International Journal of Business and Management Invention (IJBMI)
ISSN (Online): 2319 – 8028, ISSN (Print): 2319 – 801X
www.ijbmi.org || Volume 7 Issue 5 Ver. I || May. 2018 || PP—78-90

Momentum andContrarian Investment Strategies– A Study fromNSE, India

Ms Anshu Singh
(Research Scholar)Department: CommerceArea: Banking and FinanceUniversity: Savitri Phule Pune University, India
Corresponding Author:Ms Anshu Singh

ABSTRACT:*The purpose of this paper is to study the impact of momentum and contrarian style of stock investing for various sectors in the Indian stock market.The data used entails time series data for 8 yearsof daily prices of 50 blue chip companies listed on NSE, India. The study has been divided into short and long-term periods. Each period has been further divided into formation and test periods. Results have been discussed sector wise and period wise for all the stocks. The study is useful to investors who have pre-determined investment horizons. The findings also have major implications for portfolio management strategies. This study is the first of its kind as it is extensive in nature. The analysis deals with large number of stocks instead of sectoral indices. Related areas of research that might be of great interest to practitioners and scholars have been discussed in the paper*

KEYWORDS: *Contrarian investing, long term, Momentum Investing, NIFTY50, Sectoral Portfolios, Short term,*

Date of Submission: 20-04-2018 Date of acceptance: 05-05-2018

I INTRODUCTION

The value-based approach to stock investment has long been debatable. While the ideologies of Graham and Buffet have created substantial wealth through the value or/and contrarian approach. There are still a host of academicians and investors who believe in the momentum strategy which involves buying into the profitable investments further and selling over the loosing ones

The idea of market efficiency seems to be deeply rooted into all studies of financial market investments. The fact that financial markets are efficient and stock prices reflect all possible information into the prices is widely acceptable and most of the academicians are a believer of this proposition. Having said so, the next implication which draws from the theory is that individual, financial or non-financial institution- cannot systematically obtain positive excess profits by trading securities. In other words, it is futile to spend time and money in investment research as it is nearly impossible to generate more than average market returns. Going by this investing in an index fund seems to be the correct approach.

But the emergence of large number of mutual funds, asset bubbles and market crashes point to the other side of the story as well. The emergence of the field of Behavioral Finance puts a question mark on the efficiency of markets and also on rationality of investors which is one of the most appealing assumptions of the efficiency theory. The dramatic volume of trades seen across markets and asset classes itself stands as a testimony to the fact that prices deviate from their fundamental values and investors are not always rational.

Both these views somehow seem very perfect when studied independently but continue to perplex an investor when viewed together. No wonder 2013, was a milestone year when Eugene Fama and Robert Shiller stood as winners of the Nobel Economic Prize for their contradictory findings on Market Efficiency and Investor Rationality. While Shiller holds that investors, being human, can be swayed by psychology, Fama contends markets are always efficient, with people incorporating all available information into prices. With every subsequent research, the debate seems to be more futile and what investors should be really concerned of is the extent of inefficiency and how it can be exploited to generate profitable returns from securities. Therefore, the importance of employing a suitable strategy seems inevitable. This should be done not only to earn superior returns but also to avoid pitfalls of irrationality and psychological biases.

While some strategies are suitable for long term, others might fit into the short term and still others in the medium term. Similarly, some strategies outplay the others in say, Sector A but yield poor results in Sector B. Over a period of time the markets will be stable and efficient. However, there will be intermittent inefficiencies and price deviations from intrinsic values.

Contrarian Investing is a strategy that is characterized by purchasing and selling in contrast to the prevailing sentiment of the markets. A contrarian investor believes that certain herd mentality among investors can lead to exploitable mispricing in securities markets. For example, widespread pessimism can drive a price

too low to overstate its risks and understates its profitability and potential. Identifying and purchasing such distressed stocks, and selling them after the company recovers, can lead to above-average gains. Being a contrarian is often associated with being a "value investor." And by definition, value investors actively seek investments that are undervalued, with the purpose of buying them below their intrinsic value. The payoff comes after financial markets belatedly recognize the incredible value of these investments and begins to reward them by lifting prices. The principles behind contrarian investing can be applied to individual stocks, an industry or even entire market.

Momentum Investing strategy on the other hand seems to be a lot easier to practice because it simply means "going with the market trend". It aims to capitalize on the continued trends of the markets in the recent times. What it means is that, rising prices tend to attract buyers while falling prices tend to attract sellers. The recency bias holds that people extrapolate the recent past into the future indefinitely. Anchoring to past price points causes investors to initially underreact to new data, events or company information. That turns into an overreaction once it becomes apparent in the price as the herd mentality kicks in. Overconfidence and the confirmation bias can also cause investors to pile into winning investments after they've risen and sell out of stocks after they've fallen. Price momentum is the simplest idea as to why both bull and bear markets can go further than fundamentals would dictate. This typically culminates into buying of past winners and selling of past losers.

Both the above strategies have their pros and cons and therefore through this investigation, we try to have a closer look at these strategies in the context of Indian stock market with special reference to Nifty 50 stocks.

II REVIEW OF LITERATURE

(2017)Supriya Maheshwari, Raj S. Dhankarinvestigate the relationship of trading volume with the profitability of momentum and long-run contrarian strategies for the Indian stock market. The result of the study provides support to Lee and Swaminathan (2000, *The Journal of Finance*, *55*(5), 2017–2069) argument that trading volume predicts both the magnitude as well as the persistence of momentum in the long run. In addition, the study provides support to momentum life cycle theory in explaining the relation between trading volume and momentum returns in the Indian stock market.

(2016) Arvind M investigated between sectoral portfolios of NSE from April 2009 and March 2015. Results of the study confirm that short term contrarian effect exists in Metals, Auto, Banking and Energy sectors. In addition to these observations, the test results produced evidence on the subsistence of momentum effect in the Indian stock market.

