

International Journal of Advance Research in Computer Science and Management Studies

Research Article / Survey Paper / Case Study

Available online at: www.ijarcsms.com

Indian Stock Market Anomalies: A Literature Review

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Abstract: This study investigates the existing literature in the field of Indian Stock Market Anomalies. The focus of the literature survey is to review these various stock market anomalies that were experimental over time in different stock indices in India. The Anomalies analysed in this literature survey include the Day-of-the week-effect, Weekend Effect, Turn of the Month Effect, Semi-Month Effect, Holiday Effect, and January Effect. Indian stock market indices have been studied and analysed to find evidence for the existence of these anomalies in Indian stock markets.

Keywords: Anomalies, Day-of-the week-effect, Weekend Effect, Turn of the Month Effect, Semi-Month Effect, Holiday Effect, and January Effect.

I. INTRODUCTION

The Efficient Market Hypothesis (EMH) states that all stocks are properly priced, and that abnormal returns cannot be earned by searching for mispriced stocks. Furthermore, future stock prices follow a random walk pattern, they cannot be predicted. However, there does seem to be some market patterns that can lead to abnormal returns, thus violating the efficient market hypothesis, particularly the semi-strong EMH, which predicates that abnormal returns cannot be earned by learning all of the available public information on companies and their stocks, and any other variables that may affect stock prices, such as economic factors. Hence, the semi-strong EMH would seem to negate the value of fundamental analysis.

Market Anomalies are market patterns that do seem to lead to abnormal returns more often than not, and since some of these patterns are based on information in financial reports, market anomalies present a challenge to the semi-strong form of the EMH, and indicate that fundamental analysis does have some value for the individual investor.

1. Prices should react quickly and precisely to new arriving info into the stock market;
2. Price changes should be random and unpredictable (prices follow a random walk);
3. It is impossible to find profitable trading strategies on risk-adjusted basis;
4. Knowledgeable investors do not perform better than average investors.

II. STOCK MARKET ANOMALIES

In the context of security markets, EMH explains how the share prices should behave in an efficient market. As EMH states that in an active market which consists of a large number of well-informed and objective investors, stocks will be appropriately priced by reflecting all available information. If so, no one can beat the market except by taking a higher risk.

Calendar based Anomalies	Announcement based Anomalies	Other Anomalies
Day-of-the-Week effect End-of-the-Day-effect Holiday effect Intra-Day effect January effect Monday/Week-End effect Monthly/Turn-of-the-Month effect Tax-Year effect Week-of-the-Month effect	Earning-Surprise effect Information Releasing Hypothesis IPO's, Seasonal Equity Offerings and Buy-Backs Pay-Out effect P/E Ratio effect	Book-to-Market effect Low-Beta-Firm effect Low Price Stock effect Momentum effect Reversion to the Mean effect SEO Underperformance effect Size effect Weather effect

III. LITERATURE REVIEW

IM. Pandey (2002) in his study entitled "IS THERE SEASONALITY IN THE SENSEX MONTHLY RETURNS". The study considers seasonal or monthly stock returns in several developed and emerging markets. This study also investigates the existence of seasonality in Indian markets. The study makes use of monthly return data of BSE's sensitivity index for the period ranging from April 1991 to March 2002. The collected data are analysed Regressive Moving Average, ARIMA Model, ARCH Model and Weighted Average Share Price Index. The result of the study observes that investor during the end of the year, sell shares whose value have declined to book losses in order to reduce their taxes. Major findings of the study is Return for the month of January, February, August and December higher than other months return Maximum returns in the month of February compared to the other months, whereas, return during the months of March, April, May, September, October and November shows a negative trend. ARIMA models are with white Noise. Time Series Regression Model disclose that the return for the month of March, July and October are amongst the lowest are compared to the month of January, which clearly indicates the presence of seasonality in the Sensex returns. This study result does confirm the January effect of stock return in India. The result of the study indicates that stock returns in India are not entirely random. This study confirms that the Indian stock market may not efficient. As a consequence perhaps investors can improve their return by timings their investments.

