2016. The prompt effect is evaluated with occasion investigation, and the dynamic impact is breaking down with the Vector Autoregression (VAR) model. The consequence of the occasion examination demonstrates that the financial approach shock essentially influences the securities exchange and is more unmistakable than that of other macroeconomic amazements. Not at all like the occasion

[1] Equity research: Fundamental analysis for long term investment, International Journal of Applied Research 2017

[2] A Study on fundamental analysis of selected IT companies listed at NSE, Journal of Adv. Research in Dynamical and Control Systems, 2017

[3] Impact of Financial Factors on Stock Market: Empirical Evidences from India, U.S and U.K, Kumar, Singh, August 2013

[4] Macroeconomic surprises and stock market responses—A study on Indian stock market, Cogent Economics & Finance, 2019

study, the VAR examination found that the other macroeconomic shock likewise influences stock return. The examination likewise features the business impact and size impact, which is rational with the expectations of the CAPM (Capital Asset Pricing Model) model. While numerous investigations have been directed on the financial strategy shock in the created economy, there are moderately scarcely any examinations on macroeconomic astonishments. A few examinations led in India have broken down the effect of financial strategy astounds on stock cost; be that as it may, as far as we could possibly know, none of the investigations has inspected the concurrent impact of both macroeconomic and money related approach shock. The examination is pertinent on the grounds that the reactions contrast across segments and change with firm sizes. Along these lines, the investigation can adequately be utilized as a supporting instrument. Besides, the financial exchange goes about as a fundamental channel for approach transmission and a basic choice driver for corporate account. The comprehension of firm and securities exchange elements against macroeconomic shocks can help policymakers in upgrading arrangement viability and corporate fund experts in improving basic leadership.

[5](Hu)As new advancements keep on pushing towards democratization of information, different stages have been competing to turn into a fresh spring of information in this information driven economy. Toward one side, we have online discourse discussions transforming into web based life stages, where retail speculators run to look for and share their suppositions about money related markets, an old style case of a self-supportable information industrial facility, where network creates and devours the information. On the opposite end, we have news media stages, battling to keep up their status as chief information sources, touting space specialists as their givers.

This paper analyses the impact of these two information sources on money related markets. It uses content mining techniques to catch the slants uncovered on the most famous stock discourse gathering (Hot Copper) and a mainstream news media stage (Google Finance) in Australia. The paper essentially locates that slants from social media and news media foresee future stock returns at the individual firm level. Be that as it may, the impact of online life appears to more grounded and enduring contrasted with news media.

(Stycharz, 2017)[6] 's examination researches the corresponding connections between the vacillation of the end costs of three organizations recorded on the Amsterdam trade file, to be specific ING, Philips and Shell and online media inclusion identified with these organizations for a time of two years (2014–2015). Robotized content investigation strategies were utilized to break down feeling and emotionality and to recognize corporate points identified with the organizations. A positive connection of the measure of inclusion and emotionality with the variance of stock costs was distinguished for Shell and Philips. Furthermore, corporate themes were found to emphatically Granger cause stock value vacillation, especially for Philips. The investigation progresses past research in indicating that the expectation of stock value vacillation dependent on media inclusion can be improved by including conclusion, emotionality, and corporate subjects. The discoveries educate key correspondence, and especially financial specialist relations, in recommending that media consideration, assessment, and certain corporate points are significant when overseeing media relations and as to verifying a reasonable assessment of recorded organizations. Besides, the imaginative research strategies are valuable for specialists and professionals the same in displaying how media inclusion identified with firms and their stock variances can be recognized and investigated in a reproducible, hands-on and proficient way.

According to (Fama & French, 1989)[7], the default spread, is a business cyclical variable, i.e. it is on the rise during economic crises like the great depression and low during periods when the economy is continually strong.

It is also observed that the dividend yield is correlated with the default spread and progresses in a comparable manner with long term business conditions. For a large portion of the period under investigation (1927-1987), the term spread is linked to shorter term measured business cycles; it is low near business-cycle peaks and high near troughs. The fact that the variables foretell stock and bond returns then suggests that the suggested deviation in the expected returns is principally conventional across securities and is inversely associated to long and short term variation in business conditions.

One theory for the observed results is that when the business environment is unfavourable and income is low, the expected returns on stocks and bonds must be excessive to stimulate substitution from consumption to investment. Conversely, when the business conditions are good and incomes are high, the markets clear at lower expected returns. However, it is also probable that the observed deviation in expected returns with the business environment is due to variation in the risks of stocks and bonds. The regressions in the paper allow for the identification of the variation in expected returns, however confidently deciding how this variation splits between the different possibilities is out of the scope of the given study.

(Mangee & Goldberg, A Cointegrated VAR Analysis of Stock Price Models: Fundamentals, Psychology and Structural Change, 2019)[8] attempt at providing an empirical analysis amid various alternative stock price models within the cointegrated VAR framework. Conventional PV and PV- risk premium is paralleled against models with structural breaks and those including measures of psychology and unobservable fundamental factors as implied by traditional and behavioural bubble and scapegoat and imperfect knowledge economics models. Employing a novel dataset based on information contained in end of the day stock summary reports from Bloomberg News, the paper attempts to quantify measures of fundamental based psychology and

[5] The Effect of Social and News Media Sentiments on Financial Markets, Hu, Tripathi, University of Auckland

[6] The Role of Media Coverage in Explaining Stock Market Fluctuations: Insights for Strategic Financial Communication, International Journal of Strategic Communication,2017

[7] Business Conditions and Expected Returns on Stocks and Bonds, Journal of Financial Economics, 1989

[8] A Cointegrated VAR Analysis of Stock Price Models, Journal of Behavioural Finance,2019.

social context fundamentals. The paper finds no evidence of a stable cointegrating relation between earnings, risk adjusted discount rates and stock prices can be found for periods including and excluding a financial crisis. When the mean shifts, positioned at different time periods(points consequent to reversals in the S&P 500 price) in the data, are included in the cointegrating space they are mutually substantial and produce statistical verification of cointegration between earnings, prices and interest rates for the total sample time frame. Conversely, adjustment coefficients allude error compounding behaviour of the stock price equation coherent with the conventional and behavioural bubble models.

Another finding of the research is evidence of a cointegrating link between fundamentals and stock prices when psychology, mean shifts and a larger information set are included in the cointegrating space. The inclusion of psychology in the identified equilibrium linkage, the adjustment imposes a change in the error correction for the stock price equation; the exclusion of psychology leads to an error in increasing behaviour. It is in fact observed that a major part of the error correction is based from the fundamental based psychology variables, as indicated by the scapegoat/ IKE models.

The identified model fails to reject a fundamental based equilibrium relation with stock prices generating hypothesized signs on earnings, interest rates, psychology and social context. The results provide the most sup- port for the scapegoat/IKE models of stock prices with weak evidence for bubble models.

[9](Xiao, 2016) uses the UCM and ARCH models to uncover the incidence of seasonality over a 15 year period (2000 to 2015) for the American stock market. Though common perception is that a monthly effect persists, the results point that economic cycles do not have a consequence on the discerned pattern in the daily stock price returns. The author recognises that as per the prevailing literature, that on a broader level, seasonality is more often than not, extremely sensitive to the presence of outliers, and that the contrary observation could be a product of the particular sample period and estimation method. This particular incongruity after adjusting for non- normality. Thus, a reversed monthly reversed monthly effect during certain periods does not necessarily imply a disappearance of the seasonality. The author recommends that further analysis of such seasonality can be done by analysis of investment strategy based on seasonality and check if it is capable of systematically beating the market.

[10](Agarwal & R, Impact of Demonetization on Indian Stock Market, 2019) highlights demonetization which is the withdrawal of a currency from use as a legal tender. The purpose of this tool is to lower the economy's cash circulation in order to handle black money in the economy. The government of India withdrew the 1000- and 500-rupee currency notes from circulation. Demonetization is said to have a direct or indirect impact on the different sectors of the economy, especially on the ones which are driven by black money, for instance the real estate, cement, automobile industries in India. However, there were certain sectors that were completely unaffected by this move. Demonetization has impacted purchasing power and has given rise to two types of risks in the stock market; unsystematic and systematic risk. India is a developing country, withdrawing a large chunk of cash will hamper its growth rate. This paper aims to show the magnitude of the impact of certain events such as demonetization and US presidential elections on the Indian stock market, with demonetization being its primary focus. With the existence of historical data, it becomes easy to show the pre-demonetisation and post-demonetisation effect of the event on the economy. The conclusion drawn from this research paper is that there was a slight downfall in the market in the short run solely because of negative sentiments and that withdrawing the 500- and 1000-rupee currency notes did not have a significant impact on the Indian stock market.

[11](Impact Of General Elections On Stock Markets in India, 2018) The stock market is an important part of the financial system and reflects the countries status. Stock market fluctuations are impacted by the economy, the political events, weather conditions in the world and the kind of relationship countries hold with each other.

The study aims to analyze the effect of the general Indian elections on NSE and BSE returns between the time period of 1998 and 2014 having considered 5 election sessions. It has also analyzed and compared the volatility taking into consideration the variance of daily returns in the stock market for different terms the longest being 30days in pre-election and post-election period. The emphasis of the paper is on the 2014 Lok Sabha Election in India which was a very important event that led to stock market fluctuations. The data used is secondary data and the testing is done via T-test and F-test. The findings of the study indicate that an individual Election has maximum impact I short term as compared to medium and long term during the pre-election period. Sensex has been affected both positively and negatively during the pre and post- election period, having more negative values in the 2004 elections. The study concludes that according to F-test, variances of returns determine that short- and medium-term period are more volatile than long term pre-election period. In general, election has a higher effect in short term periods thus investors should invest more cautiously around election period as the market volatility is higher especially when during the month of result declaration. A suggestion given by the writers of the paper is for the government and regulators is to monitor the market movements on a real time basis and take corrective measures when market is more volatility.