(2014) Kaur investigates the relationship between contrarian/ momentum effects and industry type in the Indian stock market. The study is based on a sample selected from 500 companies forming part of the S&P CNX 500 index. The framework for the study developed by Iihara et al. **(2004), Parhizgari and Nguyen (2008)** has been employed. The findings indicate that investors can earn abnormal returns by formulating a contrarian strategy with the manufacturing and service industry in the Indian stock market. Higher contrarian profits can be earned in manufacturing than in the service industry.

(2013)WangSu-sheng & Li Zhi-chao study that momentum and contrarian effects are financial anomalies and have been found on firm level. They test both these strategies of related industries in the bull and bear markets based on data of Chinese stock market. They find that momentum and contrarian effects are consistent in different market states. The portfolio sorted by customer industries mainly exhibits momentum effects and the portfolio sorted by supplier industries exhibits contrarian effects.

(2010) Li examined 25 momentum/contrarian trading strategies using monthly stock returns in China for the period from 1994 to 2007. The results suggest that there is no evidence for momentum profitability. In contrast, there is some evidence of reversal effects where the past winners become losers and past losers become winners afterward.

(2005) Tov Assogbavi et al. examines a set of investment strategies based on past market information to evaluate performance and trading impact on the Canadian. They find strong evidence that supported the Momentum Investment Strategy, which buys past winner stocks and sells past loser stocks. The evidence did not support Contrarian Investment Strategy, which posits that investors overreact to good and bad news. They further concluded that investors who combine past price and trading volume information in constructing their investment strategies would achieve higher returns.

(2003) Forner studies the effect of contrarian and momentum strategies in the Spanish stock market by splitting the data set into 12 months and 60 months. It is observed that the contrarian strategy is effective for the long period whereas momentum strategies are considered to be good for the short period

(2000)Tarun Chordia and BhaskaranSwaminathanfind that trading volume is a significant determinant of the lead-lag patterns in returns. Daily and weekly returns on high volume portfolios lead returns on low volume portfolios, controlling for firm size. The speed of adjustment of individual stocks confirms these findings. Overall, the results indicate that differential speed of adjustment to information is a significant source of the

cross-autocorrelation patterns in short-horizon stock returns. Such arbitrage can be exploited for profits through trading

(1993) Narasimhan Jegadeesh and Sheridan Titman document that strategies which buy stocks that have performed well in the past and sell stocks that have performed poorly in the past generate significant positive returns over 3- to 12-month holding periods. they find that the profitability of these strategies is not due to their systematic risk or to delayed stock price reactions to common factors. However, part of the abnormal returns generated in the first year after portfolio formation dissipates in the following two years. A similar pattern of returns around the earnings announcements of past winners and losers is also documented

III OBJECTIVES

The study has been conducted with the following objectives

- To study the presence of contrarian and momentum effect in Indian Stock Market with respect to Nifty 50 stocks.
- To understand the impact of these strategies (contrarian and momentum) on stock returns in the short term as well as long term period.

IV DATA AND METHODOLOGY

4.1 Data Description

The data used in this study consists of daily trading prices from January 2010 to December 2017 on 50 stocks listed on National Stock exchange that make up the Nifty50 index. The NIFTY 50 is the flagship index on the National Stock Exchange of India Ltd. (NSE). The Index tracks the behavior of a portfolio of blue chip companies, the largest and most liquid Indian securities. It includes 50 of the approximately 1600 companies listed on the NSE, captures approximately 65% of its float-adjusted market capitalization and is a true reflection of the Indian stock market.

The NIFTY 50 covers major sectors of the Indian economy and offers investment managers exposure to the Indian market in one efficient portfolio. The Index has been trading since April 1996 and is well suited for benchmarking, index funds and index-based derivatives.

Table 1 presents the constituent stocks considered for the study and their calculated annualized returns in various time periods.

The analysis period comprises of 1987 trading days. Price data of 50 stocks for all the days was collected and the study deals with (1987 x 50) that is 99350 daily price observations. Likewise, Nifty50 returns were also calculated for the aforesaid period so as to make suitable comparisons.

4.2 Methodology

- The whole study has been conducted within two-time frames – short term and long term.
- Every time horizon was further broken down into formation and holding periods.
- Annualized daily returns for 50 stocks were calculated for short term (1 year) and long term (4 years) in the formation period.
- Beta coefficients of all the stocks were computed separately using regression
- Stocks which outperformed the benchmark index returns were categorized as "winner portfolios". Stocks which were unable to beat the benchmark returns were categorized as "loser portfolios". The portfolios so formed were then extensively tested in the holding period.
- If the winner portfolio generated significant positive return and the loser portfolio a significant negative return in the testing period, use of momentum strategy was applicable.
- However, if there is a significant trend reversal in the form of winners becoming losers or losers becoming winners in the testing period, a contrarian strategy seems to offer better returns

The time horizon for computation of short term and long-term stock performance along with formation and holding period is given in the table below.

Time Horizon	Formation Period	Holding Period
Short Term	1st January 2016 – 31st December 2016	1st January 2017 – 31st December 2017
Long term	1st January 2010 – 31st December 2013	1st January 2014 – 31st December 2017

4.3 Computation of Returns

The daily return data of Nifty50 index as well as all constituent 50 stocks were computed by using formula

$$Rp = (P_1 - P_0)/P_0 * 100 \quad \text{..... (1)}$$

In the above equation, P_1 denotes closing price of the day and P_0 stands for previous day's close price. Rp stands for return and using the above equation, daily return of stocks as well as Nifty index were computed for a period of 8 years from 1st January 2010 – 31st December 2017.
All the returns for short term and long-term horizon were annualized to make standardized comparisons.

4.4 Computation of Beta

Beta is a statistical measure of the volatility of a stock versus the overall market. It's generally used as both a measure of systematic risk and a performance measure. The market is described as having a beta of 1. The beta for a stock describes how much the stock's price moves in relation to the market. Beta measures stock return sensitivity as compared to overall market returns. If a stock has a beta above 1, it's more volatile than the overall market.
Beta values for all 50 stocks were computed using the following equation.