S N. Sarma (2004) in his study entitled "STOCK MARKET SEASONALITY IN AN EMERGING MARKET" try to explore the Day-of-the-week effect on the Indian stock market Returns, in the Post reform era. This study attempt to fill the gap on the Indian stock markets Calendar anomalies especially in the Post reform era and try to explores the Indian stock market's efficiency in the 'weak form' in the context of calendar anomalies, especially in respect the week end effect. The data required for the study is secondary nature. Secondary data collected from PROWESS data base regarding daily opening, high, low and close values 80 months. Data pertaining to Daily Returns of 'SENSEX' 'NATEX' and BSE 200 are collected from January 1st 1996 to August 10th 2002. The collected data are analysed by applying KRUSKALL-WALLIS test using 'H' statistic testing the seasonality in the Indian Stock Market Returns. The result of the study the Indian Stock Market does manifest seasonality in their returns. (i.e) The Monday –Tuesday, Monday-Friday and Wednesday-Friday sets have positive deviations for all the indices, The Monday-Friday indices has the highest positive deviation, there by indicating the presence of opportunity to make consistent abnormal returns through a trading strategy of buying on Mondays and selling on Fridays.

Ankur Singhal, Vikram Bahure (2009) in their study entitled "WEEK END EFFECT OF STOCK RETURNS IN THE INDIAN MARKET" investigates whether daily returns depends on the day of the week by taking the context of the Indian Stock Market. The data for this study have been taken from prowest data base. The data relating Opening and closing price of three major operation indices in India BSE Sensex, BSE 200 and the S&P Nifty have been collected. The daily returns were calculated from April 2003 to April 2008. The collected data are analysed by making use of regression. The findings

of the study portrays that returns on each day of the week during this period for the BSE Sensex, BSE 200 and S&P indices, have similar results. Monday returns remained less than other days, and Friday remained greater than other days. The limitations of the study is the author considers cyclic factor rather than fundamental factors and consider only weekly variation in stock returns. Seasonal variation, Monthly variations or intraday variations in returns have not been considered.

Ashish Garg, B.S.Bodla and Sangeetha Chhabra (2010) in their study entitled “SEASONAL ANOMALIES IN STOCK RETURNS: A STUDY DEVELOPED AND EMERGING MARKETS” examines whether seasonal anomalies still persist in the Developed and Developing Markets and the Indian and US markets are taken as the representative of Emerging and Developed Markets. The study utilises data during January 1998 and December 2007 BSE Sensex and S&P 500 for US Markets data to analysis Turn of the Month effect, Semi Month effect, Monthly effect, Monday effect and Friday effect. The study employs Post hoc analysis and ANOVA, the author observe that in India stock market returns in Friday is higher than other days of the week, whereas Friday’s return is found lowest than the other days return in US market. Monday effect, Friday’s stock return reflected on Monday’s stock return, Monday is the negative returns other days quite positive for the first period. Second period Monday is lower average return of the rest of the days. Monday effect exists in Indian stock market but not in the US. Semi-monthly effect to compare the average return of first half of the month, and average return of second half of the month. BSE ltd first half month return higher than the second half month. Semi-monthly effect is same for the both of the Indian and US market. Ending for this study efficiency of stock market closely related to the allocation of scare capital resources. Both Indian and US market turn of month effect is significantly. Monthly effect upward pressure of stock market and result higher return in January month. But in case of India in the month of March is tax saving month, therefore anomaly exist in Indian stock market. Result for this study the presence of anomalies indicates stock market efficiency therefore. SEBI as a regulator of India’s stock market security exchange commission in US need to take steps in order to increase the informational efficiency of stock market.

