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Semi Month Effect in Indian IT Sector With Reference To BSE IT Index

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Abstract: The study investigates the existence of a Semi month effect in India's IT sector. The study uses the daily return data of the Bombay Stock Exchanges (BSE) IT Index for the period ranging between April 2006 and March 2015. The collected data have been analysed by making use of descriptive statistics and paired 't' test. The outcome confirms the presence of seasonality in stock returns and semi month effect. The findings are also reliable with the semi-month effect which exists in the BSE IT index. The results of the study imply that the stock market in Indian, IT sector is inefficient, and hence, Indian investors are advised to buy IT sector scripts during the Second half of the month and sell them on a First half of the month period which will give better returns.

Keywords: Anomalies, semi month effect, BSE IT Index, and Efficient Market Hypothesis.

I. INTRODUCTION

The Efficient Market Hypothesis (EMH) suggests that asset prices reflect on all obtainable information (Fama, 1970). It is implied that past prices should have no predictive influence over future prices; hence, consecutive price changes should be random. However, a number of studies have accepted not only that stock prices are predictable on the basis of the preceding information, but also that indicators such as dividend yields and gross domestic product contain information that is useful in predicting stock prices. This evidence is, commonly called calendar anomalies. Calendar anomalies refer to the tendency of stock market returns to show systematic patterns at a certain time of the day, week, month or year. The existence of the calendar anomalies is a denial of the weak form of efficient market hypothesis which states that the stock returns are time invariant. The subsistence of seasonal pattern in the stock return infers that a market is ineffective and investors should be able to earn an abnormal return. In Semi month effect the mean return of the First Half of the Month has been compared to the return of the second half of the month. The purpose of studying Semi-month Effect is to find appropriate investment time during fortnight month. The first study on semi month effect carried out by Ariel (1987) reports that in the USA stocks appear to earn positive average returns during the first half of calendar months, and zero average returns during the second half. Thus an earnest attempt has been made to find the semi month effect prevailing on BSE IT Index. India has played a key role in Information Technology (IT) industry in the worldwide, accounting for approximately 67 per cent of the US\$ 124-130 billion market. IT industry has been one of the key development providers to the Indian economy. The IT industry employs more than 10 million Indians to contribute deliberately to bring out social and economic change in the country. The IT industry has played a key role in renovating India's image from a slow moving bureaucratic economy to a land of innovative entrepreneurs and a worldwide player in providing world class technology solutions for commercial services. The industry has helped India to transmute to knowledge based economy from a rural and agriculture-based economy. Information Technology has made probable evidence access at gigabit speeds. It has made remarkable impact on the lives of millions of people who are poor, living in rural and far flung landscapes. The Internet has made radical changes with the potentials of e-government measures like e-health, e-education, e-agriculture, etc. The IT-BPO sector in India grew at a compound annual growth rate (CAGR) of 25 per cent over

2000-2013, which is 3-4 times higher than the worldwide IT-BPO spend, and is probable to expand at a CAGR of 9.5 per cent to US\$ 300 billion by 2020. The BSE IT index provides investors and market intermediaries with an appropriate benchmark that captures the performance of the Indian IT companies. The BSE IT Index comprises 25 companies listed on the BSE Ltd.

Source: <http://www.ibef.org/industry/information-technology-india.aspx>

II. REVIEW OF LITERATURE

Eleftherios Giovanis (2009) in his study found that the semi-month effect, where in 7 and 2 cases we accept for both fortnights that there are significant lower and higher returns, while in additional cases it is accepted in the hypotheses that there are significantly lower returns in the second fortnight in India and higher returns in the first fortnight for Canadian stock index. **Ercan Balaban and Meliha Bulu (1996)** in their study found that there do not exist semi-monthly or intra-month effects in the Turkish Stock Market. **Nageswari. P, Dr.M. Selvam and Dr.J. Gayathri (2011)** in their study found that higher mean returns were recorded for the first half month than the rest of the day of the month. It is found that the semi month effect does not exist in BSE Sensex and S&P CNX Nifty index returns during the study period. **Siqi Guo and Zhiqiang Wang (2007)** in their study found that the semi-month effect does not exist in Chinese stock market. **Ushad Subadar Agathe (2009)** in his study found that the mean returns in the second half of the calendar month is significantly lower than the mean returns in the first half of the calendar month for the whole sample period. In general, this may suggest possible gains when trading during the first half of the month.