$\beta = \{(n\Sigma xy) - (\Sigma x.\ \Sigma y)\} / \{n\Sigma x - (\Sigma x)\}$ .....(2)

In the above equation, "n" stands for number of observations, "x" denotes independent value which is Nifty50 index returns and "y" denotes dependent variables which is returns of constituent stocks
Beta values were computed from the time series returns data for varying time horizons (short term and long term)

4.5 Computation of Abnormal Returns

An abnormal return is a term used to describe the returns generated by a given security or portfolio over a period that is different from the expected rate of return. The expected rate of return is the estimated return based on an asset pricing model, using a long run historical average. Normally a broad-based index is used as a benchmark to determine expected return on a security or a portfolio.

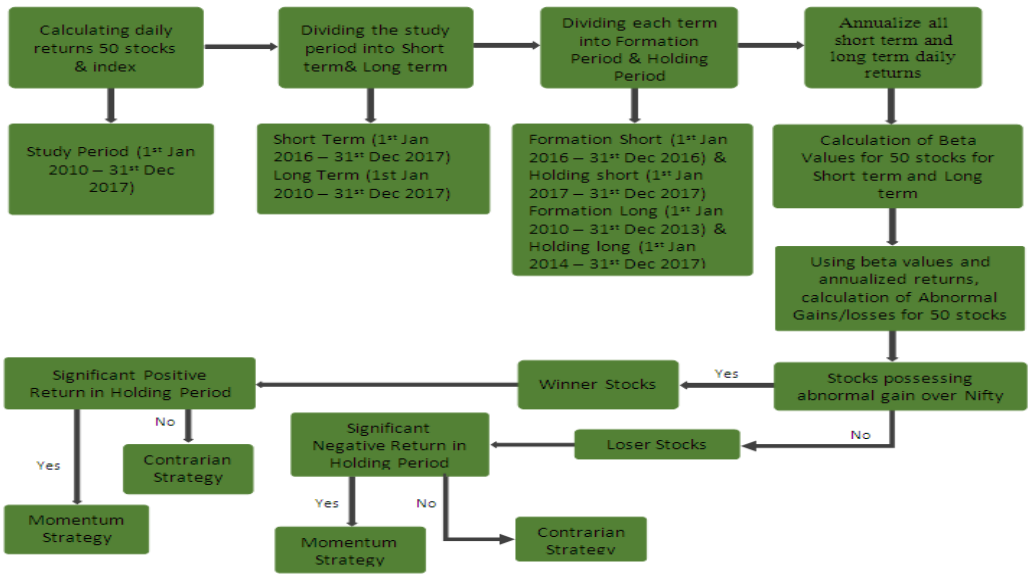
In other words, abnormal returns are a security's or portfolio's risk-adjusted performance when compared to the overall market. Simply put, it can be viewed as the difference between actual returns and expected returns.

Abnormal gains/losses of all stocks as compared to the Nifty50 index were computed from the following equation

$\alpha_p = R_p - (\beta * R_m)$ ……..……..……..(3)

Here, $\alpha_p$denotes abnormal gains or losses, R_p denotes stock return and R_m represents market return.

Figure 1: Systematic investigation into returns to arrive at strategies



V DATA ANALYSIS AND DISCUSSIONS

As per the data analysis, it was found that in the short term, Vedanta Ltd (Metal Sector) had the highest annual return in the formation period and Bajaj Finance Ltd (Financial Services) in the holding period. Similarly, in the long term Eicher Motors Ltd (Automobile) had the highest annual return in the formation period and Bajaj Finance Ltd (Financial Services) in the holding period.

Table I shows the Annualized returns for constituent stocks and Nifty during formation and holding periods.

Table I:Annualized Stock Returns					
	Sector Represented	Short Term (1 year)		Long Term (4 years)	
		Formation	Holding	Formation	Holding
NIFTY 50	Benchmark Index	4%	30%	5%	14%
CIPLA	Pharmaceuticals	-11%	11%	4%	11%
IBULHSGFIN	Financial Services	-6%	85%	N.A	49%
SUNPHARMA	Pharmaceuticals	-20%	-6%	39%	0%
DRREDDY	Pharmaceuticals	2%	-19%	22%	-1%
INFY	Information Technology	-6%	7%	7%	5%
TECHM	Information Technology	-1%	7%	16%	3%
AXISBANK	Banking	5%	31%	7%	22%
INFRATEL	Telecom	-15%	17%	N.A	23%
BPCL	Energy	49%	29%	2%	46%
HDFC	Banking	3%	44%	10%	21%
HCLTECH	Information Technology	1%	10%	36%	9%
UPL	Fertilizers & Pesticides	58%	20%	3%	40%
HINDUNILVR	Consumer Goods	-2%	70%	21%	24%
TCS	Information Technology	0%	17%	31%	6%
BAJFINANCE	Financial Services	51%	114%	48%	83%
SBIN	Banking	18%	36%	-6%	15%
BOSCHLTD	Automobile	14%	-2%	21%	19%
LT	Construction	10%	43%	-1%	15%
COALINDIA	Metals	-7%	-10%	N.A	-3%
HINDPETRO	Energy	66%	50%	-12%	73%
RELIANCE	Energy	9%	77%	-4%	20%
MARUTI	Automobile	20%	83%	11%	53%
BAJAJ-AUTO	Automobile	7%	31%	22%	15%
YESBANK	Banking	69%	44%	8%	43%
M&M	Automobile	-3%	25%	14%	12%
KOTAKBANK	Banking	1%	45%	15%	29%
INDUSINDBK	Banking	19%	56%	31%	40%
HEROMOTOCO	Automobile	17%	28%	5%	16%
HDFCBANK	Banking	12%	59%	18%	30%
WIPRO	Information Technology	-13%	36%	11%	3%
GAIL	Energy	24%	60%	-5%	18%
ICICIBANK	Banking	4%	43%	6%	12%
EICHERMOT	Automobile	33%	39%	65%	57%
AMBUJACEM	Cement	4%	30%	15%	10%
IOC	Energy	59%	23%	-9%	39%
LUPIN	Pharmaceuticals	-16%	-39%	33%	-1%
ZEEL	Media & Entertainment	10%	33%	21%	20%
TATASTEEL	Metals	52%	88%	-10%	12%
ADANIPORTS	Shipping	10%	55%	9%	27%
ULTRACEMCO	Cement	20%	32%	16%	25%
POWERGRID	Energy	35%	11%	-3%	19%
BHARTIARTL	Telecom	-7%	79%	0%	12%
ONGC	Energy	24%	4%	-1%	0%
ITC	Consumer Goods	15%	13%	26%	5%
HINDALCO	Metals	106%	83%	-7%	22%
ASIANPAINT	Consumer Goods	5%	31%	29%	23%
TATAMOTORS	Automobile	28%	-8%	23%	4%
NTPC	Energy	18%	10%	-10%	9%
VEDL	Metals	181%	59%	-16%	13%
AUROPHARMA	Pharmaceuticals	-20%	7%	21%	37%

Table II shows the Beta values for constituent stocks during formation and holding periods.