P. Nageswari, DR.M. Selvam and DR.J. Gayathri (2011) in their study entitled “AN EMPRICAL ANALYSIS OF SEMI MONTH AND TURN OF THE MONTH EFFECTS IN INDAIN STOCK MARKET” examines the return of the month effect in Indian stock market. The study has been carried out to find how bad news and good news is reflected stock prices. The study considers S & P CNX Nifty and BSE Sensex data for six years from 1st January 2005 to 31st December 2010. The collected data are analysed by applying ‘t’ test. The result of the study disclose that highest mean return was recorded for the first half of the month than the rest of the days in the month. Result of the study also shows that the semi-month effect and turn of the month effect was not prevalent in the Indian stock market during the study period. By analysing these anomalies in Indian stock market it is concluded that most of the cash flow entered in the Indian stock market in first few days of the month, as a result indices stock prices to move upward.

Mihir Dash, Anirban Dutta, and Mohit Sabharwal (2011) in their study entitled “SEASONALITY AND MARKET CRASHES IN INDIAN STOCK MARKET” to explore the relation between the Month-of-the-year effect and market crash effects on monthly return in Indian Stock market. Closing value of BSE Sensex between April 1997 and March 2007 is utilized for the study ANOVA, Regression, ADF test and Duncan post hoc test are the tools used for analysis. ANOVA result discloses that there is no significant difference in mean monthly return between the different months. Duncan post hoc test indicates that March returns were significantly lower than those of November, December, and August. The November returns were significantly higher than those of months March, April, May, October, and September. Conclusion for the study End of the year effect is due to Diwali as general public spend their saving towards purchase house hold goods, equipment’s and Gold, similarly return is noticed. Negative return is noticed during March, as investor in order to reduce their stock burden prefers to re-invest their shares.

Ash Narayan Sah (2009) in his study entitled “STOCK MARKET SEASONALITY: A STUDY OF THE INDIAN MARKET” examines days of the week effect in returns of S&P CNX nifty. To examine week end effect in S&P CNX nifty

returns and to examine the seasonality in monthly return of BSE Sensex, the monthly data on S&P Nifty for the period April 1997 to March 2009 is considered for the study. Auto Regression, augmented Dickey-Fuller test, ARCH test are employed. Over than nifty for sample period. Volatility as measured by standard deviations of the returns of the sample period. Nifty and junior Nifty 6.71% and 9.75 % respectively, Junior Nifty is more volatility then the Nifty implying investment in junior Nifty is more risky. ARCH effect we found week end effect in junior return, significant seasonality in nifty junior return across the days. Monday, Wednesday, and Friday were significantly different from each other. Result for the study established that the Indian stock Market is not efficient and investor can improve their returns by timing their investment.

Sanjay Sehgal, Srividya Subramaniam, and Florent Deisting (2012) in their study entitled “ACCRUALS AND CASH FLOWS ANOMALIES: EVIDANCE FROM THE INDIAN STOCK MARKET” examines that negative relationship is observe between accruals and cash flows. CAPM tests that the market beta is lower for the low accrual portfolio as compared to the high accrual portfolio. The study perspective of portfolio manager’s information in accruals / cash flows does not hold strong promise of providing extra normal returns in the India context. From the academic point of view their results are in conflict with the findings for developed markets. Suggesting differences in investor behaviour across markets.