[12](The Indian Stock Market and the Great Recession, 2012) Great Depression started in 2007 in the US but had a negative impact on the world's economy. The aim of the study is to analyze the impact of the outbreak of the Great

[9] The Monthly Effect and the Day of the Week Effect in the American Stock Market, International Journal of Financial Research, 2016

[10] Impact of Demonetization on Indian Stock Market, Research review International Journal of Multidisciplinary, 2019

[11] Impact Of General Elections On Stock Markets In India, Open Journal of Economics and Commerce, 2018

[12] The Indian Stock Market and the Great Recession, Theoretical and applied economics,2012

Recession of 2007 of the Indian stock market. A period of 5 years from 2002 to 2007 is taken as the pre-recession period which is compared to another post-recession outbreak period from 2007 to 2010 for SENSEX index of the Bombay stock exchange. The paper has also analyzed the co-movements between the SENSEX with other major stock indexes from Europe, US, Asia and Latin America. The analysis is done using time series test, Granger causality test and co-integration tests. The finding in the paper was that before the Great Recession the Indian market had daily positive returns but there was a substantial increase in volatility of SENSEX during the post-recession period. The average daily stock returns turned negative with the onset of recession however there wasn't much of a difference in the daily returns between the pre and post-recession outbreak period. Country specific and to an extent regional factors dominate the SENSEX market during the period of relative economic stability. Another finding was that the returns and volatility correlation between SENSEX and other markets are significantly higher during the post-recession outbreak. The study concludes that it is important to account for global business cycle fluctuations in order to understand the time varying behavior of SENSEX in regards to the international financial market integration.

[13](Impact of Terrorism on Indian Capital Market: An Empirical Study, 2017) Stock markets are affected by both the occurrence of internal and external events one of them being terrorist attacks. Such a socio-political event has been found to disturb investment avenues among countries affecting businesses, the economy and stock prices. The aim of the paper to analyze the impact of terrorist attacks and how they have adversely affected the Indian stock market mainly the Bombay Stock Exchange of India Ltd. The time frame taken in this paper is 2005 to 2009 where five major terrorist attacks took place in India. The objective of the study is to test the normality and stationarity of the sectorial indices return of BSE on a daily basis and to analyze the volatility pattern of the sample index return during the pre and post terrorist attacks. The study has used secondary data of daily closing prices of BSE indices. The findings of the study state that predictions can be made by short term investors about the market after the terrorist attacks and can even come to some conclusive solutions for the same. BSE indices like BSE Metal and Bankex recorded low volatility during the post period of the terrorist attack. BSE Sensex consistently holds the lowest value of standard deviation for all the five attacks taken in this study. Overall the study concludes that many countries have faces economic losses due to terrorist attacks. This socio-political event plays a very important role as an impact to the capital investment market in the short term. Thus, investors should wait and not hastily take any investment decision during such abnormal events in the market.

[14](5 Rules of Contrarian Investing, 2014)Contrarian Investing has gained notoriety for being a fruitful tack. The other side of this is running with the group has a poor reputation. Trend following is running with the group and it has had great press in the course of the most recent couple of years on the grounds that the pattern is your companion, at any rate until the curve in the end. Trend following works in light of the fact that the pattern adherents search useful for quite a while the pattern endures. At the point when the pattern closes, they can reprimand misfortune for their resultant disappointment. On the other hand, the contrarian resembles a dolt more often than not and when they tidy up to the disappointment of the group when the pattern switches, they can be expelled as fortunate. Human instinct being what it is, contrarian contributing is difficult for both expert and private financial specialists the same. This is the reason it is rewarding. The market pays individuals to fill specialties that equalisation the chances. The article further talks about 5 golden rules that must be applied for Contrarian Investing

Research Methodology

In this paper the we have attempted to analyse to returns of 20 companies from Sensex. These returns have been broken down into Fundamental Returns and Speculative Returns. The 3 kinds of returns are broken down as follows:

1. Fundamental Returns = Change in EPS (Year-on-year)

$$\frac{(Current\ Year's\ EPS - Previous\ Year's\ EPS)}{Previous\ Year's\ EPS}$$

2. Speculative Return=

$$\frac{((EPS\ at\ the\ end\ of\ the\ year)\times(Change\ in\ PE\ ratio))}{Price\ Paid}$$

3. Dividend Yield=

$$\frac{Dividend\ Per\ Share}{Market\ Price}$$

These comprise the Total Return which can be formulated as:

Total Return=

$$Fundamental\ Return + Speculative\ Return + Dividend\ Yield$$

The 20 companies selected were as follows:

1. Asian Paints
2. Bajaj Auto
3. Bharti Airtel
4. Hero MotoCorp
5. Hindustan Unilever
6. Sun Pharmaceutical
7. Tata Consultancy Services
8. Tata Steel
9. Tech Mahindra Ltd.
10. Ultratech Cement
11. Nestle India
12. Oil and Natural Gas Corporation
13. National Thermal Power Corporation
14. Reliance Industries Limited
15. Power Grid
16. Infosys
17. Indian Tobacco Company (ITC)
18. Larsen and Toubro
19. Mahindra and Mahindra
20. Maruti Suzuki

We have tried to understand the cause for the speculative returns of the stocks by analysing specific events. These events have been selected by checking the stock price volatilities on the particular dates. We narrowed down to certain dates by calculating Holding Period Returns of daily data from FY'15 to FY'19.

[13] Impact of Terrorism on Indian Capital Market: An Empirical Study, 2017

[14] 5 Rules of Contrarian Investing, Forbes,2014

Descriptive Research

In an ideal market, where all investors are rational, the fundamental returns of a stock must be the total return the investor gets. However, the markets are not ideal and the investors are not rational which means that the fundamental returns are not an ideal representation of the returns that a stock would provide for its investors at-least in the short run.

The speculative returns are the returns on a stock that are essentially a function of not the merits of the company but that of the investor sentiments. These investor sentiments can be a cumulative of various factors, the most prominent of them being the cognitive biases of the market participants.

These cognitive biases can be understood through a study of the following theories:

1. **Prospect Theory and Loss Aversion**: The prospect theory is a behavioral model indicating how individuals make decisions in probable risk situations. It explains that utility is perceived relative to a reference point in contrast to absolute outcomes. The theory after a series of experiments concludes that people are generally risk averse; as they seem to dislike losses more than equivalent loss of gains, and are hence willing to take more risk to avoid losses. As a function of the biased weighting of probabilities and loss aversion, the theory leads to a pattern which may be explained by the following matrix.

Fourfold Pattern for Risk Aversion or Risk Seeking

	Significant Gains	Significant Losses
High Probability	RISK AVERSE (Under-weigh potential benefit) **Fear of disappointment Take Unfavourable settlement Refuse preventive care Science Denialism?**	RISK SEEKING (under-weigh potential harm) **Desperate to recoup loss Reject favourable settlement Continue gambling Seek risky pseudoscience**
Low Probability	RISK SEEKING (over-weigh potential benefit) **Hope for large gain Reject favourable settlement Start gambling Supplements, acupuncture, Chiropractic**	RISK AVERSE (over-weigh potential harm) **Fear of large loss Take unfavourable settlement Buy insurance Unwarranted diagnostic testing**

2. **Sunk Cost Fallacy**: Sunk Cost fallacy is the tendency of an investor to stay invested in a loss-making investment, to make up for the loss already incurred loss of resources. These resources may include time or money or effort or a combination of all of these. What may not be considered in a scenario like this is that they may be throwing in more resources to an already loss-making investment.

3. **Disposition Effect**: This demonstrates behavioural phenomena about how investors treat unrealised gains and losses. It was found that investors tend to realise gains more quickly than losses, i.e. investors tend to sell, the winners but hold on to the losers which is a contradictory reaction relative to rational investment behaviour considering that a security's future performance is not reflected by the price at which it was purchased.

A possible explanation for this is that selling a security at a loss can psychologically be interpreted as an admitting that the investor was wrong to enter into the trade in the first place which even if the loss is unrelated to factors at the time of the investment being made. Similarly, realising gains is viewed as a victory of sorts and a proof that the investment decision was right. What this sense of euphoria fails to capture is the fact that, the decision to sell a profit-making security, would impede future gains, thus reducing the overall gains that the security had potential to deliver.

4. Status Quo-Bias

The tendency of people to resist change in circumstances where it may be financially optimal to do so, is what may be termed as the Status Quo Bias. This is what may cause retail investors to remain invested in a stock, even post a decline in fundamental returns. This may explain why in certain cases, the speculative returns remain higher for a longer time post fall in fundamentals.

A bias of this sort can be attributed to the following reasons:

- Familiarity: Human beings are change averse and prefer to maintain status quo as much as possible. A status quo of sorts, seems to be rather familiar and a fear of the unknown takes over impeding their ability to make rational decisions.
- Cognitive fatigue: To break the status quo and accept a change, requires thinking and cognitive effort. This is especially true in case of financial decisions where, a newer investment opportunity may require evaluation of alternatives and comparing them. In such a situation investor may tend to stick to their current investments over a newer alternative.
- Non-Cognitive reasons: Transaction costs and taxes are a non-cognitive reason which may discourage investors from changing or switching to better investment alternatives. This is particularly true, in equity markets, in cases where the incremental returns may just be slightly higher and thus, logistically not viable. This bias is however more palpable in alternative investment markets like real estate.

It must be noted that all these cognitive biases are interrelated and may cause a domino effect. For example: A loss averse person, may stick to the status quo, to avoid the risk that a newer investment opportunity may bear.

What we attempt to explain is that one or a combination of these biases cause a stock to have total returns which may not be a reflection of the fundamental returns.

Data Analysis

A. Energy Industry

1. Oil and Natural Gas Corporation Limited (ONGC)

Operating in the fossil fuel sector, ONGC is a government owned Indian multinational Crude Oil and Gas Corporation. The usage of crude oil by downstream companies as raw materials gives India its petroleum products such as naphtha, petrol, kerosene, diesel, cooking gas LPG. Ranking 11th among global energy majors (PLATTS) ONGC contributes to approximately ¾ of India's domestic production.

4th May 2014

ONGC was offered stake in mid-size block, around 25% in the ABAI block which has over 2.8 billion oil barrels. This meant that the production of ONGC was going to rise and in order to benefit from the rising production and hence rising profits, the stock market received large number of buy calls for the ONGC share.

19th May 2014

ONGC filing a case against Reliance Industries for illegally extracting 18 billion cubic meters of gas from its reservoir could affect both companies adversely. It appears as ONGC is going to benefit from this event as Reliance would most probably lose the case and end up paying a huge sum as penalty. This would adversely affect RIL's books. But that might not be the case, as investigation by an expert might yield a totally different outcome. The sentiment of investors may end up being uncertain and may end up hurting both the stocks (ONGC & RIL) and benefit other stocks from the same sector, thus having individual as well as sectorial volatility impacts on both, the stocks and industry as a whole.

