A STUDY ON STOCK MARKET ANOMALIES: SPECIAL REFERENCE TO INDIAN MARKET PERSPECTIVES

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ABSTRACT

*In financial markets**,** anomalies refer to situations when a security or group of securities performs contrary to the notion of efficient markets, where security prices are said to reflect all available information at any point in time. With the constant release and rapid dissemination of new information, sometimes efficient markets are hard to achieve and even more difficult to maintain. There are many market anomalies; some occur once and disappear, while others are continuously observed This paper Investigate EMH and stock market anomalies in Indian stock market, this study based on empirical data on calendar anomalies and forms of efficient market hypothesis, and going to understand how EMH and anomalies is contrary. This study specially focuses on January effects and day of the week effects (DOWE).*

KEY WORDS: calendar anomalies, January effects, day of the week effects, forms of EMH

INTRODUCTION

The correlation between prices and all available information in a market is a core principle used to gauge efficiency in the stock market. According to the efficient market hypothesis (EMH), all equities are fairly valued and extraordinary returns cannot be obtained by looking for undervalued securities. Furthermore, it is impossible to anticipate future stock prices because they exhibit a random walk pattern. The efficient market hypothesis, especially the semi-strong EMH, states that abnormal returns cannot be earned by learning all the information that is publicly available about companies and their stocks, as well as any other variables that may affect stock prices, such as economic factors. However, there do appear to be some market patterns that can result in abnormal returns. Hence, the semi-strong EMH would seem to negate the value of fundamental analysis. (The weak form of the EMH negates the value of technical 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, indicating that fundamental analysis does have some value for the individual investor.

Literature Review:

An account of studies that are connected to the current investigation either directly or indirectly is presented in the review of literature. In order to fill the gap in the literature and conduct the investigation, the current research will analyse conceptual elements and past research studies.

Arun Kumar Sharma (2014) Explicate Efficient market hypothesis has remained a riddle for researchers for approximately past fifty years. After the pioneer work by Fama (1965, 1968 & 1970) efficient market hypothesis gained much importance in financial literature. But a lot of research studies have proved that markets cannot be efficient in real world. In this case is it logical to still hold the belief of market efficiency. The present study tries to explain various stock market anomalies that have challenged the efficient market hypothesis. After detailed discussion it was concluded that market efficiency exists to some extent but time and again certain anomalies surface, exist for certain period then fade away and sometimes surface again.

Pedapalli Neeraja and Potharla Srikanth(2014) Evolution of Efficient Market theory had ushered a significant change in pricing capital asset. Before the development of Efficient market theory by Fame in 1970s, there was no comprehensive theory on pricing of capital assets. Earlier to Fame(1970), various economists like Louis Bache liar, Alfred Cowles, Holbrook Working etc have discusses about Random walk behaviour of stock price movement, but they could not succeed in providing a comprehensive theory on asset pricing. Fama(1970) had come out with three different forms of Efficient market hypothesis i.e., Weak form, Semi-strong form and Strong form of efficient markets. Weak form of efficient markets asserts that all the published information must be reflected in stock prices, semi-strong form holds that all the available information must be reflected into the stock prices, whereas strong form of efficient markets contends that all the published and unpublished information must be reflected into the stock prices

Vandana Khanna(2016) states The existence of calendar anomalies is the violation of Efficient Market Hypothesis (EMH). Stock Market anomalies are the patterns that do seem to lead to abnormal returns more often than not, and since some of these patterns are based on

information which is publicly visible, market anomalies present a challenge to the semi-strong form of the EMH, indicating that fundamental analysis does have some value for the individual investor

Matteo Ross (2018) reveal all the data regarding the company value (Fame, 1965). In this way, there isn't possible to make additional returns. However, evidence against the Efficient Market Hypothesis is growing. Researchers studied Calendar Anomalies (CAs) that characterised financial markets. These CAs contradict the efficient hypothesis. This research studies some of the most important market anomalies in France, Germany, Italy and Spain stock exchange indexes in the first decade of new millennium (2001-2010). In this work, the GARCH model and OLS regression are statistical techniques used to confirm the returns' distribution and autocorrelation. The investigation doesn't provide compelling evidence for widespread calendar anomalies. Some of these consequences vary by nation. Additionally, during the first decade of the new millennium, these country-anomalies are unstable, and this outcome casts some doubt on the importance of CAs.