Rohan Laximichand Rambhia, and Mayank Joshipura (2012) in their study entitled “EXPLORING RISK ANOMALY IN INDIAN EQUITY MARKET” Low volatility portfolios are used to explore the risk anomaly in Indian equity markets. The results for the study consists of the constituent stocks from S&P CNX 500 index January 2001- June 2011 were obtained by Capital line data base. Out of the total available list of 500 companies of S&P CNX 500 following companies are excluded from the final sample. Companies for which data for 36 months historical data was not available and hence their volatility not be calculated. S&P CNX 500 the broad market index gave absolute average monthly returns of 1.2% P1, P10 and S&P 500 index. Comparison with regards to the number of month for which LV portfolios gave higher returns the HV portfolios. It can be clearly seen in spite of the long Bull Run that the Indian markets saw from January 2004 to December 2007. LV portfolio our performed HV portfolio in 47 out of 90 months of the testing period and that too with significantly lesser risk. Implementation issues / consideration 1. Transaction cost, 2. Monthly rebalancing, 3. Back testing using quantitative analysis, & 4. Long term strategy. Behavioural aspects are 1. High volatility stocks are still preferred, 2. It may therefore be used to understand why high volatility stocks are preferred to low volatility stocks in spite of unexpected high returns of low-volatility & high volatility portfolios. The most common explanation for higher interest in the high-volatility stocks is a phenomenon called as a lottery effect. The lottery effect thus leads effective low returns high volatility stocks. Result for this study the results found in the Indian markets are similar to those found in some other countries such as the US, the low volatility portfolio strategy gives a higher absolute return over a long period then both high volatility portfolio as well as the broad market index and requires patience its benefits.

Sanjay Sehgal, Srividya Subramaniam, and Laurence Porteu DE LA Morandiere (2012) in their study entitled “A SEARCH FOR RATIONAL SOURCES OF STOCK RETURN ANOMALIES: EVIDENCE FROM INDIA” Disproves the traditional theory (i.e) higher the risk higher the return . Investors, who invest in low volatile stock earns more return than high volatile stocks.

Shyam Lal Dev Pandey and Gopi Prachetas (2012) in his study entitled “TESTING OF RISK ANOMALIES IN INDIAN EQUITY MARKET BY USING MONTHLY AVERAGE RISK & RETURN” proves that low volatile stocks offers higher average rate of return than high volatile stocks, which proves the existence of inefficiency in Indian Stock Market.

Sarbapriya (2012) in her study “INVESTING SEASONAL BEHAVIOUR IN THE MONTHLY RETURNS: EVIDENCE FROM BSE SENSEX OF INDIA” proves that the month of year effect is noticed in Indian stock market whereas an investor may dispose the loss the month of march making shares in order to avail income tax benefit.

Manish.R.Pathak (2013) in his study entitled “STOCK MARKET SEASONALITY: A STUDY OF THE INDIAN STOCK MARKET” (NSE) observes that day of the week effect and month of the year effect is not noticed in Indian stock market due to the increased volatility, increased awareness among Indian investors, Globalization of Indian Economy, reach of Media, emergence of Derivatives segment and Increase in disposable Income.

Dr. Pedapalli Neeraja and CMA. Potharla Srikanth (2014) in their study entitled “ANOMALIES IN INDIAN STOCK MARKET – AN EMPIRICAL EVIDENCE FROM SEASONALITY EFFECT ON BSEIT INDEX” examine the anomalies present in the Indian Information Technology companies stocks and also study the impact of overall Indian stock market conditions on the Information technology companies stocks. The result indicates of Augmented Dickey Fuller test that returns of Indian IT sector stocks are more volatile than the overall Indian stock market. GARCH model disclose that negative returns are observed in IT better during the month of March and April. Similar trend is noticed in BSE during the month of January, July and August.

IV. FINDING

1. Monday returns remained less than other days and Friday returns remained greater than other days.
2. Positive Return is noticed for the months of January, February, June, July, August, and December higher than other months. Maximum return in the month of February.
3. Negative returns are noticed for the months of March, April, May, September, October, and November.
4. Semi-Month Effect is noticed in BSE, where higher return is noticed during first half months than second half month.
5. The above literature survey confirms that the January effect stock returns are noticed in India.
6. Indian Tax year ends in March the above literature survey confirmed tax-loss selling in Indian market to tax year effect.

V. CONCLUSION

Unlike holidays exist in a year that cause market closure and increase the non-trading days in a year. Investors usually sell more before the holiday and they buy more after the holidays. This behaviour increases the pre-holiday returns more than the returns observed for the post holidays. The Stock Returns in Indian stock market were not entirely random and may not efficient. SEBI as a regulator of Indian Stock market should take necessary steps to increase efficiency of Indian stock market.

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