7th June 2014

The Modi-led government emphasized on rising prices of oil and gas during their election campaigns, shortly after coming into power there was expectation that the government will soon take a decision on gas pricing and provide subsidies for domestic lpg and kerosene. If they were to stick to their promises and successfully lower prices of oil and gas prices, the industry as a whole would benefit but ONGC was the only party to become the biggest beneficiary due to the sheer volume of its production, this would in turn increase the demand for oil and gas stocks but not as much as ONGC stocks.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-33.52%	23.89%	5.57%	-4.06%
2016	-22.91%	-39.73%	6.87%	-55.76%
2017	89.73%	21.15%	4.46%	115.34%
2018	-9.46%	-18.76%	3.93%	-24.29%
2019	40.68%	-61.07%	4.49%	-15.90%

2. Power grid corporation of India

Power grid corporation of India is an Indian nationalized electric utility company. Headquartered in Gurugram, India; Powergrid transmits about more than half of the total power generated in India. This listed company has a domestic credit rating of 'AAA' given by CARE, CRISIL & ICRA. With Shri K Sreekant as the CMD, this nationalized corporation operates Telecom and Transmission networks and also provides transmission related consultancy services to about 150 domestic clients.

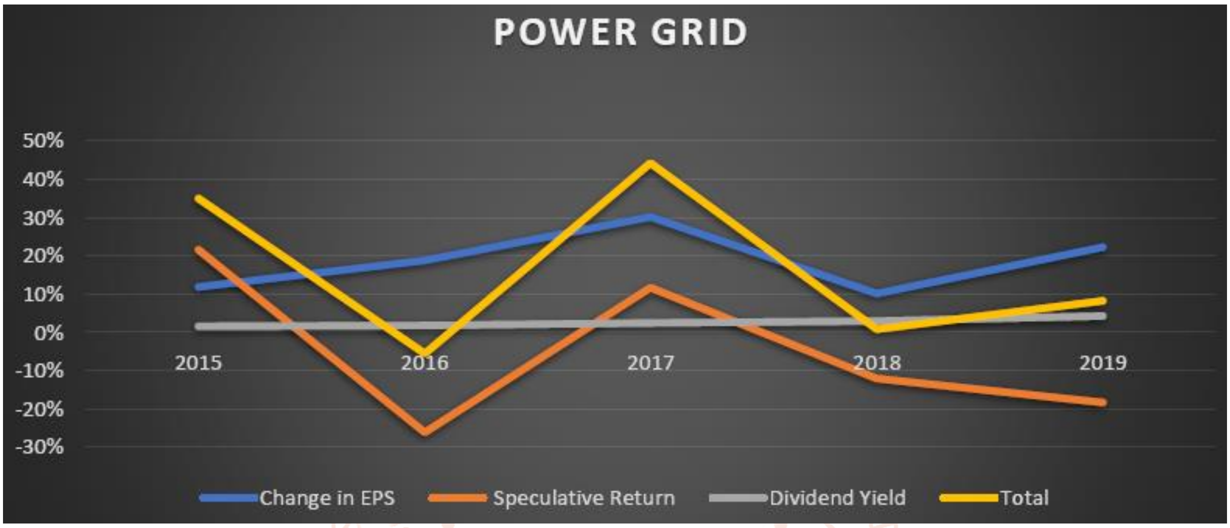
9th June 2014

The Department of Telecom looked at ways to expedite the roll-out of national optical fibre network, but it was sceptical whether BBNL or BSNL is to be used as the special purpose vehicle to run this project. There was some form of uncertainty as the decision to include Power Grid was still pending. It was because of this very uncertainty that investors panicked and pressed buttons in both the directions.

10th June 2014

The government outlined its agenda to help boost economic growth by enhancing railway, roads, low cost airports and high-speed trains, the Economic Times highlighted a few stocks that were likely to benefit, Power grid Corp was one of it. Power grid and other stocks on the stock exchange experienced a bullish trend following this news, hence explaining the volatility changes it experienced on that particular day.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	11.91%	21.55%	1.54%	35.00%
2016	18.78%	-26.21%	1.83%	-5.59%
2017	30.16%	11.72%	2.40%	44.28%
2018	10.11%	-12.16%	2.87%	0.82%
2019	22.32%	-18.30%	4.25%	8.27%



3. National Thermal Power Corporation Limited (NTPC)

Founded in 1975, NTPC Limited is an Indian Public Sector Undertaking engaged in business of electricity generation. Ever since its inception it has been growing with the sole aim of establishing itself as the dominant power major in the entire value chain of the power generation business. This corporation has strengthened its core business by diversifying itself into the fields of power trading, consultancy, coal mining, rural electrification and as utilization.

19th May 2014

NTPC lined up 30000 crores to acquire coal-based power projects. This headline sparked a surge on stock exchange for the NTPC Stocks. The stock alone fell prey to volatility due to the rising speculation that the acquisition of coal-based projects would benefit investors.

20th May 2014

The Modi led BJP won the elections on 16th May 2014, following this victory the technology, pharma and consumer goods industry experienced a massive downward spiral, on the other hand the power, infrastructure and realty sector surged upwards. The hopes that the Modi led government would push for economic reforms and tackle macroeconomic challenges led to the aggressive buying of stocks. It was due to this very reason that the power industry was affected positively.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-9.72%	24.06%	2.41%	16.75%
2016	10.14%	-27.84%	3.58%	-14.11%
2017	-2.35%	46.97%	3.98%	48.60%
2018	2.60%	-14.22%	3.88%	-7.74%
2019	19.79%	-20.53%	4.57%	3.83%

4. Reliance Industries Limited (RIL)

RIL is the largest private sector corporation in India. Since its inception, RIL has grown out of its textile and polyester company and diversified into the fields of energy, digital services, materials, retail and entertainment. Reliance products and services portfolio touches every citizen of this country on a daily basis, across social and economic spectrums.

22nd February 2017

Ever since Jio's launch, every single citizen has been paying close attention to its every move and try to predict the reason behind it and to find the answer to its investing doubt. The difference between introducing the product as a sample and introducing the product free of charge is vast. Due to the resources available at its disposal, it was easy to deduce that this move was to acquire market share. Soon after realizing this, the stock faced market volatility. On 22nd February 2017 when the investors heard that Jio was going to charge for its services but at cheap prices, still exploiting its resources to continue gaining market share and reduce their losses on paper; they rushed to buy the stock. Since the introduction of Jio not only has Ril's stock experienced an increase in demand but its competitors (Vodafone and Bharti Airtel) lost its market share, incurred heavy losses, their shares were dumped, and they were almost driven out of the market.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	4.14%	-19.28%	2.60%	-12.54%
2016	26.74%	2.91%	2.06%	31.72%
2017	2.23%	10.07%	1.71%	14.01%
2018	20.56%	20.88%	0.69%	42.13%
2019	9.65%	39.18%	0.48%	49.31%

B. Automobile Sector

Events that affected the auto sector:

Budget 2016

- ➢ The budget saw an increase in cess on SUVs, which lead to the share price of the companies in the sector to fluctuate, to an extent based on the, exposure of their product portfolios to SUVs.
- ➢ A TDS of 10% was also introduced on purchase of cars exceeding 10 lakhs in value. This was expected to have an impact on sales of premium cars and SUVs
- ➢ Opening up provision of passenger road transport to the private sector. This was expected to increase the sale of buses.
- ➢ Higher allocation for rural and agricultural spending. This expects to have an indirect impact on the spending capacity of rural populations, and is thus expected to provide a boost to rural-oriented vehicle producers.
- ➢ The budget also provided incentives for electric vehicles to encourage companies

August 2016 GST Bill Passage

- ➢ The taxation regime prior to GST comprised of a series of indirect taxes, wherein every state had a unique indirect tax structure. The GST implementation subsumes all this to a singular tax. Also, the previous regime commanded different tax rates segment wise, i.e., tax rates for cars of different sizes was different.
- ➢ With the advent of GST, lower as well as standardized tax rates. This would in turn reduce tax administration costs for the companies as well.

Demonetization

- ➢ The automobile stocks in the Sensex saw a drastic fall in share price post the sudden ban on the five hundred and one-thousand-rupee currency effectively cancelling the legal tender status of over 80% currency in circulation.
- ➢ Though demonetization had an impact on the entire stock market, the auto sector was one of the worst affected. This was caused due to the anticipated loss in the ability and willingness of people to make big purchases during such times of uncertainty and cash crunch.

NBFC Crisis

The Non-Banking Financial Sector has one of the major financers for the automobile sector, accounting for a good fraction of the auto loans. Now with the NBFC sector itself in hot waters the auto sector has also been impacted.

This does create a cyclical situation of sorts as both the NBFCs and the auto sector are dependent on each other.

Interim Budget 2019

- The auto stocks rallied on the interim budget day in response to the positive stimulus provided by the government.
- The farm package was expected to boost the two-wheeler and tractor segment, due to an anticipated increase in rural incomes.
- Further a decrease in the income tax rates also should lead to increased disposable incomes, providing room for expenditure on big purchases like automobiles.
- The sector saw an overall growth of 2.71%, with Hero MotoCorp and Maruti being the biggest gainers.