In the previous studies, researchers have concentrated on the macro level BSE – Sensex and NSE - Nifty as a whole but none of the researchers concentrated on sectorial indices. Thus the current study tries to fill the gap between macro indices and sectorial indices.

III. OBJECTIVE OF THE STUDY

To identify the existence of the Semi month Effect in Indian IT sector.

IV. RESEARCH METHODOLOGY

This study is analytical in nature. Secondary data are collected from the BSE web portal (Source: <http://www.bseindia.com/indices/IndexArchiveData.aspx>) for the period ranging between April 2006 and March 2015.

V. FRAMEWORK OF ANALYSIS

The collected data have been analysed by making use of Descriptive statistics such as Mean, Standard Deviation, Variance, Skewness, Kurtosis and Shapiro-Wilk test and paired 't' test.

VI. LIMITATION

Considering the continuity of data, only BSE IT Index has been selected for the study. Hence, utmost care is exercised while generalizing the results.

VII. ANALYSIS AND INTERPRETATION

BSE IT INDEX Returns – Descriptive statistics

To find the mean returns, volatility and Normality in the BSE IT index descriptive Statistics like Mean, Standard deviation, Variance, Skewness, Kurtosis, and Shapiro-Wilk test are made use of. The following table narrates the result of descriptive study.

Table.1

	FIRST HALF	SECOND HALF
Mean	.1177	-.0703
Std. Deviation	1.62725	1.87984
Variance	2.648	3.400
Skewness	-.032	-.497
Kurtosis	3.810	4.813
Shapiro-Wilk	.000	.000

Source – Database collected from BSE web portal and computed.

Thus, it is inferred from table.1 that high level of mean returns is noticed during the first half of the month (.1177) and lower level mean return is found during the second half of the month (-.0703). Comparing the variance, high level of volatility was noticed on the second half of the month (3.400) and low level of volatility was noticed in the first half of the month (2.648).

Further, the analysis of Skewness test discloses that negative returns are noticed in the first and second half of the month. The Kurtosis of BSE IT index returns were founded leptokurtic in both the first half of the month (3.810) and the second half of the month (4.813). Since Kurtosis values are greater than 3, it is inferred that the BSE IT index returns are leptokurtic.

From the p value of Shapiro-Wilk test BSE IT INDEX returns is less than 0.05, it is clearly proved that the data are not normally distributed and so there is an anomaly in the BSE IT INDEX returns.

Determinants of Semi Month Effect - Paired ‘t’ test

To find share index differs between the first half and the second half of the month paired ‘t’ test is employed.

	Mean	N	Std. Deviation	Paired t value	P value
FIRST HALF	.1177	1087	1.62725	2.462	.014
SECOND HALF	-.0703	1087	1.87984		

– Database collected from BSE web portal and computed.

Paired ‘t’ test Calculated the p value less than 0.05, meaning that the difference is statistically significant, so it can be indicated that the semi-month effect does exist in the BSE IT index. It is inferred that share index return differs between the first half and the second half of the month.

VIII. FINDINGS

1. In BSE IT index highest mean return was noticed in the first half of the month, then the second half of the month.
2. High volatility was noticed during the second half of the month.
3. Skewness test discloses that negative returns are noticed in the first and second half of the month.
4. The Kurtosis of BSE IT index returns were found leptokurtic in both the first half of the month and second half of the month.
5. Shapiro-Wilk test clearly proved the BSE IT index data are not normally distributed.
6. The paired t-test discloses that there was a significant difference between the returns of the first half of the month and the second half of the month. Hence, Semi Monthly Effect does exist in Indian IT sector indices.

