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Impact Of T+1 Settlement On Negative Monday Effect With Reference To Nifty Index

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Abstract
Many researchers including Cross (1973) on Standard & Poor (S&P) and Nath and Dalvi (2004) on Nifty index have found negative Monday effect. i.e. Average returns on Monday returns were lower as compared to other weekdays. This was one of the anomalies as per Weak Form of Market Efficiency. Volatility (Risk) associated with Monday returns (since markets were opening after a 2-day holiday in most cases) was higher as compared to other weekdays. Amongst other factors, one of the major reasons attributed to the negative Monday effect was T+2 settlement which meant if shares were sold on Friday Money would be credited to bank account on Tuesday a four-day lag due to Saturday and Sunday holidays. However, if shares were sold on Monday money would be credited to bank account by Wednesday. Negative news could be announced by the companies on weekends so that it could be absorbed with clarification till Monday instead of a knee jerk reaction during weekdays. Securities and Exchange Board of India (SEBI) implemented T+1 settlement in India Markets from January 26th, 2023. This was done to increase Market Efficiency and transparency in the trading system. This study divides the time Nifty Index in two phases (Phase 1- 27th October 2021 to 25th January 2023 i.e. Pre-T+ 1 settlement and Phase 2 – 27th January 2023 to 25th April 2024 i.e. Post T+1 settlement). These two phases were studied separately based on ANOVA for negative Monday effect and t- Test Two-Sample Assuming Equal Variance for Mondays. It was found negative Monday effect reduced considerably because of T+1 settlement.

Key Words – *Nifty, negative Monday effect, T+1 settlement, Weak form of Market Efficiency, SEBI*

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I. Introduction

SEBI has the major mandate to protect the interest of minority shareholders and retail investors in Capital Markets. Looking at the payment defaults earlier, SEBI introduced rolling settlement in July 2001 (T+ 5) (i.e. Today + 5 working days). By December 2001 all scripts came under T+ 5 settlement. The same cycle was reduced to T+ 3 by April 2002 and to T+2 by April 2003.There was no further reduction in T+ 2 cycle for close to 2 decades.

On February 25th, 2022, T+1 cycle was introduced for 100 bottom stocks as per Market Capitalisation. Subsequently 500 stocks were added every Month from March 2022 onwards. By January 27th, 2023, Nifty constitutes about 80% of the entire Market Capitalisation and all the scripts were added to T+1 settlement. T+1 could be implemented in India because of Unified Payment Interface (UPI). It meant that the buyer would get shares the next day and the seller would get money in their bank account the next day. This has meant lesser defaults in the system, more transparency and lesser waiting times for buyers and sellers. This could lead to more efficiency in the capital markets.

II. Review Of Literature

One of the first people to examine the impact of "day of the week" was Cross (1973). The Standard and Poor (S&P) composite index was the subject of his research. 844 sets of Friday and Monday between the years 1953 and 1970 comprised the study's sample. The survey was conducted in 1953 since, up until then, markets were open on Saturdays as well. He discovered that Monday returns were much smaller than Friday returns.

Gibbons and Hess (1981) examined the S&P 500 from July 3, 1962, to December 28, 1978; they also examined the CRSP Value-weighted period from July 3, 1962, to October 27, 1970, and the CRSP Equal weighted period from October 30, 1970, to December 28, 1978. Their findings revealed a negative Monday effect, characterized by lower returns and higher risk (variance).

Further research on the weekend effect was done by Keim and Stambaugh (1984), who discovered that there was a negative Monday effect for S&P 500 equities going back to 1928. The impact was especially noticeable for businesses of all sizes that engaged in exchange trading. A positive correlation was observed between the Dow Jones industrial average's Friday and Monday returns.

Lakonishok and Smidt (1988) found a negative "Monday effect" after examining 90 years of daily data for the Dow Jones Industrial Average. It also revealed greater return rates prior to the holidays. Friday had a positive week-over-week effect, notwithstanding Saturday's reduced business.

Drogalas, Athianos, and Elekidis (2007) investigated the Greek stock market's seasonality in relation to "the day of the week." It was discovered that Greek markets were prone to the Monday effect (i.e., negative returns on Mondays), the January effect (i.e., greater returns in January), and the holiday effect (i.e., higher returns before the holiday).

Andriy (2008) investigated the calendar effects on stock markets using a sample of CIS and CEE nations. A few of the 13 countries that were examined using the GARCH model revealed the Monday effect. There was no Tuesday effect anywhere in the nation. In eight of the thirteen countries, the Friday effect was observed. Additionally, he discovered that the first part of the month had far higher returns than the remainder. Depending on the nation, data collection was placed from 1993 to 2008.

Day of the week anomalies for Indian stock markets based on S&P CNX NIFTY were studied by Nath and Dalvi (2004) from 1999 to 2003. They discovered that Monday had the largest volatility, followed by Friday, and concluded that there was market inefficiency at that particular moment. According to them, the most plausible reason offered for the negative Monday effect was that worst news usually breaks over the weekend, which has a negative impact on Monday prices.