Company Analysis

1. Hero Moto-Corp

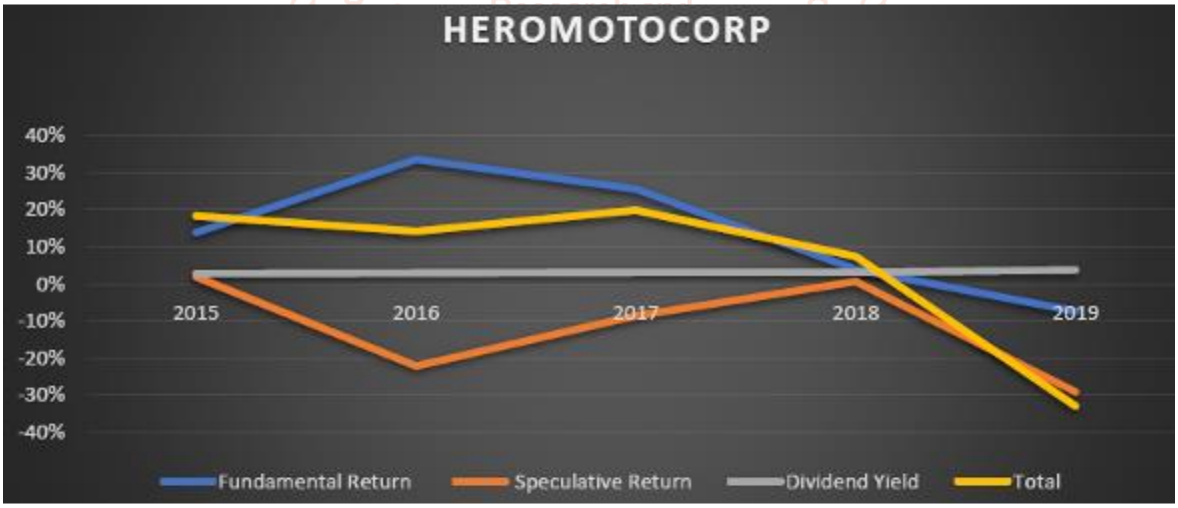
Headquartered in New Delhi (India), Hero MotoCorp is the market leader in the two-wheeler segment in India- with over 50% share in the domestic motorcycle market, which happens to be the world's largest two-wheeler market. Hero was operating in the Indian two-wheeler market as a Joint Venture between Hero Cycles and Honda- a Japanese entity since 1984. In 2010, the Joint Venture was dissolved by Hero buying out Honda's share. Hero became the world's largest two-wheeler manufacturer in 2001, in terms of unit volume sales in a calendar year and has maintained the coveted title for the past 18 consecutive years.

Hero MotoCorp has overtime expanded its presence to geographies across Asia, Africa and South and Central America.

July 2018- Price War

- Bajaj Auto during an analyst call, as part of declaration of its' June 2018 quarter results, declared that the company intends to cut prices in an endeavor to gain market share.
- This declaration lead to a 6.20% fall in the stock price of Hero MotoCorp, which is one of the biggest players in the two-wheeler market, and thus, a major competitor of Bajaj Auto.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	13.77%	1.78%	2.69%	18.24%
2016	33.47%	-22.28%	2.82%	14.01%
2017	25.43%	-8.65%	2.97%	19.75%
2018	3.80%	0.52%	2.95%	7.27%
2019	-7.45%	-29.23%	3.62%	-33.06%



2. Maruti Suzuki

A subsidiary of Suzuki Motor Corporation- Japan; Maruti Suzuki India Limited (MSIL) is the market leader in the Indian Passenger Vehicle Segment. The company was incorporated as a Joint Venture between the government of India and Suzuki Motor Corporation, Japan in February 1981.Over time the government divested its stake, and now 56.2% of the company is help by Suzuki Motor Corp. One of the oldest automobile companies in India, Maruti is credited with having ushered in the country an automobile revolution. Maruti has successfully expanded its product portfolio from the iconic Maruti 800 car, to now over 16 cars with 150 variants.

April 2015: Faulty Ignition Switch

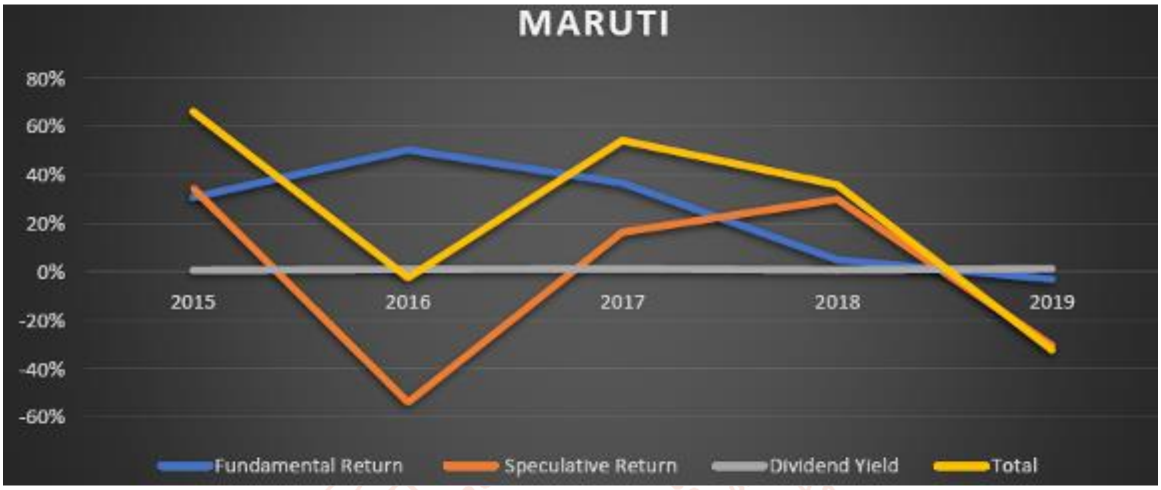
Maruti announced a recall of 2 million cars, to replace the faulty ignition switch, after reports of fumes being emitted from the faulty part.

December 2017: Maruti Bypasses global Norms

In December 2017, the market share of Maruti crossed 50%. This number is an abnormally high one at that as, in most markets the market leaders have a market share not over 20%. The anomaly can be explained as a culmination of the first movers' advantage that Maruti enjoys, the trust and comfort level of the Indian consumer with the brand and a virtuous cycle of high sales volume and lowering costs.

The Maruti saw an increase in the stock price as a result of achieving this milestone.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	30.89%	34.60%	0.71%	66.20%
2016	50.46%	-53.79%	0.99%	-2.33%
2017	36.61%	16.39%	1.30%	54.30%
2018	4.93%	30.11%	0.93%	35.97%
2019	-2.93%	-30.42%	1.23%	-32.12%



3. Mahindra and Mahindra

Established in 1945, in Ludhiana, Mahindra and Mahindra is an Indian multinational automobile company. Mahindra and Mahindra is one of the most diversified automobile company in India. Their portfolio consists of a comprehensive gamut of vehicles ranging from Two wheelers to Tractors, Passenger Vehicles to school buses.

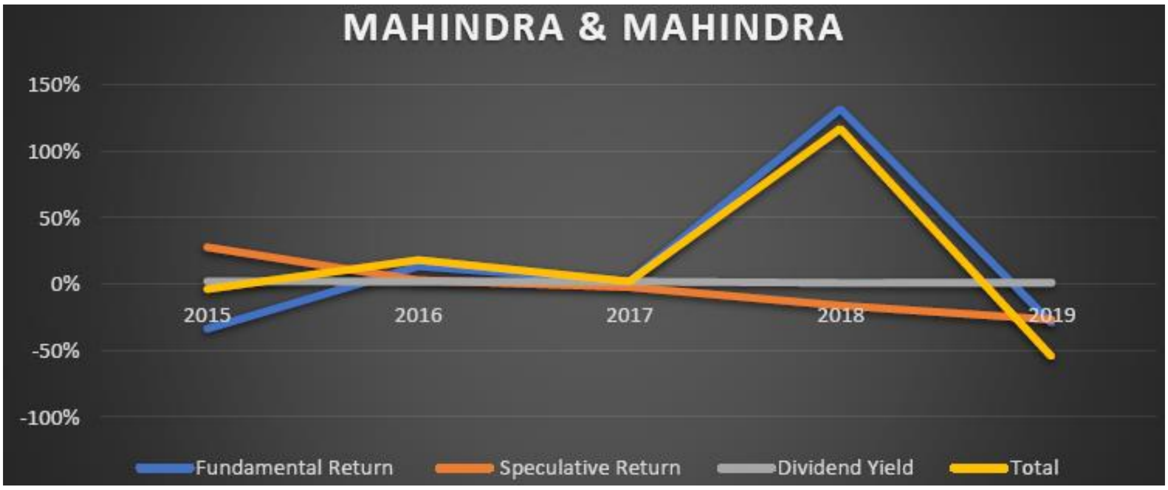
Ranked 17th on a list of top companies in India by Fortune India 500 in 2018, Mahindra and Mahindra is a part of the Indian conglomerate Mahindra group

February 2016:

Mahindra and Mahindra announced a capital expenditure of Rs. 8000 crores as part of its expansion plans over the next couple of years. The investment utilised towards capacity expansion, infrastructure development, and product development.

This announcement lead to a positive market sentiment in favour of the stock which saw an increase of over 5%.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-33.58%	27.87%	2.18%	-3.53%
2016	13.40%	2.86%	2.10%	18.36%
2017	2.27%	-2.27%	2.11%	2.11%
2018	132.25%	-16.04%	1.04%	117.24%
2019	-29.33%	-26.62%	1.31%	-54.64%



4. Bajaj Auto

Well known for its R&D, process engineering, low-cost manufacturing skills and product development, Bajaj Auto Limited is one of the leading two and three wheeler manufacturers in India. The Company's geographic segments include India and Rest of the world and has two subsidiaries namely Bajaj Auto International Holdings BV and PT Bajaj Indonesia.

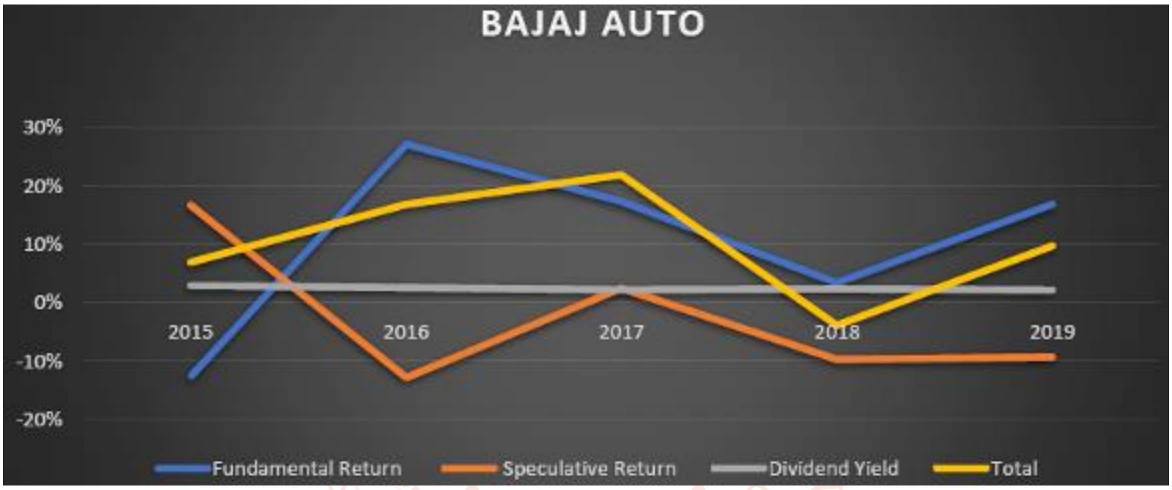
Bajaj Auto was founded as M/s Bachraj Trading Corporation Private Limited in November 1945. Today the company was a vast portfolio of two wheelers and is the largest exporter of two and three wheelers in the country.