Table II: Beta Values					
	Sector Represented	**Short Term (1 year)**		**Long Term (4 years)**	
		Formation	**Holding**	**Formation**	**Holding**
CIPLA	**Pharmaceuticals**	0.23	0.23	0.15	0.22
IBULHSGFIN	**Financial Services**	0.25	0.25	NA	0.16
SUNPHARMA	**Pharmaceuticals**	0.23	0.23	0.27	0.14
DRREDDY	**Pharmaceuticals**	0.20	0.20	0.28	0.13
INFY	**Information Technology**	0.31	0.31	0.29	0.20
TECHM	**Information Technology**	0.28	0.28	0.21	0.16
AXISBANK	**Banking**	0.29	0.29	0.35	0.27
INFRATEL	**Telecom**	0.11	0.11	NA	0.07
BPCL	**Energy**	0.21	0.21	0.20	0.20
HDFC	**Banking**	0.40	0.40	0.45	0.34
HCLTECH	**Information Technology**	0.26	0.26	0.28	0.01
UPL	**Fertilizers & Pesticides**	0.21	0.21	0.21	0.15
HINDUNILVR	**Consumer Goods**	0.32	0.32	0.22	0.21
TCS	**Information Technology**	0.31	0.31	0.31	0.20
BAJFINANCE	**Financial Services**	0.17	0.17	0.23	0.15
SBIN	**Banking**	0.25	0.25	0.29	0.24
BOSCHLTD	**Automobile**	0.30	0.30	0.22	0.22
LT	**Construction**	0.33	0.33	0.41	0.34
COALINDIA	**Metals**	0.26	0.26	NA	0.20
HINDPETRO	**Energy**	0.22	0.22	0.18	0.16
RELIANCE	**Energy**	0.41	0.41	0.47	0.32
MARUTI	**Automobile**	0.33	0.33	0.28	0.31
BAJAJ-AUTO	**Automobile**	0.39	0.39	0.33	0.29
YESBANK	**Banking**	0.31	0.31	0.27	0.26
M&M	**Automobile**	0.34	0.34	0.35	0.27
KOTAKBANK	**Banking**	0.45	0.45	0.40	0.32
INDUSINDBK	**Banking**	0.41	0.41	0.24	0.34
HEROMOTOCO	**Automobile**	0.35	0.35	0.20	0.28
HDFCBANK	**Banking**	0.70	0.70	0.49	0.54
WIPRO	**Information Technology**	0.33	0.33	0.28	0.22
GAIL	**Energy**	0.26	0.26	0.30	0.21
ICICIBANK	**Banking**	0.28	0.28	0.43	0.30
EICHERMOT	**Automobile**	0.23	0.23	0.15	0.18
AMBUJACEM	**Cement**	0.34	0.34	0.26	0.31
IOC	**Energy**	0.25	0.25	0.19	0.19
LUPIN	**Pharmaceuticals**	0.17	0.17	0.18	0.15
ZEEL	**Media & Entertainment**	0.26	0.26	0.20	0.22
TATASTEEL	**Metals**	0.20	0.20	0.35	0.21
ADANIPORTS	**Shipping**	0.20	0.20	0.17	0.20
ULTRACEMCO	**Cement**	0.35	0.35	0.29	0.29
POWERGRID	**Energy**	0.31	0.31	0.37	0.28
BHARTIARTL	**Telecom**	0.21	0.21	0.25	0.17
ONGC	**Energy**	0.23	0.23	0.31	0.23
ITC	**Consumer Goods**	0.34	0.34	0.37	0.24
HINDALCO	**Metals**	0.20	0.20	0.28	0.19
ASIANPAINT	**Consumer Goods**	0.28	0.28	0.26	0.25
TATAMOTORS	**Automobile**	0.25	0.25	0.29	0.24

NTPC	**Energy**	0.30	0.30	0.35	0.22
VEDL	**Metals**	0.18	0.18	0.24	0.17
AUROPHARMA	**Pharmaceuticals**	0.23	0.23	0.18	0.15

5.1 Analysis of short term trend

The entire short-term period was divided into formation (1st January 2016 – 31st December 2016) and holding period 1st January (2017 – 31st December 2017) of approximately 250 days each. During the formation period abnormal stock returns were computed for each of the 50 stocks of the Nifty 50 Index. The stocks that gave positive abnormal returns to Nifty index were categorized as winner stocks and the remaining were classified as loser stocks.

Subsequently abnormal returns for these winner and loser stocks were computed in the holding/ testing period. If winner stocks continued to generate positive return in the testing period and loser stocks continued to generate negative return in the testing period, momentum strategy was observed. However, if winner stocks generated negative return in the testing period and loser stocks generated positive return in the testing period, contrarian strategy was observed.

Table IIIrepresents the short-term return trends of all the 50 stocks under study.