Nagaraja N and shruthi D(2019) made an attempt to comparative study of week anomaly in Asian paint ltd and axis bank ltd this study is focuses on day of week effects of those two company with an empirical analysis and compare the risk and return for investment purpose

Objectives of the Study

- To know EMH and forms of EMH
- To study the calendar effects in Indian stock market

I. Efficient Market Hypothesis

If a market takes in new information rapidly when it becomes available, which is said to be efficient. In such a situation, stock prices are predicted to reflect all information. Therefore, no one is able to profit abnormally from the stock markets. However, Seiler and Rom (1997) noted a number of research that challenged this assertion. There are three variations of this efficiency: weak, semi-strong, and strong**.**

- **Weak Form**

In its weak form, the effcient market hypothesis assumes that past information about stock prices is reflected in current prices of stocks. Therefore, excess profits cannot be earned on the basis of information contained in past price data. This means that technical analysis is not useful in predicting the future stock prices. Since past information is already adjusted in stock prices, the current prices remain unknown. Weak form of efficiency can be tested using past price data with the help of various econometrics and statistical methods. Studies pertaining to weak form of efficiency are Poshakwale (1996), Jensen, (1978) Bondt and Thaler (1985) . For testing weak form of efficiency various variables viz. past stock price,
P/E ratio, DIV/P ratio and book to market ratio; are used. Technical analysis is also used to test the weak form of market efficiency.

- **Semi Strong Form**
  Semi strong form of efficiency assumes that in addition to past stock prices all publicly available information is also reflected in current stock prices. Publicly available information can be in the form of earnings announcements/forecasts, mergers and acquisitions, stock splits etc. It means that information obtained through past stock prices and publicly available information is not useful in generating abnormal stock return (Summers, 1986; Goss, 1983). This means that neither fundamental analysis nor technical analysis is useful in generating abnormal returns from the market. For testing semi strong form of efficiency, event studies are useful. Event studies help to ascertain the speed of absorption of new information by the market participant.

- **Strong Form**
  All information, whether public or private, is reflected in the current stock prices, according to a high type of efficiency. No one is able to generate abnormal returns in this sort of efficiency. Insider trading is investigated to test the presence of the strong form of efficiency.
  However, insider trading is legally not authorised. Before releasing any confidential information, a stock price adjustment may be seen, which is a sign of excellent efficiency.
  This kind of effectiveness is uncommon though.

II. The Calendar Anomaly

Numerous observations related to the calendar schedule are included in the calendar impact. Ups and downs that were seen on particular days of the week or during particular months of the year are classified as calendar anomalies. Usually, calendar irregularities are connected to prescheduled deadlines of company liabilities or simply to activity of investors

- **January impact**
  The January impact may be a rather well-known anomaly. Here, the concept is that stocks that underperformed within the fourth quarter of the previous year tend to exceed the markets in January. The rationale for the January impact is thus logical that it's virtually difficult to pronounce it an anomaly. Investors can typically look to get rid of underperforming stocks late within the year so they'll use their losses to offset capital gains taxes

Source:

International Business & Economics Research Journal – March 2008 Volume 7, Number 3

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Mean Monthly Percentage Returns for Two Indian Stock Indexes

July 1999 to June 2007

Month	**BSE 500**	**NSE 500**	**Observations**
January	2.13	2.13	8
February	2.12	1.95	8
March	-3.80	-3.74	8
April	-0.71	-1.26	8
May	-1.05	-1.28	8

June	2.78	2.83	8
July	1.00	1.09	8
August	6.79	6.69	8
September	-0.31	-0.51	8
October	-0.18	-0.33	8
November	8.55	8.46	8
December	6.40	6.79	8
Overall	***1.98***	***1.90***	***96***

on observe two distinct return patterns in the Indian stock market. We first present results for the BSE 500 index. November (8.55%) and December (6.40%) generated substantially greater returns than those for almost all other months. High positive returns were also generated during August, but the months of September and October have negative returns. We believe that investors should minimize trading in order to earn high returns by avoiding excessive transaction related costs. We therefore conclude that an investor should have been invested in the Indian stock market during the months of November and December (Nov-Dec). A similar pattern is presented for the second index, the NSE 500. Greater mean returns are generated during November (8.46%) and December (6.79%) than during the other ten months of the year, so that again we find that an investor would have earned high returns by being invested in the Indian stock market during Nov-Dec