22.05.2015: Quarter 4 results

The Bajaj Auto stock should peculiar movement on the mentioned date. While the results indicated a decline in the net profit of the company by 18.5%, the stock gained 7.2%.

This anomaly is a product of the entity's ability to improve its' realization and adjusted operating profits. This acted as the cushion for the market to allow for the stock to gain at this rate, and also to gain an equivalent of 7.2%

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-12.65%	16.62%	2.88%	6.85%
2016	27.07%	-12.86%	2.55%	16.75%
2017	17.26%	2.40%	2.18%	21.84%
2018	3.42%	-9.71%	2.38%	-3.92%
2019	16.80%	-9.34%	2.18%	9.64%



C. Telecommunications Industry

1. Bharti Airtel Ltd.

Bharti Airtel Limited, otherwise called Airtel, is an Indian worldwide telecommunication service organization situated in Delhi, India. It works in 18 nations across South Asia and Africa, and furthermore in the Channel Islands. Airtel gives GSM, 3G, 4G LTE, 4G+ portable services, fixed line broadband and voice services relying on the nation of activity. Airtel had additionally revealed its VoLTE innovation over all Indian telecom circles. It is the third biggest portable system operator in India and the second biggest operator on the planet with over 411.42 million subscribers. Airtel was named India's second most important brand in the first ever Brandz positioning by Millward Brown and WPP plc. The company showed maximum % change (ranging from 6.5%-8.5%) in their daily stock prices on the following dates-

30th January 2017

Quarter 3 results were declared. Airtel showed a 54.5% decline in profits and a 3% in sales. In another article it was speculated that the telecom industry would stabilize in 2018-19 and therefore advised to buy the stock despite the negative results. Additionally, there were plans for Vodafone and Idea to merge thus leading to a fall in the intensity of the competition in the industry and forming a strong oligopolistic market.

10th May 2017

It was speculated that the price of the stock was going to fall in the near future. Also, Q4 results were declared and Airtel showed a 72% decline in consolidated net income. This was mainly because in this time period Reliance Jio was offering free data services. Despite this the stock showed a 7.9% gain because investors were really impressed by the fact that the company despite these conditions were able to increase their subscribers. Additionally, operations in Africa also turned profitable for the first time.

13th October 2017

Airtel acquired Tata Teleservices in cash-free debt-free deal which enabled it to push its user base to 321 million. Thus, enabling it to fight Reliance Jio. With an increase in subscribers by approximately 1 billion, the telecom industry had shown a major growth for a period of 10 years.

1st November 2017
Q2 results depicted a 76% fall in consolidated net profit because of Jio. However, the stock still managed to show a reverse effect because it was selling its stake in Bharti Infratel. Thus, generating Rs. 40000 crores.

Overall, FY 16-17 and FY 17-18 have shown maximum % change. It is surprising that the company managed to show positive change despite the hardships they faced in these years due to Reliance Jio.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	54.52%	-20.27%	1.10%	35.35%
2016	48.25%	27.00%	0.44%	75.69%
2017	-37.42%	-50.28%	0.32%	-87.38%
2018	-71.13%	1394.92%	1.48%	1325.27%
2019	-62.70%	-618.04%	0.82%	-679.91%

D. Information Technology
1. Tata Consultancy Services
Tata Consultancy Services Limited is an Indian global data innovation services and consultancy organization headquartered in Mumbai, Maharashtra, India. It is a backup of Tata Group and works in 149 areas across 46 nations. TCS is the biggest Indian organization by market capitalization. TCS is currently set among the most important IT service brands around the world. In 2015, TCS was positioned 64th generally in the Forbes World's Most Innovative Companies positioning, making it both the most elevated positioned IT services organization and the top Indian organization. It is the world's biggest IT services supplier. Starting at 2018, it is positioned eleventh on the Fortune India 500 rundown. In April 2018, TCS turned into the primary Indian IT organization to reach $100 billion market capitalization, and second Indian organization ever after its market capitalization remained at ₹6,79,332.81 crores on the Bombay Stock Exchange. The company showed maximum % change (ranging from -50% to 6.5%) in their daily stock prices on the following dates-

17th October 2014
Q2 results were declared and TCS showed a 13.5% growth in revenue. Furthermore, TCS beat Infosys on key financials. They also merged with their own subsidiary CMC. However, the company showed lower than expected growth thus leading to the 8.73% fall in stock price on this day.

20th April 2018
Q4 results were declared and TCS showed a 5.7% growth in profit. As a result, they declared 1:1 bonus shares. In this quarter it also beat investor expectations on almost all parameters. Hence, achieving the highest hike in the market price in a single day (6.76%) over the 5-year period.

31st May 2018
The 1:1 bonus is implemented thus showing a -50% fall in the price.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-6.13%	25.16%	7.14%	26.17%
2016	31.58%	-35.63%	3.84%	-0.21%
2017	7.56%	-5.80%	4.14%	5.89%
2018	8.68%	-1.66%	3.62%	10.64%
2019	24.16%	14.44%	1.52%	40.12%

2. Tech Mahindra

Tech Mahindra Limited is an Indian worldwide backup of the Mahindra Group, giving IT services and business process outsourcing to organizations in different horizontal and vertical markets. Anand Mahindra is the Chairman of Tech Mahindra, which is headquartered at Pune and has its enrolled office in Mumbai. As of November 2019, Tech Mahindra is a US$4.9 billion company with over 131,522+ workers across 90 countries. The organization was positioned #5 in India's IT firms and in general #111 in Fortune India 500 rundown for 2012. On 25 June 2013, Tech Mahindra declared the culmination of a merger with Mahindra Satyam. Tech Mahindra currently has 946 dynamic customers. The company showed maximum % change in their daily stock prices on the following dates-

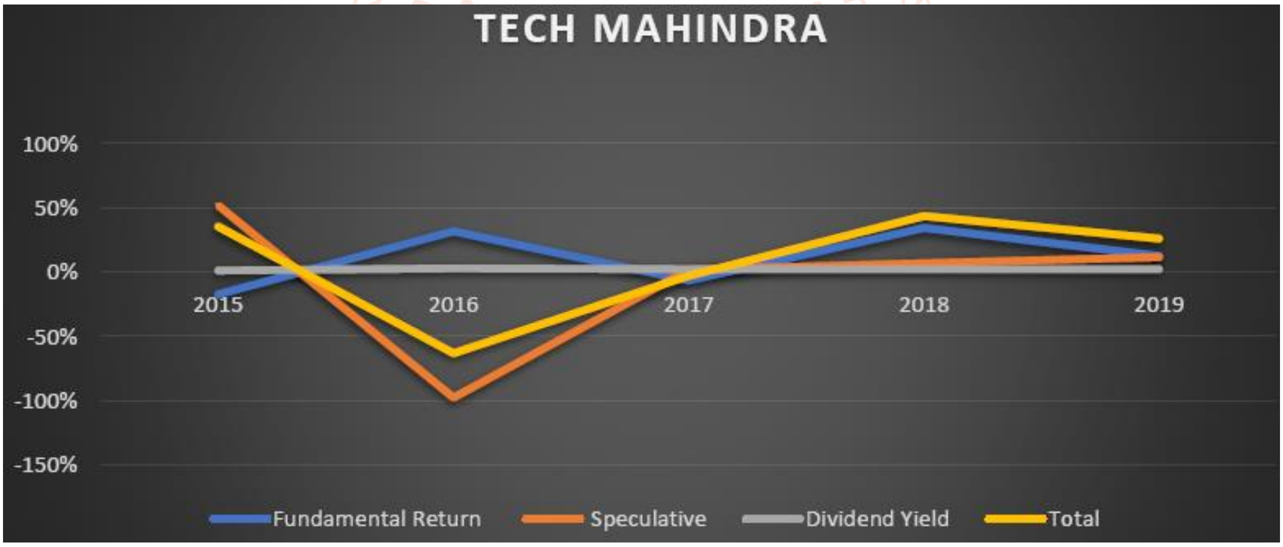
19th March 2015
Stock split and bonus issue causing a 75% fall in the market price.

27th May 2015
The Q4 results were a huge disappointment (consolidated net profit fell down by 23%) causing a fall in the market price by approximately 14%.

25th May 2016
The Q4 results were better than expected as there was a 90% jump in PAT for the 3 months.
Thus, causing a rise in the market price by approximately 10%.

29th May 2017
The Q4 results were a disappointment causing a fall in the market price by approximately 11%.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-17.38%	51.59%	1.06%	35.26%
2016	31.70%	-97.69%	2.77%	-63.22%
2017	-6.72%	1.44%	2.12%	-3.16%
2018	34.20%	6.92%	2.32%	43.44%
2019	12.60%	11.57%	1.88%	26.05%



3. Infosys

Infosys Limited is an Indian multinational cooperation that gives business consulting, data innovation and outsourcing services. It has its home office in Bangalore, Karnataka, India. Infosys is the second-biggest Indian IT organization after Tata Consultancy Services by 2017 income and 596th biggest open organization on the planet dependent on income. On March 29, 2019, its market capitalization was $46.52 billion. The company showed maximum % change in their daily stock prices on the following dates-

21st July 2015
Q4 results were better than expected and the top-line management was confident about growth.
Thus, stock prices growing by an approximate of 11% in one day.

15th July 2016
Q4 results depicted a 2% fall in the company's growth trajectory. Thus, leading to an 8.81% fall in market price.