Table III: Short Term return trend

		Annualized Returns		**Abnormal Gain/ Loss**		**Investment Strategy**
	Sector Represented	**Short Term (1 year)**		**Short Term (1 year)**		
		Formation	***Holding***	***Formation***	***Holding***	
Winner Stocks						
DRREDDY	**Pharmaceuticals**	2%	-19%	1%	-25%	Contrarian
AXISBANK	**Banking**	5%	31%	4%	23%	Momentum
BPCL	**Energy**	49%	29%	48%	23%	Momentum
HDFC	**Banking**	3%	44%	2%	32%	Momentum
UPL	**Fertilizers & Pesticides**	58%	20%	57%	13%	Momentum
BAJFINANCE	**Financial Services**	51%	114%	50%	109%	Momentum
SBIN	**Banking**	18%	36%	17%	28%	Momentum
BOSCHLTD	**Automobile**	14%	-2%	13%	-11%	Contrarian
LT	**Construction**	10%	43%	8%	33%	Momentum
HINDPETRO	**Energy**	66%	50%	65%	43%	Momentum
RELIANCE	**Energy**	9%	77%	8%	65%	Momentum
MARUTI	**Automobile**	20%	83%	19%	73%	Momentum
BAJAJ-AUTO	**Automobile**	7%	31%	6%	19%	Momentum
YESBANK	**Banking**	69%	44%	67%	34%	Momentum
INDUSINDBK	**Banking**	19%	56%	17%	43%	Momentum
HEROMOTOCO	**Automobile**	17%	28%	16%	17%	Momentum
HDFCBANK	**Banking**	12%	59%	10%	38%	Momentum
GAIL	**Energy**	24%	60%	23%	52%	Momentum
ICICIBANK	**Banking**	4%	43%	2%	35%	Momentum
EICHERMOT	**Automobile**	33%	39%	32%	32%	Momentum
AMBUJACEM	**Cement**	4%	30%	3%	20%	Momentum
IOC	**Energy**	59%	23%	58%	16%	Momentum
ZEEL	**Media & Entertainment**	10%	33%	9%	25%	Momentum
TATASTEEL	**Metals**	52%	88%	52%	82%	Momentum
ADANIPORTS	**Shipping**	10%	55%	9%	49%	Momentum

ULTRACEMCO	**Cement**	20%	32%	18%	21%	Momentum
POWERGRID	**Energy**	35%	11%	33%	2%	Momentum
ONGC	**Energy**	24%	4%	23%	-3%	Contrarian
ITC	**Consumer Goods**	15%	13%	14%	3%	Momentum
HINDALCO	**Metals**	106%	83%	105%	77%	Momentum
ASIANPAINT	**Consumer Goods**	5%	31%	4%	23%	Momentum
TATAMOTORS	**Automobile**	28%	-8%	27%	-15%	Contrarian
NTPC	**Energy**	18%	10%	17%	1%	Momentum
VEDL	**Metals**	181%	59%	180%	53%	Momentum
Loser Stocks						
CIPLA	**Pharmaceuticals**	-11%	11%	-12%	4%	Contrarian
IBULHSGFIN	**Financial Services**	-6%	85%	-7%	78%	Contrarian
SUNPHARMA	**Pharmaceuticals**	-20%	-6%	-21%	-13%	Momentum
INFY	**Information Technology**	-6%	7%	-7%	-2%	Momentum
TECHM	**Information Technology**	-1%	7%	-2%	-1%	Momentum
INFRATEL	**Telecom**	-15%	17%	-16%	14%	Contrarian
HCLTECH	**Information Technology**	1%	10%	0%	2%	Momentum
HINDUNILVR	**Consumer Goods**	-2%	70%	-3%	61%	Contrarian
TCS	**Information Technology**	0%	17%	-1%	8%	Contrarian
COALINDIA	**Metals**	-7%	-10%	-8%	-18%	Momentum
M&M	**Automobile**	-3%	25%	-5%	15%	Contrarian
KOTAKBANK	**Banking**	1%	45%	-1%	31%	Contrarian
WIPRO	**Information Technology**	-13%	36%	-15%	26%	Contrarian
LUPIN	**Pharmaceuticals**	-16%	-39%	-16%	-45%	Momentum
BHARTIARTL	**Telecom**	-7%	79%	-8%	73%	Contrarian
AUROPHARMA	**Pharmaceuticals**	-20%	7%	-20%	0%	Contrarian

Note: Nifty short term returns annualized: 4% during formation period and 30% during holding/test period respectively

A period of 250 days approx. has been considered for analyzing the short-term trends. After computing the abnormal returns in the formation period, it was found that a total of 34 stocks were winner stocks and 16 were loser stocks.

As regards, short-term trend, 30 out of 34 winner stocks have exhibited momentum effect while only 4 stocks show contrarian effect. Momentum effect is quite visible in the banking sector where in AXISBANK, HDFC, SBI, YESBANK, INDUSIND BANK, and ICICI BANK have generated positive abnormal returns subsequent to the formation period. Significant momentum effect is also seen in the energy sector wherein 7 stocks namely BPCL, Hindustan Petroleum, Reliance Industries Ltd, GAIL, IOC, Power grid, NTPC have generated positive abnormal returns. Bajaj Finance from financial services sector and UPL from fertilizer sector have also exhibited momentum effect. L& T from construction space and Ambuja and Ultratech from cement space have continued with their momentum effect in the holding period as well. From the automobile sector, 4 stocks have shown momentum effect while 2 stocks namely Tata Motors and Bosch Ltd have shown contrarian effect. Momentum effect is also seen in the media sector as well as shipping sector. All stocks from metals and consumer goods sector have shown a momentum effect. ONGC from energy space and Dr. Reddy's from pharmaceutical space have exhibited a contrarian impact on returns in the holding period.

Out of the 16 loser stocks, 6 stocks have shown a momentum effect while 10 stocks have shown a contrarian effect. Mixed results are observed in the Information Technology sector. Wipro and TCS have been showing a contrarian effect. However, Infosys, HCL and Tech Mahindra exhibit a momentum effect. Similarly, in the pharmaceuticals sector, Aurbindo Pharma and Cipla have bounced back with positive abnormal returns, thus signaling a contrarian impact. While Sun Pharma and Lupin continue to be laggards with a momentum

effect. Both stocks of telecom sector namely Bharti Infratel and Bharti Airtel exhibit a contrarian style of investing. Loser stocks, one from each of Banking, Automobile, Metals, Consumer goods and Financial services sector show contrarian effect.

