

Stock Market Anomalies: A Challenge to Efficient Market Theory - A Behavioural Finance Perspective

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ABSTRACT - Stock market anomaly or market inefficiency is a phenomenon that challenges the efficient market hypothesis (EMH). Efficient market hypothesis is the most admired traditional finance theory, which concludes that share prices in the market, reflects and incorporates all relevant information. But the stock market anomaly is contradicted with this efficient market theory. As a consequence of various behavioral factors and biases, such anomalies take place. There are several market anomalies; some occur only one time and then disappear, while some others are continuously observed. The objective of this paper is analyses the weekend effect and January effect of stock market anomalies by using the secondary data of BSE Sensex from the period of January 2014 to September 2018.

(Keywords: Efficient market hypothesis, traditional finance, behavioural finance, market anomalies)

I. INTRODUCTION

Efficient market hypothesis is the most admired traditional finance theory, which assures that share prices in the market, reflects and incorporates all relevant information. The Efficient market hypothesis was developed by Professor Eugene Fama, he stated that stocks always trade at their fair value. Stock market anomaly or market inefficiency is a phenomenon that challenges the efficient market hypothesis (EMH). In other words, stock market anomaly refer to the behavior of assets in contradict to the notion of efficient market hypothesis. As a consequence of various behavioral factors and biases, such anomalies take place. There are several market anomalies; some occur only one time and then disappear, while some others are continuously observed. There is some calendar anomalies like weekend effect, turn-of-the month effect, turn-of-the year effect, holiday effect; some anomalies are linked with various announcements like stock-splits effects, dividend yield effects, earnings surprise effect, P/E ratio effect; and some other anomalies lies in markets includes low beta firm effect, weather effect etc.

STOCK MARKET ANOMALIES AND ITS IMPORTANT TYPES

Knowing about and analyzing about stock market anomaly is most important to make profitable stock market strategies. Unexpected patterns in the share price return is called stock market anomaly. Stock market anomaly or market inefficiency is a phenomenon that challenges the efficient market hypothesis. There are many collections of anomalies documented by lots of researchers and still the

number continues to grow. Some anomalies appear once and then it dissolves, while some other anomalies are continuously occurred. These stock market anomalies are broadly classified as seasonal anomalies, price based anomalies, financial anomalies etc.

Seasonal anomalies:

Calendar effects are the most common anomaly in the market. The unexpected or abnormal returns of asset in a particular time or seasons are known as seasonal or calendar anomalies. It includes hours of the day, January effect, week-end effect, turn of the year effect, holiday effect, festival effect etc. a huge amount of researchers proved that these anomalies does exist in the market.

Price based anomalies:

The momentum effect, reversals and mean reversion are important price based anomalies. The momentum effect is also known as past price movement effect or trend following. It consists of two types contrarian effect and continuation effect. And momentum has been described as one of the most persistent stock market strategies. Reversals and mean reversion refers to investors found persistent mean reversion over a period of three to five years. De Bondt and Thaler (1985), found that the biggest losers over a period of three to five years earned higher average returns over the next three to five years. Meanwhile, the biggest winners earned lower average returns.

Financial anomalies:

Size effects, value effects or book-to-market, P/E ratio anomaly are the most important financial anomalies that lies in the market. Size Effect is also known as small firm

effect, which refers to the tendency of small cap stocks to outperform large cap stocks overtime. The size effect is first coined by Banz (1981), in which he concluded that there exist the negative relation between the firm size and stock return. The value effect refers to assets with below-average accounting metrics tend to outperform the market. P/E ratio effect concludes that the low P/E assets produce higher risk-adjusted returns than high P/E assets.

II. LITERATURE REVIEW

Many researches were carried out to discover the stock market anomalies around the world. Some researches focuses on calendar anomalies, some focuses on announcement anomalies, and other focuses on weather effects, low beta firm effects etc. Finally many of the researchers concluded as “anomalies reflect inefficiency in the share market”.

Cross (1973) investigate the S&P 500 index with time period between the periods 1953 to 1970 and found that, on average, returns on Fridays are higher than returns on Mondays. Levis, M. (1989) documented the presence of a number of irregularities in stock price behaviour of firms on the London Stock Exchange. IM. Pandey (2002) 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 study results also confirm the January effect of stock return in India. The result of the study indicates that stock returns in India are not entirely random. Gao & Kling (2005) examines calendar effect in Chinese stock market, they used Shanghai and Shenzhen index between the periods 1990 to 2002, and found that the month with the highest return is March and April and that Fridays have in general higher returns than other days. Davidsson, M. (2006) investigates with more diversified focus on three major stock market anomalies instead on a single anomaly, such as day-of-the-week, month-of-the-year and quarter-of-the-year effects of S&P 500 index from 1970- 2005. Uysal, Arslan, & Kayhan (2018) conducted the study on Turkish stock market and found that Turkish market is more efficient in this sense and in-line with Fama’s EMH. It has been observed that timing does not have a significant effect on the strategies of Turkish investor.

III. DATA SOURCE AND METHODOLOGY

The seasonal effect is easily detectable in the market indices or large portfolios of shares rather than in individual shares (Officer, 1975; Boudreaux, 1995). This study considers BSE Sensex daily data from January 2014 to September 2018. Among the emerging Asian stock markets, one of the most appealing markets is the Indian stock market. The Bombay Stock Exchange (BSE) of India is pivotal and one of the oldest stock exchanges in Asia. The Sensex is generally regarded as the most popular and

precise barometer of the Indian stock market. The daily data is used in this study, to examine both week-end effect and January effect. From the adjusted closing data the daily returns and annual returns for the whole sample is calculated. Then the week-day daily returns and week-day annual returns are also calculated, the daily returns and annual returns are kept as base and the week-day daily returns and week-day annual returns are compared to find the week-end effect. Likewise, to find January effect the last 4 days of December’s daily returns and annual returns; and first 4 days of January’s daily returns and annual returns were calculated. Descriptive statistics is also calculated on weekday basis, to find the week-end effect.