Singhal and Bahure (2009) made an effort to investigate the cause of the Indian stock market's unfavorable Monday effect. One of the main causes, in their opinion, was the settlement procedure. In the cash segment, settlement occurs one to five days following deal taking. (T+1 to T+5), for example. Since April 1st, 2003, when T+ 2 settlement became applicable in India, the amount of time has decreased dramatically in comparison to previous years, and shares held in demat accounts have replaced physical share certificates. Since the regular week is non-consecutive, holiday money realized for shares sold on Monday would be realized on Wednesday. In a similar vein, the buyer would have until Wednesday to make the Monday purchase. But if shares are bought on a Thursday or Friday, the entire amount must be purchaser can get interest at a risk-free rate over the weekend if payment is made by Monday or Tuesday, accordingly. Their investigation was conducted between April 2003 and April 2008.

Based on research from April 2011 to March 2016, Sudarvel and R. Velmurugan (2016) looked at the possibility of anomalies in the Indian stock markets and found that Tuesday had lower returns and Wednesday had the highest returns. One of the busiest days was Monday, when traders were advised to buy low on Tuesday and sell high on Friday.

Research Gap

- ✓ The literature reviewed did not consider the T+1 settlement.
- ✓ The period of study used from 27th October 2021 to 25th April 2024 was not considered by any of the previous researchers.

Need for Study

SEBI has taken many steps in transparency and compliance areas to protect the interest of retail shareholders. Retail investor participation has increased in Indian markets over the last 4 years (i.e. During and post Covid-19). T+1 settlement was one such initiative to increase the efficiency in the capital Markets. So, there was a need to study whether that has fetched the desired result. Negative Monday effect was one such anomaly observed on Nifty Index. Study examined the negative Monday effect on Nifty Index.

III. Research Methodology

1. To calculate daily returns of Nifty Index on various weekdays.
2. Based on returns on Weekdays to compare and calculate whether there was any negative Monday Impact Pre and Post T+1 settlement based on ANOVA.
3. To compare daily Monday returns Pre and Post T+1 settlement based on Two sample t-Test.

Hypothesis Testing

Hypothesis I

Ho: There was no significant difference between daily risk and returns on various weekdays pre-T+1 settlement.
Ha: There was a significant difference between daily risk and returns on various weekdays pre-T+1 settlement.

Hypothesis II

Ho: There was no significant difference between daily risk and returns on various weekdays post-T+1 settlement.
Ha: There was a significant difference between daily risk and returns on various weekdays post-T+1 settlement.

Hypothesis III

Ho: There was no significant difference between daily risk and returns on Monday returns Pre and Post T+1 settlement.

Ha: There was a significant difference between daily risk and returns on Monday returns Pre and Post T+1 settlement.

Research Methodology

Descriptive Research based on Nifty Daily closing values was used to infer the results. Nifty daily closing values were taken from 27th October 2021 to 25th April 2024. They were divided into 2 phases. Phase 1 was Pre-T+1 settlement from 27th October 2021 to 25th January 2023 and Phase 2 was Post T+1 settlement from 27th January 2023 to 25th April 2024.Lognormal returns were calculated as Nifty returns can be negative but Nifty underlying index cannot be negative. For both the phases there were few observations on Saturday and Sunday due to activities such as Muhurat trading, Budget session etc. but considering there were less than 5 observations they were ignored.

There were 311 observations Pre-T+1 settlement and 304 observations post-T+ 1 settlement. Day wise details are shown in the finding's tables.

Tools and Techniques

Single factor ANOVA with 95% confidence was used to test Hypothesis I and Hypothesis II.

Two sample t-Test with 95% confidence was used to test the Hypothesis III.

IV. Findings

Even though null Hypothesis cannot be rejected but the average Monday returns have improved post T+1 settlement. From -0.07% to 0.10%. Return to risk ratio for Monday has improved from -6% to 15.3%. The volatility or Risk (σ) has reduced from 1.23% to 0.68%. The other day to see significant improvement from the return to risk point of view is Friday.

V. Limitations And Future Scope Of Further Study

The study was focused on Nifty index and T+ 1 settlement over the period of 30 months divided equally pre and post T+1 settlement for 15 months each. It could be extended to other indices and individual stocks. A similar study could be conducted for foreign exchanges post the changes in the settlement cycle. One the biggest limitation of the study is Nifty is integrated with other global indices in terms of its price movement, but study does not consider the absolute and relative returns of Nifty in these two phases.

VI. Conclusion and Implication

T+1 settlement has reduced the negative Monday effect considerably. Returns have increased on Monday, which could be due to the market cycle but the reduction in volatility can be observed. SEBI has certainly increased the market efficiency in terms of weak form of market efficiency anomaly of negative Monday effect. SEBI has started of T+0 settlement (i.e. trades being settled on the same day) in the phased manner starting March 28th, 2024.The results of T+1 settlement was encouraging and enhanced the efficiency and transparency in the Indian capital markets. Negative Monday effect and increase in volatility on Monday and Friday (i.e. at the beginning of the week and at the end of the week) has certainly reduced. SEBI, other regulators, and intermediaries could look at implementation of T+0 settlement for all domestic and foreign portfolio investors in a phased manner to enhance the transparency and efficiency of Indian capital markets.

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