It can be concluded that in the short term almost all banking stocks have exhibited momentum effect signaling the unabated euphoria of investors towards this sector. Similar investor attitude has been observed in the energy sector wherein all stocks barring ONGC have continued to generate positive returns through the momentum strategy. Momentum effect is dominant in the construction, cement, fertilizer, media and shipping space as well. Majority of the Metals and Consumer goods stocks have done well with the momentum strategy. Contrarian strategy has worked well for the telecom sector.

However, it's a mixed bag when it comes to Automobiles, Pharmaceuticals, Information Technology and Financial Services sector. Few stocks have exhibited the use of a momentum strategy while others suggest applying a contrarian style of investing. Therefore, investors should be extra cautious while investing in these stocks and choose investment strategies based on detailed research. It might be helpful to understand how these sectors have performed in the medium term say 2 years. Also, the study period can be broken down into months (3,6,9,12) instead of years so as to get an insight into very short-term volatility of these stocks. A contrarian style often suggests taking advantage of these short-term fluctuations by betting against market sentiments.

5.2 Analysis of long term trend

The entire long-term period was divided into formation (1st January 2010 – 31st December 2013) and holding period (1st January 2014 – 31st December 2017) of 4 years each. During the formation period abnormal stock returns were computed for each of the 50 stocks of the Nifty 50 Index. The stocks that gave positive abnormal returns to Nifty index were categorized as winner stocks and the remaining were classified as loser stocks.

Subsequently abnormal returns for these winner and loser stocks were computed in the holding/ testing period. If winner stocks continued to generate positive return in the testing period and loser stocks continued to generate negative return in the testing period, momentum strategy was observed. However, if winner stocks generated negative return in the testing period and loser stocks generated positive return in the testing period, contrarian strategy was observed.

Table IV represents the short-term return trends of all the 50 stocks under study.

Table IV: Long Term return trend						
		Annualized Returns		**Abnormal Gain/ Loss**		**Investment Strategy**
	Sector Represented	***Long Term (4 years)***		***Long Term (4 years)***		
		Formation	***Holding***	***Formation***	***Holding***	
Winner Stocks						
CIPLA	**Pharmaceuticals**	4%	11%	4%	8%	Momentum
SUNPHARMA	**Pharmaceuticals**	39%	0%	38%	-2%	Contrarian
DRREDDY	**Pharmaceuticals**	22%	-1%	21%	-3%	Contrarian
INFY	**Information Technology**	7%	5%	6%	2%	Momentum
TECHM	**Information Technology**	16%	3%	15%	1%	Momentum
AXISBANK	**Banking**	7%	22%	5%	18%	Momentum
BPCL	**Energy**	2%	46%	1%	43%	Momentum
HDFC	**Banking**	10%	21%	8%	16%	Momentum
HCLTECH	**Information Technology**	36%	9%	34%	9%	Momentum
UPL	**Fertilizers & Pesticides**	3%	40%	2%	38%	Momentum
HINDUNILVR	**Consumer Goods**	21%	24%	20%	22%	Momentum
TCS	**Information Technology**	31%	6%	29%	4%	Momentum
BAJFINANCE	**Financial Services**	48%	83%	46%	81%	Momentum
BOSCHLTD	**Automobile**	21%	19%	20%	16%	Momentum
MARUTI	**Automobile**	11%	53%	10%	49%	Momentum
BAJAJ-AUTO	**Automobile**	22%	15%	20%	11%	Momentum
YESBANK	**Banking**	8%	43%	7%	40%	Momentum
M&M	**Automobile**	14%	12%	12%	9%	Momentum
KOTAKBANK	**Banking**	15%	29%	13%	25%	Momentum
INDUSINDBK	**Banking**	31%	40%	30%	36%	Momentum

HEROMOTOCO	**Automobile**	5%	16%	4%	12%	Momentum
HDFCBANK	**Banking**	18%	30%	16%	22%	Momentum
WIPRO	**Information Technology**	11%	3%	10%	0%	Momentum
ICICIBANK	**Banking**	6%	12%	4%	8%	Momentum
EICHERMOT	**Automobile**	65%	57%	64%	54%	Momentum
AMBUJACEM	**Cement**	15%	10%	13%	6%	Momentum
LUPIN	**Pharmaceuticals**	33%	-1%	32%	-3%	Contrarian
ZEEL	**Media & Entertainment**	21%	20%	20%	17%	Momentum
ADANIPORTS	**Shipping**	9%	27%	8%	24%	Momentum
ULTRACEMCO	**Cement**	16%	25%	15%	21%	Momentum
ITC	**Consumer Goods**	26%	5%	24%	2%	Momentum
ASIANPAINT	**Consumer Goods**	29%	23%	27%	20%	Momentum
TATAMOTORS	**Automobile**	23%	4%	21%	1%	Momentum
AUROPHARMA	**Pharmaceuticals**	21%	37%	20%	35%	Momentum
Loser Stocks						
SBIN	**Banking**	-6%	15%	-8%	12%	Contrarian
LT	**Construction**	-1%	15%	-3%	11%	Contrarian
HINDPETRO	**Energy**	-12%	73%	-13%	71%	Contrarian
RELIANCE	**Energy**	-4%	20%	-7%	16%	Contrarian
GAIL	**Energy**	-5%	18%	-6%	15%	Contrarian
IOC	**Energy**	-9%	39%	-10%	36%	Contrarian
TATASTEEL	**Metals**	-10%	12%	-11%	9%	Contrarian
POWERGRID	**Energy**	-3%	19%	-5%	15%	Contrarian
BHARTIARTL	**Telecom**	0%	12%	-1%	10%	Contrarian
ONGC	**Energy**	-1%	0%	-2%	-3%	Momentum
HINDALCO	**Metals**	-7%	22%	-8%	20%	Contrarian
NTPC	**Energy**	-10%	9%	-12%	6%	Contrarian
VEDL	**Metals**	-16%	13%	-18%	11%	Contrarian
Not listed in the formation period						
IBULHSGFIN	**Financial Services**	NA	49%	NA	47%	NA
INFRATEL	**Telecom**	NA	23%	NA	21%	NA
COALINDIA	**Metals**	NA	-3%	NA	-5%	NA

Note: Nifty long term returns annualized: 5% during formation period and 14% during holding/test period respectively. IBULHSGFIN, INFRATEL, COALINDIA have not been considered for long term analysis as they were not listed in the formation period (2010-2013).