IV. EMPIRICAL ANALYSIS

Table 1- The results of BSE SENSEX’S daily returns and annual returns from January 2014 to September 2018 on weekday basis.

WEEK DAYS	DAILY RETURNS	ANNUAL RETURNS
MONDAY	0.041%	2.076%
TUESDAY	-0.036%	-1.817%
WEDNESDAY	0.027%	1.388%
THURSDAY	0.067%	3.423%
FRIDAY	0.043%	2.195%

The calculated daily returns and annual returns for the sample period is 0.028% and 6.952% respectively. The above table shows that on Monday’s daily returns and annual returns; and Friday’s daily returns and annual returns are greater than the overall daily returns and annual returns for the whole sample period. Monday’s performance shows that it mirrors Friday’s closing performance. And it is also found that because of Monday effect Tuesday returns goes negative. Hence, it is concluded that positive effects were found on Monday’s and Friday’s returns.

Table 2: The results of descriptive statistics of BSE SENSEX daily returns from January 2014 to September 2018 on weekday basis

	Monda y	Tuesda y	Wednesda y	Thursda y	Friday
Mean	0.00041	- 0.00036	0.00027	0.00067	0.0004 3
Standard Deviation	0.0096	0.0083	0.0076	0.0080	0.0080
Skewness	-1.44	-0.25	0.01	-0.47	-0.45
Kurtosis	8.349	2.564	0.658	2.234	0.858
Count	184	185	189	185	179

From the above table is explained that, as because of Monday effect the Tuesday’s mean shows the negative results. The standard deviation on Monday shows that the dataset is relatively disperse greater than other weekdays and the Monday’s kurtosis value is greater than 3, which shows that on Monday’s the share prices were outside the normal range.

Chart 1 and 2 shows that the standard deviation and kurtosis of BSE Sensex daily returns during the period January 2014 to September 2018 on weekbasis.

CHART – 1

CHART - 2

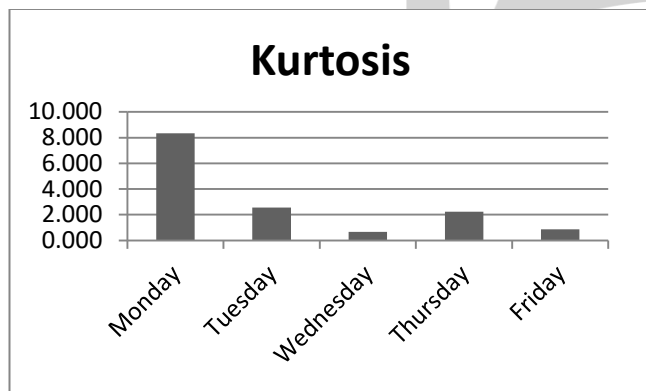
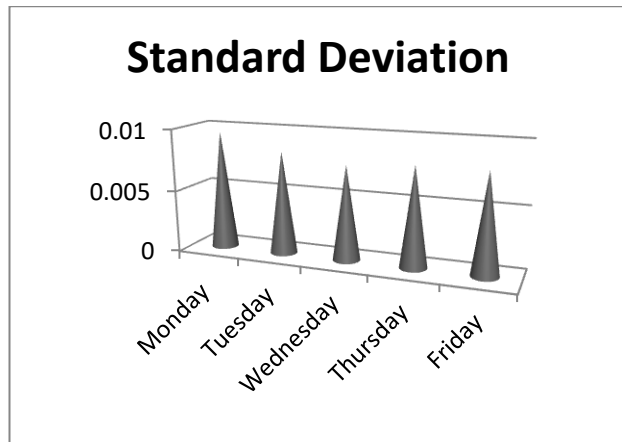


Table 3: The results of BSE SENSEX’S daily returns and annual returns for last four days of December and first four days of January from the period January 2014 to September 2018

MONTH	DAY	DAILY RETURNS	ANNUAL RETURNS
December	28	0.18%	45.30%
December	29	0.46%	112.73%
December	30	0.26%	64.11%
December	31	0.60%	148.20%
January	2	-0.06%	-14.45%
January	3	0.06%	15.15%
January	4	-0.48%	-116.62%
January	5	0.43%	105.26%

From the above table it is inferred that the daily returns and annual returns of December 31st is greater than the previous three days and the calculated daily returns and annual returns for the whole sample period is 0.028% and 6.952% respectively, hence the December 31st returns are much greater than sample period return. Therefore it is concluded that there exist the turn-of-the-year effect in BSE Sensex during the study period. Correspondingly, the daily returns on January 2nd seems negative, it clearly shows that there exist the January effect in BSE Sensex during the study period.

V. CONCLUSION

A stock market anomaly is a rate of return or investment strategy that contradicts the efficient market hypothesis. Now-a-days most of the investors believe that markets are fairly efficient. From the last 20 years or so there has been a huge amount of research work carried out to find out and measure the various stock market anomalies that occur in the market. Such research explores a lot of new anomalies that exist in the market. Still many researchers are digging to find the various anomalies that affect the market. This study is conducted to know about the week-end anomaly and turn-of-the-year anomaly that exist in the Indian stock market. The empirical result shows that there exist the weekend effect and January effect in the Indian stock market. Altogether understanding about the stock anomalies that exist in the market helps the investors to achieve their investment targets effectively.

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