And also identify three consecutive months during which the Indian stock market generates substantial negative returns. For each index, the months March through May produce negative returns substantially lower than the returns for the other nine months. For the BSE 500, the lowest mean returns were produced during March (-3.80%), followed by May (-1.05%) and April (-0.71%), respectively. Similarly, for the NSE 500, the lowest mean returns are observed for March (-3.74%), followed by May (-1.28%) and April (-1.26%), respectively. During the period of our study, investors should have been invested out of the Indian stock market during the months March through May (Mar-to-May).

- **Days of the Week**

  Supporters of efficient markets despise the anomaly of the days of the week because it appears to be accurate on the surface but makes no sense in practise. There is a bias toward good market performance on Fridays since, according to numerous research, stocks tend to move around more on Fridays than on Mondays. However it is not a significant divergence, it is ongoing. On a fundamental level, there isn't any clear justification for why this might be the case. It’s possible that psychological elements are at play in this phenomenon.

  Perhaps as traders and investors anticipate the weekend, enthusiasm for the coming week permeates the market. Alternatively, perhaps the weekend provides an opportunity for investors to maintain their understanding, simmer and fuss over the market, develop glumness going into next week

The term "weekend effect" refers to the tendency for stock prices to fall on Mondays, resulting in Monday closing prices that are lower than Friday closing prices.
Actually, the only of the week with a negative average rate of return is Monday.

Tools of Data Analysis
For the analysis the tools used are:

Mean: it is the sum of the values divided by number which means the average of the values.
T-test: A t-test's statistical significance indicates whether or not the difference between two groups' averages most likely reflects a "real" difference in the population from which the groups were sampled

Table 2 Calculation of Average Return of Weekends

2008-2012 DAY AVERAGE RETURN BSE INDEX (crs)	
MONDAY	1008.058
TUESDAY	1122.932
WEDNESDAY	1155.478
THURSDAY	1109.762
FRIDAY	1151.554

(Source: BSE INDEX values)
By analyzing the 5 years closing price of BSE index, average returns on all week days are positive. Average price of Monday is less when compared to others, though not negative. It shows the presence of weekend effect in BSE Index to a minimal extent.

However, Tuesday is the day with the lowest trading results. As a result, compelling evidence supporting the existence of the day of the week anomaly has been compiled. It follows that the findings of the aforementioned analysis disprove the existence of EMH and assist investors by allowing them to make plans and time their strategies to take full advantage of trading activities. According to the BSE-Sensex data, there were various trading returns on various trading days over the time period. The Make in India Project was launched in India within the time frame of the study. For the time span, the Monday impact is reversed.

Limitations of the study
This research paper also generally encountered with some limitations such as stated below:

- The collected data for study is secondary
- The study limits to only EMH and anomalies in Indian stock market
- Its covers past year data.
- Time constraints.

Conclusion

Two distinct calendar effects were found when two broad-based Indian stock market indices were examined for the period of July 1999 to June 2007The mean returns for the months of November and December are significantly higher than the mean returns for the other 10 months of the year, which is the first effect we discover. The mean returns for the months of March through May are significantly lower than those for the other months, according to the Mar-through-May effect that we have discovered. Because of recent significant growth in the Indian stock market and what appears to be a continuing economic revolution in India, findings from past studies may change as new information becomes available for future years. Studies on the calendar effect should be revisited in the future, particularly when the features of the stock market shift rapidly. The Nov-Dec (Mar-to-May) monthly returns yielded considerably greater (lower) returns than those for the other months of the year for the sample period examined in this study. The investment community and researchers alike are eager to understand the behaviour of the Indian stock market. We think that our research adds something timely and valuable to the knowledge of calendar effects in the Indian stock market. However, we argue that this study's findings should only be viewed as a preliminary anecdote. We urge researchers to examine more closely at calendar effects in the Indian stock market and to revise our research outcome.

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