A period of 4 years has been considered for analyzing the long-term trends. After computing the abnormal returns for he stocks in the formation period, it was found that a total of 34 stocks were winner stocks and 13 were loser stocks.

Out of the 34 winner stocks 31 stocks have shown momentum effect while only 3 have shown contrarian effect. All the stocks from automobile, information technology, consumer goods, media, fertilizers, shipping and cement sector show a momentum effect where in positive abnormal returns have been generated in the holding period. As far as pharmaceuticals is concerned, Cipla and Aurbindo pharma have generated returns thorough a momentum strategy while Lupin, Dr Reddy's and Sun Pharma suggest applying a contrarian strategy. 6 stocks from banking have also shown momentum effect. One stock each from energy and financial services sector has exhibited momentum effect. Since there is only one financial services stock in the index, it might be difficult to derive concrete inference about using a particular style of investing.

With regards to losers, 15 out of 16 loser stocks have shown a contrarian effect, suggesting use of this strategy in the long term. Only ONGC from the energy sector exhibited a momentum effect. The effectiveness of using a contrarian style of investing is prevalent in all metal stocks and most of the energy stocks. This proves the cyclical nature of such industries especially in the long term. One stock from banking, construction and telecom space has shown contrarian effect. Since there is only one telecom and construction stock in the index, it might be difficult to conclusively suggest the use of any strategy.

It is interesting to note that 15 out of 16 loser stocks show trend reversals in the long term. This strengthens the fact that contrarian style of investing can work for cyclical companies in the long run provided stock picks are based on sound company fundamentals. Since this study deals with Nifty50, we can be reasonably sure that the companies are fundamentally sound large blue-chip companies with ample market liquidity and substantial market capitalization.

5.3 Test for variation in returns for both time periods

Many sectors have exhibited mixed results for various time horizons. While one strategy works in the short term the other is prevalent in the long term. There are few sectors where a clear-cut indication is not available with respect to use of a particular strategy. So, it is desirable to test the variability within the returns of both the time periods.

Table V: t Test Results				
	Short Term		**Long Term**	
	Winner	**Loser**	**Winner**	**Loser**
Avg Abnormal Returns (Test period)	30%	14%	19%	18%
T statistic	0.15	2.67	0.12	4.55
Probability	0.87	0.02	0.91	0.0007
at 5 % level of significance				

During the test period, if the difference between average abnormal returns of the winner portfolio and loser portfolio is a positive figure, it signals the presence of momentum effect Forner (2000).

This can be mathematically expressed as;
W [Rpt-(t *Rmt)] - L [Rtp-(t *Rmt)] >0 signals momentum effect… … (4) &
W [Rpt-(t *Rmt)] - L [Rtp-(t *Rmt)] <0 signals contrarian effect…… (5)

For the above equations, denotes portfolio returns Rpt during the test period; denotes index return for Rmt the test period; W stands for winner portfolios and L stands for loser portfolios.

From this analysis, positive values of 16% and 1 % were obtained for the differential returns between winner and loser portfolios for the selected time horizons. This suggests the presence of momentum effect. However, it might be interesting to explore the presence of both the effects in the long-term period because the difference is quite minimal.

The results of t test show that for winner stocks there is no significant difference between average abnormal returns of various sectors in both the testing periods. In this case the probability values of test statistics are much higher than that of the critical value of 0.05 at five percent level of significance. This implies that irrespective of the time horizon, momentum strategies continue to generate maximum positive return for investors.

However, for loser stocks the probability values of test statistics are less than that of the critical value of 0.05 at five percent level of significance. The short-term probability value is 0.02 whereas long term probability value is 0.0007 which is almost 0. This is clear indication that there is a significant difference between average abnormal returns of loser stocks in both these testing periods. Therefore, different strategy will yield different returns and dominance of any one strategy cannot be generalized. The abnormal return so generated is dependent upon the choice of strategies for the loser stocks. This holds true in short term as well as long term. It is also interesting to note that 63% and 94% of the loser stocks exhibit contrarian effect in the short term and long-term testing periods respectively.

VI CONCLUSION & KEY FINDINGS

This study has examined the presence of contrarian and momentum effect of 50 large cap stocks that are a part of the Nifty50 index of NSE, India. A period of 8 years (1st Jan 2010- 31st Dec 2017) has been considered for the same. The abnormal returns (gains/losses) generated by past winners and past losers in the holding period was observed. A trend reversal (from positive to negative or negative to positive) suggested a contrarian style. The continuation of formation period trend (positive or negative) in the subsequent holding period signaled a momentum effect.

In general, most of the large cap stock returns seem to follow a momentum effect. This is further substantiated by the fact that almost 72 % of the Nifty50 stocks, have exhibited a momentum effect in the short term as well as long term while the remaining show contrarian effect. Both these strategies seem to be working for some sectors where mixed results are obtained. Sectors like Pharmaceuticals, Financial Services, Information Technology, Telecom, Automobile, and Metals have shown presence of both the effects in either short term or long term. Stock picking in these sectors will require a top down analysis to decide upon an investment style. Even though many stock returns may be following the momentum effect, contrarian pockets are available dependent upon the investor's risk tolerance and time horizon.

Table no VI summarizes the sector wise result of all the stocks exhibiting the two effects in various time periods.

Result Summary

Table VI: Sector wise and Term Wise Contrarian & Momentum effect					
Sector	**No of stocks**	**Short Term**		**Long Term**	
		Contrarian	**Momentum**	**Contrarian**	**Momentum**
Pharmaceuticals	5	3	2	3	2
Financial Services	2	1	1	0	2
Information Technology	5	2	3	0	5
Banking	8	1	7	1	7
Telecom	2	2	0	1	1
Energy	8	1	7	6	2
Fertilizers & Pesticides	1	0	1	0	1
Consumer Goods	3	1	2	0	3
Automobile	7	3	4	0	7
Construction	1	0	1	1	0
Metals	4	0	4	3	1
Cement	2	0	2	0	2
Media & Entertainment	1	0	1	0	1
Shipping	1	0	1	0	1
Total	50	14	36	15	35

The results suggest that there is a widespread momentum effect spanning across all sectors in the Nifty50 stocks.