18th August 2017
The resignation of the CEO of the company, Mr. Vishal Sikka caused the stock to fall by 9.6%.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	12.94%	18.51%	13.55%	45.00%
2016	7.99%	8.61%	4.79%	21.38%
2017	17.23%	-53.19%	5.80%	-30.16%
2018	17.41%	-11.40%	8.31%	14.32%
2019	-3.64%	33.16%	3.02%	32.55%

E. Paints and Varnishes Industry

1. Asian Paints

Asian Paints is an Indian multinational paint company that is headquartered in Mumbai. The company is fully integrated in nature and is involved in the following activities: business of manufacturing, selling and distribution of paints, coatings, products related to home decor, bath fittings and providing of related services. As on 2015 Asian Paints has a market share of 54.1% thus making it the largest company in the Indian pain industry. It is also the holding company of Berger International. The company, along with their subsidiaries, has operations in 22 countries globally with 27 paint manufacturing facilities servicing consumers in 65 countries through Berger International, SCIB Paints, Apco Coatings and Taubmans. Asian Paints manufactures a wide range of paints for decorative and industrial use.

28th July 2016

First quarter results were declared, depicting an 18.46% increase in consolidated net profit for the company. Thus, causing a 6% hike in the stock price.

23rd October 2018

September quarter results displayed a 14.8% fall in the company's consolidated net profit. Thus, leading to a 5.2% fall in the stock price.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	12.83%	23.38%	0.78%	36.99%
2016	32.76%	-15.00%	0.89%	18.65%
2017	13.92%	11.01%	0.98%	25.91%
2018	5.14%	-0.58%	0.79%	5.35%
2019	5.88%	15.63%	0.71%	22.22%

F. Infrastructure Related Industries

Impact of Demonetization

The infrastructure sector has always had high dependence on cash used in operations. Demonetization has thus caused a negative impact on the infrastructure sector. Power demand and road traffic have been hit. Road companies faced short term cash flow problems because of inability to collect tolls, slow wage payment to labourers which would impact execution of projects.

However, it was thought to have positive effect in the future as it would lead to switching to a less cash dependent system which will aid transparency in this sector.

1. Ultratech Cement

UltraTech Cement Limited is the largest manufacturer of cement in India and ranks among the world's leading cement makers. The company has a consolidated capacity of 102.75 million tonnes per annum (MTPA) of grey cement. UltraTech has a strong presence in international markets such as Bangladesh, UAE, Sri Lanka and Bahrain. UltraTech is a founding member of the Global Cement & Concrete Association. It operates 20 integrated units, 26 grinding units, seven bulk terminals and one clinkerization plant for grey cement, one integrated white cement unit, two wall-care putty plants and over 100 RMC plants. UltraTech has a dealer and retailer network of over 80,000 partners across the country, with a market reach of more than 80% Indian cities and towns. UltraTech is India's largest manufacturer of grey cement, white cement and ready-mix concrete (RMC).

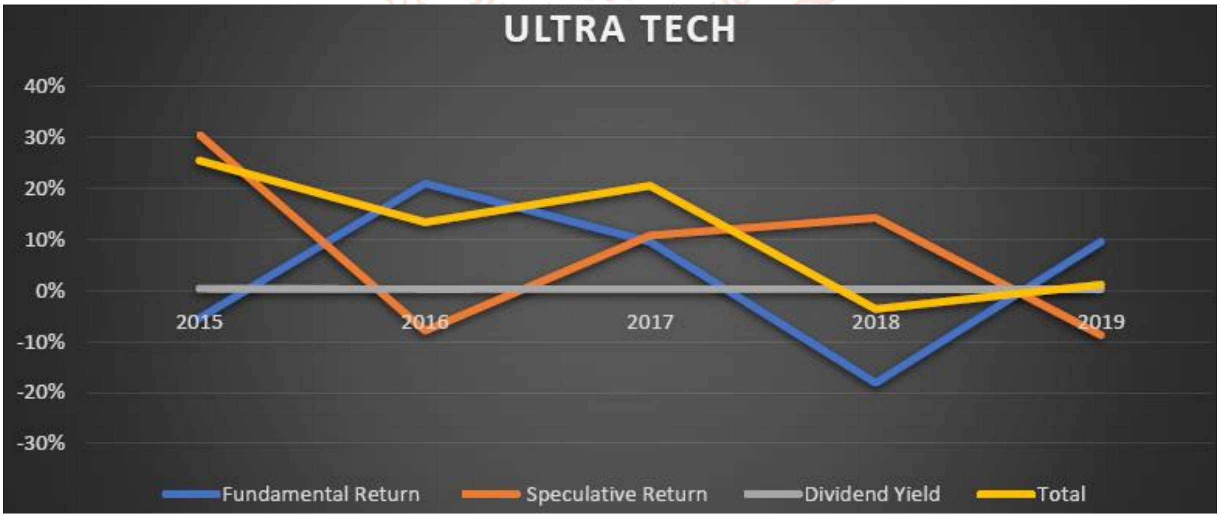
Factors affecting

The *housing segment* consumes 70% of the company's cement. Thus, a de-growth/ growth can have a major impact on the stock prices of the company. Thus, intern affecting quarterly results. In 2017 there was a 2% de-growth in the housing segments causing them to slow down on their growth trajectory.

The budget also affects the quarterly results as they impact the performance of the company. Being a related to the infra and housing segment an increase in the budget allocation for infrastructure/ housing projects, interest rate cut by the RBI and lower fuel/freight prices also impact the performance of the company. Q4 results of FY 17-18 showed a 31% growth in sales mostly because of the substantial 5.6lakh crore budget allocated to infra that particular year.

Overall, the company has shown tremendous growth in the past 6 years. Even though there aren't an immediate effect of the above stated factors, there is a gradual long-term effect depicting nothing but growth.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-5.41%	30.55%	0.32%	25.45%
2016	20.98%	-7.92%	0.30%	13.36%
2017	9.52%	10.79%	0.25%	20.57%
2018	-18.18%	14.24%	0.27%	-3.67%
2019	9.55%	-8.79%	0.29%	1.05%



2. Larsen and Toubro(L&T)

Larsen & Toubro is a large Indian multinational conglomerate having a main interest in basic and heavy engineering, construction, realty, manufacturing of capital goods, financial services as well as information technology. The Company is a key player in the following sectors-hydrocarbon, infrastructure, power, process industries and defence.

The company was started by two Danish engineers taking refuge in India. L&T is headquartered in Mumbai. As on 31st March,2018 L&T Group was made up of 93subsidiaries,8 associates, 34 joint-venture and 33 joint operations companies.

The major volatilities in L&T prices can be owing to the following reasons:

12th May 2015

An increase in stock price may have been caused due to a technology transfer signed by L&T with South Korean company Hyundai Heavy Industries to build carriers for Liquified Natural Gas (LNG). L&T also aims to bag GAIL's order for nine LNG carriers with this tie up and was vying to get more orders in India and abroad.

18th August 2015

LNT finance holding wants to sell a 3.5 to 4% stake to private equity investors for about Rs1000 crore as capital to fund growth in the next year. Mr N Shivaraman the president set that the company was looking at an annual grow of over 20% in the two successive years

20th August, 2015

An increase in price of L&T stock on this date could be owing to the fact that the NBFC L&T Finance was looking to rise up to Rs 125 crores through Non-Convertible Debenture route on a private placement basis. Since NCD's are loan-linked bonds that cannot be converted into stock, mobilising money through private placement was viewed as a safer bet instead of option trading for retail issuance. According to company financials despite the turbulence in the financial services market over the past few years privately held L&T finance has adapted well to the changing market dynamics to remain consistently profitable.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-5.09%	32.99%	1.57%	29.46%
2016	-4.49%	-39.64%	2.41%	-41.72%
2017	40.94%	18.68%	1.40%	61.02%
2018	21.82%	29.36%	1.25%	52.43%
2019	20.71%	-23.46%	1.32%	-1.44%

3. Tata Steel

Tata Steel is a subsidiary of Tata Group.

It was formerly called Tata Iron and Steel Company Limited. The company is headquartered in Mumbai with the marketing headquarters in Kolkata. It is a multinational steel company. Tata Steel operates in 26 countries with key operations in India, Netherlands and United Kingdom, and employs around 80,500 people.[4] Its largest plant (10 MTPA capacity) is located in Jamshedpur, Jharkhand. In 2007, Tata Steel acquired the UK-based steel maker Corus.

It is one of the few fully integrated steels companies that ha operations ranging from mining to manufacturing of finished products.

25th August 2015

Sharp fall in the Yuan for about 3 days had a deep impact on the world economy. China is a predominant user of minerals and metals and its growth is an important determinant of commodity prices. The Yuan devaluation was an attempt to improve export price competitiveness of Chinese steel producers to aluminium at the expense of manufacturing in the rest of the world. This thus negatively impacted steel industry in India.

2nd Feb 2016

Tata Steel has a long-term view on India's underlying demand and steel sector growth. The company has been contributing to the industrial growth of India for around 100 years and their Odisha project has been conceived and implemented to serve the country's long-term needs through high-end and best-in-class steel products. The Kalinganagar plant is yet another milestone in our journey of sustainable and value accretive growth for Tata Steel and demonstrates our commitment to Odisha and is aligned to the 'Make in India' strategy. It is not possible to perfectly time the market especially with greenfield projects that take a long time to implement. However, the new capacity at Kalinganagar will enhance the company's portfolio by producing high-grade flat products for sectors like lifting & excavation, ship building, defence equipment, energy & power, infrastructure, etc. This would thus positively affect the stock prices.