IX. SUGGESTIONS

The study found that the highest mean returns were documented in the first half of the month in the Semi-Month effect. Hence, Indian investors are advised to buy IT sector scripts during the Second half of the month and sell them during the First half of the month which will give better returns.

X. CONCLUSION

The study focused on the existence of a semi month effect in the BSE IT index in India. The analysis of descriptive statistics displayed that the highest average return occurred in the First half of the month and the lowest in the second half of the month. The Calculated paired 't' test value is statistically significant that the semi-month effect does exist in the BSE IT index. The research of the study raises questions on the efficient market hypothesis which states that stock prices are random, and that investors cannot make abnormal profits using past prices. The Semi month effect patterns in return and volatility can enable investors to take advantage of moderately regular market shifts by manipulative and implementing trading strategies, which account for such predictable patterns. Specially, our results indicate lower returns during the Second half of the month and maximum returns during the First half of the month in the BSE IT index. So, the specific trading guideline that could be considered is that one could consider buying the scripts during every second half of the month (buy low) and selling them during every First half of the month (sell high). However, this tactic essentials are to be implemented with caution. We suggest that investors could experiment the above policy, to start with, on small stocks and extend the same on blue-chips based on the risks and rewards. This advantages further energy as Indian markets are more translucent and are open to the worldwide investors seeking profitable trade opportunities.

The results of the study indicate that stock returns in India are not entirely random. As a consequence, perhaps investors can multiply their returns by timing their investments.

References

1. ARIEL and Robert. A (1987) "A monthly effect in stock returns" Journal of Financial Economics, Volume 18, Issue 1, March 1987, Pages 161-174.
2. Ercan Balaban and Meliha Bulu (1996) "Is There A Semi-Monthly Effect In The Turkish Stock Market?" The Central Bank Of The Republic Of Turkey, Research Department, Discussion Paper No: 9606
3. Eleftherios Giovanis (2009) "Calendar Effects and Seasonality on Returns and Volatility" MPRA Paper No. 64404, posted 17. May 2015 19:37 UTC
4. Nageswari. P, Dr. M. Selvam and Dr. J. Gayathri (2011) "An Empirical Analysis Of Semi-Month And Turn Of The Month Effects In Indian Stock Market" International Journal Of Research In Commerce, Economics & Management VOLUME NO. 1 (2011), ISSUE NO. 3 (JULY) ISSN 2231-4245.
5. NAGESWARI. P (2011) "Calendar Anomalies in the Indian Stock Market" un published thesis Bharathidasan University, Tiruchirappalli.
6. Rakhi (2013) "Anomalies in Indian Stock Market: Post 2002" un published thesis Kurukshetra University, Kurukshetra.
7. SIQI GUO AND ZHIQIANG WANG (2007) "Market efficiency anomalies A study of seasonality effect on the Chinese stock exchange" Umeå University, Umeå School of Business Master Thesis Autumn Semester 2007
8. Vandana Sharma (2009) "STOCK MARKET ANOMALIES: AN INDIAN EVIDENCE" un published thesis Guru Nanak Dev University, Amritsar.
9. <http://www.bseindia.com/indices/IndexArchiveData.aspx>
10. http://www.cs.ucl.ac.uk/fileadmin/UCLCS/images/Research_Student_Information/RN_11_04.pdf
11. <http://www.e-m-h.org/Pesaran05.pdf>
12. <http://www.investopedia.com/terms/j/januaryeffect.asp>
13. <http://journal-archieves35.webs.com/641-648.pdf>
14. http://web.williams.edu/Mathematics/sjmiller/public_html/341/handouts/Fama_RandomWalksStockPrices.pdf
15. <http://BrownMath.com/stat/shape.htm>
16. <http://www.ibef.org/industry/information-technology-india.aspx>
17. <http://calendar-effects.behaviouralfinance.net/intramonth/>
18. <http://www.wbiconpro.com/06-Ushad-mauritius.pdf>
19. <http://mpira.ub.uni-muenchen.de/64404/>
20. http://www.ficci.com/sector/21/Project_docs/FICCI_website_content_-IT.pdf

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