Pharmaceuticals – Mixed results are seen and presence of both the effect can be witnessed clearly. Contrarian strategies can work in short term as well as long term provided one has the risk tolerance.
Financial Services – The index comprises of 2 stocks. Both styles are exhibited. Further research is desirable. However, data suggests prevalence of momentum effect at least in the long run.
Information Technology – The stock returns in this sector largely follow momentum effect. That is very clear from the gains generated in the long run. Short term contrarian strategies can be employed based on company specific news for fundamentally good companies. In view of the rising concerns of this sector, good ones will surely continue to outperform.
Banking – Presence of strong momentum effect proves the fact that banks are an indicator of true economic health. Therefore, their returns fall in line with overall economic and market performance and continue similar trends in short term and long term. Momentum strategy is a clear winner here.
Telecom – The index comprises of 2 stocks. Both styles are exhibited. Further research is desirable. However, contrarian style can work, considering the negative sentiments that have recently surfaced for this sector.
Energy – Interesting results can be seen for this sector. Strong momentum effect is seen in the short-term period. But contrarian style clearly dominates in the long run. This suggests the cyclical nature of these companies. Here, it becomes imperative to take into account the time horizons before employing a strategy. Studies related to mid-cap stocks are also desirable to understand if same short term long term trends are present across the sector.
Fertilizers and Pesticides – One stock with a clear-cut momentum effect in both the time periods. More studies desirable.
Consumer goods – Just like Banking, it is said that the consumer goods are also a measure of economic health. Changes in this sector directly measure the level of economic activity. Therefore by and large they fall into the "momentum effect" category. However, contrarian pockets can be seen with respect to company specific news and investors can take advantage of it in the short term.
Automobile – Similar to the consumer goods sector, momentum effect dominates in the long run. Past winners continue to be future winners while laggards become losers. However, seasonality and short-term volatility in the automobile sector is a common phenomenon and so contrarian style surely works well here.
Construction – One stock showing mixed results in both the time periods. More studies desirable. However, since there is a clear momentum effect in the cement sector, it might be safe to assume that similar effects can be present here as well.
Metals – The results of this sector are very similar to that of the energy sector. Strong momentum effect is seen in the short-term period. But contrarian style clearly dominates in the long run. This suggests the cyclical nature

of these companies. Here, it becomes imperative to take into account the time horizons before employing a strategy. Studies related to mid-cap stocks are also desirable to understand if same short term long term trends are present across the sector. A correlational study between these two sectors can add further insights.

Cement – Strong momentum effect can be seen in both the time periods. Studies can be extended on more number of cement stocks to generalize results. Correlational study between cement and construction is also desirable.

Media & Entertainment - One stock with a clear-cut momentum effect in both the time periods. More studies desirable.

Shipping - One stock with a clear-cut momentum effect in both the time periods. More studies desirable.

To conclude, momentum effect clearly dominates the Indian Stock market in most of the sectors in short term as well as long term. A contrarian style of investing can yield superior performances in the Energy and Metals space in the long run. Contrarian strategy can also be applied in the short term in sectors like automobile, information technology and pharmaceuticals provided an investor has the risk appetite and sound research capabilities. It is definitely dominant in case of loser stocks in both the time periods. But the momentum effect works well in both the time periods if one is looking for stable returns over a period of time. Studies encompassing more number of stocks across capitalizations and stock indices for varied time lengths are desirable to get more detailed insights into these findings.

REFERENCES

[1]. Dhankar, R.S. and Maheswari, S. (2017) Profitability of Volume-based Momentum and Contrarian Strategies in the Indian Stock Market. *Global Business Review, Volume: 18 issue: 4*, page(s): 974-992

[2]. Arvind M. (2016), Contrarian and Momentum Strategies: An Investigation with reference to Sectoral Portfolios in NSE. *NMIMS Management Review, Vol 20 (9),* pp. 102-117.

[3]. Kaur, M. (2014). Contrarian Effect and Industry type in the India Stock Market. *Indian Journal of Research*, *Vol.3 (5)*, pp. 35-37.

[4]. Su-sheng, Wang and Li Zhi-chao (2013). Research on momentum and contrarian strategies of related industries in the bull and bear markets. *International Conference on Management Science and Engineering 20th Annual Conference Proceedings* pp. 1752-1757.

[5]. Assogbavi, Martin Giguere, KomlanSedzro, (2011) The Impact Of Trading Volume On Portfolios Effective Time Formation/Holding Periods Based On Momentum Investment Strategies, *International Business & Economics Research Journal (IBER): Vol 10 No 7,* pp. 1-11.

[6]. Li, B. (2010). Momentum and Seasonality in Chinese Stock Markets. *Journal of Money, Investment and Banking, No.17*, pp. 24-35.

[7]. Assogbavi,T. et.al. (2005). Investment Strategies, Performance, and Trading Information Impact. *International Business& Economics Research Journal, Vol. 4(9),* pp. 27-36.

[8]. Forner, C. and Marhuenda, J. (2003). Contrarian and Momentum Strategies in the Spanish Stock Market. *European Financial Management, Vol. 9(1),* pp. 67-88.

[9]. Tarun Chordia, Bhaskaran Swaminathan (2000). Trading volume and cross-autocorrelations in stock returns. *The Journal of Finance, Vol. 55 (2),* pp. 913-935.

[10]. Jagadeesh, N. and Titman, S. (1993). Return to Buying Winners and Selling Losers*: Implications for Stock Market Efficiency. Journal of Finance, Vol. 48(1),* pp.65-91.

Ms Anshu Singh."Momentum and Contrarian Investment Strategies– A Study from NSE, India"
International Journal of Business and Management Invention (IJBMI) , vol. 07, no. 05, 2018, pp. 78–90.