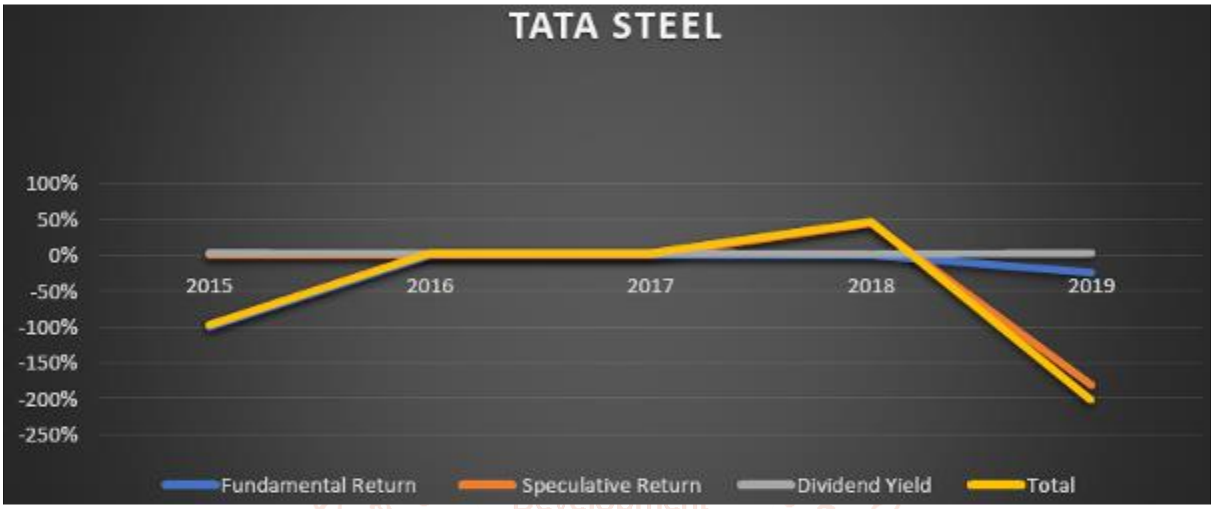
3rd March 2016

Tata Steel's stock price increases as it received a final environmental clearance for its Rs1877 crore expansion project to be carried out at Jamshedpur Steel Works in Jharkhand. As per the proposal, Tata Steel would expand crude steel production from 9.7 million tons per annually to 11mtpa at the Jamshedpur Steel Works.

16th November 2016

Shares of Tata Steel plunged 7.8% to Rs393.55 on BSE after the company reported consolidated net loss of Rs 49.83 crore for September quarter.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	-100.00%	0.00%	2.98%	-97.02%
2016	0.00%	0.00%	2.86%	2.86%
2017	0.00%	0.00%	2.31%	2.31%
2018	0.00%	44.65%	1.83%	46.48%
2019	-23.94%	-181.00%	2.63%	-202.30%



G. Pharmaceutical Industry

1. Sun Pharmaceutical Industries Ltd

Sun Pharmaceutical Industries Limited established in 1983 is an Indian multinational pharmaceutical company situated in Mumbai, Maharashtra. The company manufactures and sells pharmaceutical formulations and active pharmaceutical ingredients (APIs) mainly in India and USA. It is one the largest pharmaceutical company in India and stands eighth in USA. It is spread across 100 countries in Africa, USA, Asia and Eastern and Central Europe. 72% of the sales of the company are from foreign countries mainly USA which accounts for about 50% of the company's turnover. In 2015, it has been positioned 71st on the Forbes World's Most Innovative Companies which it managed to be a part of once again in 2018 holding the 96Th rank this time. It has managed to stay consistent in the Forbes Top 50 Global Pharma Companies from 2014 to 2019. The company has expanded by acquiring brands in different countries like in 2015 GSK's Opiates in Australia and Insite Vision Inc. in order to strengthen their portfolio in USA and in 2016 brands of Novartis for global markets but mainly Japan and Russia. The company has also been known to indulge in various VSR activities and has won various awards for the same. As on 31st March 2019, the market capitalization of the company lies at Rs. 108018.06 Crore. The company has shown maximum change in their daily stock prices on the following dates -

21st April 2015

Daiichi Sankyo a Japanese pharmaceutical giant sold its entire 8.9% of stake in Sun Pharmaceutical Industries for $3.2 billion (about RS.20000 crore) at the price of Rs. 931.6 a share to FIIs led by Goldman Sachs. Having 215 million shares being sold off the company Sun pharma's shares dropped by 9% while Daiichi's stock closed at 4.4% higher on the Tokyo stock exchange.

21st July 2015

Sun pharma declared that it may discontinue certain non-strategic business of Ranbaxy as a part of the integration process and announced a closure of its $4 billion acquisition of Ranbaxy. It also stated that this integration process might impact the consolidated revenue and profit of the company. This triggered a massive sell off in the stock and the stock crashed by 14.95% to Rs. 805.3 wiping out Rs. 34000 crore of the company's market capitalization.

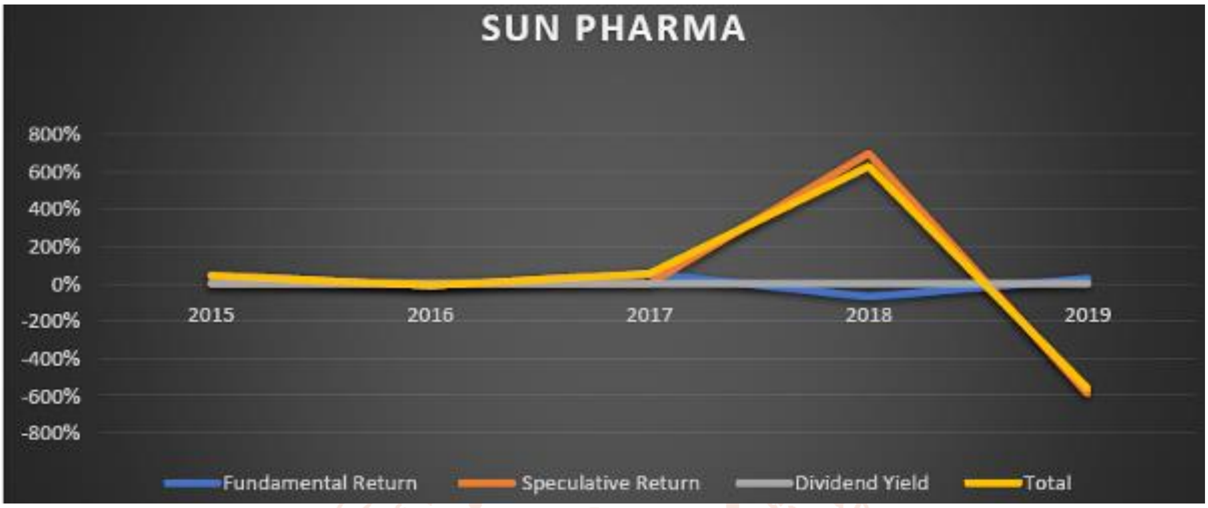
29th May 2017

Sun Pharma reported a 14% drop in its net profit in the fourth quarter due the pricing pressure in the US market. The company's revenue from dropped by 34% year-on-year and accounted for 37% of total sales. As a result, the stock hit low on BSE at Rs.493 closing the day at 11.56% down from the previous close.

18th January 2019

Whistleblower letter was sent to SEBI alleging corporate governance issues to which Sun Pharma asked for investigation as it damaged their reputation and eroded market value. The shares crashed over 13% and closed at Rs. 390.25 which the lowest in nearly the past six years.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	42.25%	0.00%	0.30%	42.56%
2016	-10.94%	0.00%	0.13%	-10.81%
2017	53.68%	0.00%	0.52%	54.20%
2018	-69.96%	698.17%	0.41%	628.62%
2019	27.41%	-589.77%	0.59%	-561.77%



H. Fast Moving Consumer Goods Industry

1. Hindustan Unilever Ltd. (HUL)

Hindustan Unilever Limited (HUL), India's largest fast-moving consumer goods company is a British-Dutch manufacturing company headquartered in Mumbai has been in India for 87 years. It holds around 400 brands in 20 categories like food, homecare, personal care etc. and is widespread to 190 countries. HUL was recognized as the highest tax payer in 2014-2015. In 2016, it was recognized as Frost and Sullivan manufacturing company of the Year and in 2017, Environment Friendly Factor Award. As on 31st March 2019, HUL reported their market capitalization as 3.7 trillion rupees. The company has shown maximum change in their daily stock prices on the following dates:

17th July 2017

HUL Quarter 1 results 2019 were missed by analyst estimates after the cost of material climbed by 16% despite a surge of 19% in Quarter 1 net profit. Due to this HUL saw its biggest intraday fall on this day where the stock tumbled by 3.92% to a day's low of Rs.1685.05 on BSE.

4th December 2018

HUL had a merger with GSK Consumers valuing the business at Rs.31700 crore. Due to this the swap ratio concluded for the shareholders is 4.29 of HUL shares for every GSK Consumer share held. This new issue of HUL shares led to a dilution of Unilever's holding from 67.2% to 61.9%. The share price of GSKCH jumped by 3.8% to Rs.7543 on BSE and that of HUL by around 4.1% closing at Rs. 1826.

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	6.91%	11.55%	1.86%	20.31%
2016	-7.51%	3.20%	1.95%	-2.35%
2017	30.40%	-3.89%	1.95%	28.45%
2018	16.51%	21.00%	1.54%	39.05%
2019	16.11%	10.16%	1.32%	27.60%

2. Indian Tobacco Company Limited (ITC)

ITC Ltd. established in 1910 is an Indian conglomerate company headquartered in Kolkata, West Bengal. ITC has a diversified in FMCG, Hotels, Packaging, Paperboards & Specialty Papers and Agri-Business. Over the last decade ITC has established a portfolio of 25 new consumer goods brands. ITC's FMCG brands include Aashirvaad, Sunfeast, Fiama, Classmate among others. ITC has come up with 'Nation First: Sab Saath Badhein' philosophy whose core belief is to create larger societal value. ITC is the only corporate to have won the India Today Safaigri Award in 2016. In 2017, ITC's brand Savlon's hygiene initiative 'Healthy Hands Chalk Sticks' won 7 lions at the coveted Cannes Lion 2017. In 2018, it received two awards at the SABRE Awards South of Asia among others. ITC has a market capitalization of nearly US $50 billion and gross value sales of US $10.8 billion as on 31st March 2019

The company has shown maximum change in their daily stock prices on the following dates:

20th May 2017
FMCG stocks get a GST leg up, BSE FMCG index closed 1.86% higher

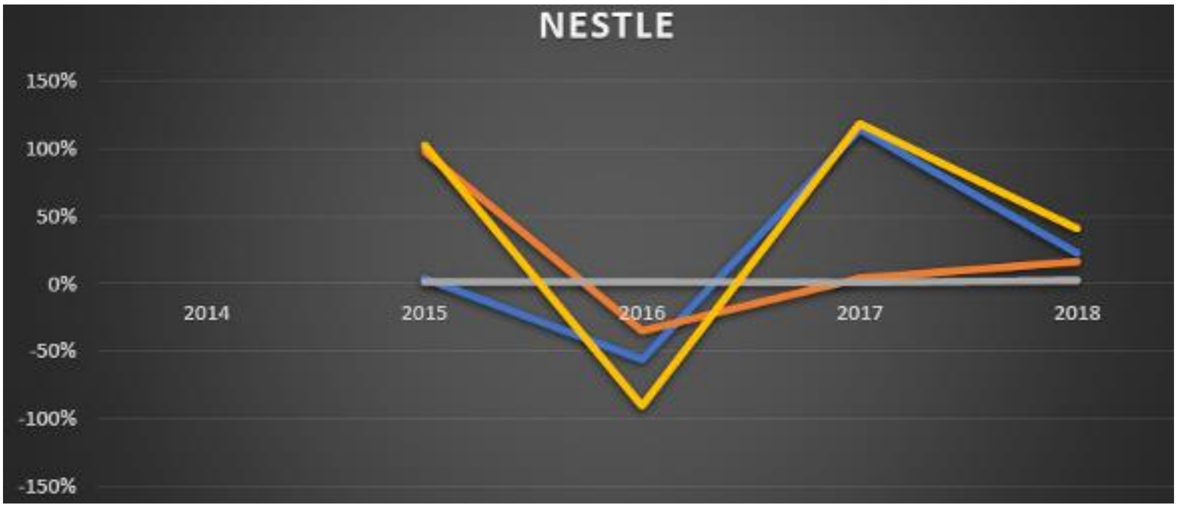
Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	6.20%	-17.76%	3.22%	-8.34%
2016	-3.76%	4.05%	4.21%	4.50%
2017	22.40%	5.80%	1.79%	29.98%
2018	9.09%	-20.89%	2.09%	-9.71%
2019	11.15%	4.71%	1.95%	17.81%

3. Nestle India Ltd

Nestle India Ltd., a large cap company of the FMCG sector was incorporated in March 1959 with its head office located in Gurugram, Haryana. The market capitalization of the company is Rs.144390.25 crore as on 2019. The company is engaged in the food business mainly milk products, nutrition beverages, chocolates and confectionery. It includes companies like Nescafe, Nesplus, Maggi, Milkmaid, Nestle etc. Nestle was included in Thomson Returns Top 100 Diversity and Inclusion Index for the first time in 2018 holding the rank of 88. The company has shown maximum change in their daily stock prices on the following dates -

13th May 2016
The Maggi issue of 2015 led to a year-on-year decline of 19.13% in the net profit at Rs.259 crore. Nestles operating margins were down by 111 base points against the previous quarter when it fell by 20.49%. Though Maggi regained over 50% of the market after relaunch, domestic sales had fallen down by 8.7% and exports by 4.8%

Year	Fundamental Return	Speculative Return	Dividend Yield	Total
2015	3.65%	97.85%	1.16%	102.66%
2016	-56.52%	-35.26%	0.85%	-90.93%
2017	114.12%	3.53%	0.58%	118.24%
2018	22.36%	15.89%	2.19%	40.44%
2019				



Fundamental and Speculative Returns over Time Periods

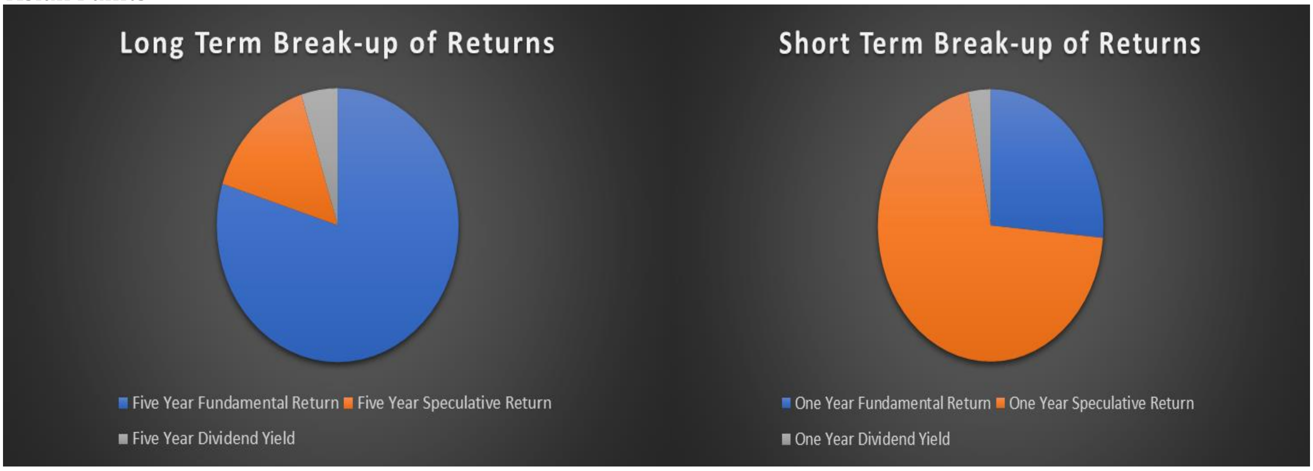
When Fundamental and Speculative returns are observed as a contributing factor to the total returns on a stock over the long and the short terms, we find that for most stocks we analyzed the fundamental returns form a larger proportion of the total returns that a stock yields in the long term (5 Years in this case), while the speculative returns dominate the short-term returns (1 Year Returns in this case). This essentially means, that the psychological and cognitive aspect of financial decision-making acts as a precursor in terms of returns to the actual occurrence of the change in the business policy or conditions. That basically means that when certain events occur in the business environment, like policy decisions, the market incorporates the future expected impact on the business instantaneously, while its impact on the business is observed over the long term.

Given Below is a company wise break-up of the long and short-term total returns of the selected securities.

1. Power Grid

2. NTPC

3. Asian Paints



4. Bajaj Auto

In the chosen year of comparison for short-term returns, Bajaj Auto sees an anomaly, ie. we find that the fundamental returns are, more than the speculative returns. This is so, because, co-incidentally 2019, is the year where Bajaj Auto sees the previous speculative returns translate into fundamental returns. So even though, the speculative returns remain more or less constant, the fundamental returns have spiked in the said year.

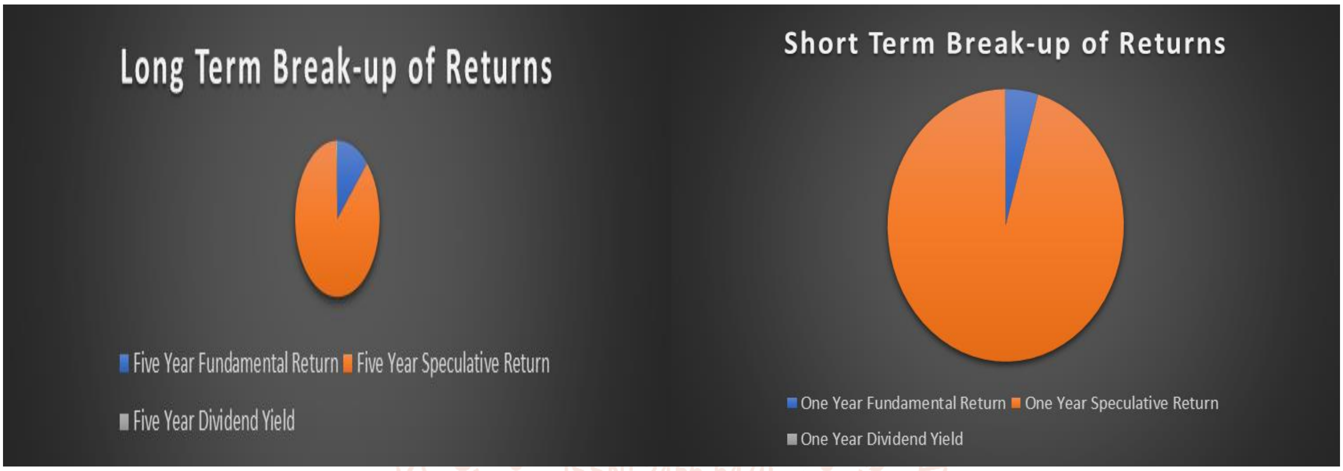
5. Bharti Airtel

6. Hero Moto Corp

7. Hindustan Unilever

Being a part of the fast-moving consumer goods sector, Hindustan Unilever is a rather stable stock, with most of the returns being fundamental in nature. Since the demand for FMCG goods is rather constant in the economy, we find that there is not much room for speculation in the sector.

8. Sun Pharmaceuticals



The pharmaceuticals industry is largely R&D oriented. Thus, in such cases, it may take time for the business cycle to turnover speculative returns to fundamental ones. This means, that the 5-year period considered in our case may not be a long term, for the industry.

9. Tata Consultancy Services

Since consulting, is primarily a service industry, it takes lesser time for speculative returns to translate into actuals, thus we find that the fundamental returns for TCS, are a slightly higher proportion of the total returns, than the speculative returns, even in the short term.

10. Tata Steel

11. Tech Mahindra

12. Ultra-Tech

13. Nestle

Like HUL, even Nestle is a part of the fast-moving consumer goods sector, and is thus, a rather stable stock, with most of the returns being fundamental in nature. Since the demand for FMCG goods is rather constant in the economy, we find that there is not much room for speculation in the sector.

14. Reliance

15. Infosys

16. ITC

Like HUL and Nestle, even ITC is a primarily part of the fast-moving consumer goods sector, and is thus, a rather stable stock, with most of the returns being fundamental in nature. Since the demand for FMCG goods is rather constant in the economy, we find that there is not much room for speculation in the sector.

17. Larsen and Toubro

18. Mahindra and Mahindra

19. Maruti

20. Oil and Natural Gas Corporation of India

ONGC is by nature of the industry expected to have a longer than usual business cycle. Therefore, the speculative returns are not translated to fundamental returns in the 5-year period, for companies like ONCG, a long-term should be close to 10-years. In such cases, we can expect to see a usual long-term effect, i.e. fundamental returns higher than speculative ones.

Conclusion

We find that the cognitive biases discussed have a major impact on the stock market returns. These biases are reflected in the speculative returns of the stocks that have been analyzed. On analyzing the daily prices, we find that. Various macro and micro economic events have an instantaneous speculative impact on the stock prices. This impact may or may not be reflected later in the fundamental returns.

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