AN EMPIRICAL STUDY ON DAY-OF-THE WEEK EFFECT IN INDIAN STOCK MARKET DURING DIFFERENT SETTLEMENT REGIMES USING GARCH FRAMEWORK

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ABSTRACT

The presence of calendar anomalies such as day-of-the-week effect can help investors to earn abnormal returns and indicates market inefficiency. In this study we examine whether the market microstructure reforms such as introduction of rolling settlement mechanism by SEBI did increase efficiency of the Indian Stock Market. This study tests the presence of the day of the week effect on stock market returns for the period of January, 1995 through July, 2012 using GARCH (1,1) Model for three indices viz., S&P CNX NIFTY (Nifty), CNX Nifty Junior and S&P CNX 500 (NSE-500). The sample period is divided into two sub-sample periods comprising a Pre-Rolling settlement period and a Post–Rolling settlement period. Our results support previous research findings that returns are the highest on Friday after introduction of rolling settlement.

Keywords*: weak-form efficiency, calendar anomalies, rolling-settlement, GARCH, dummy variables.*

Introduction:

Fama (1965) described an "efficient" market as a market where there are large numbers of rational, profit-maximizers actively competing, with each trying to predict future market values of individual securities, and where important current information is almost freely available to all participants and that at any point in time, actual prices of individual securities already reflect the effects of information based both on events that have already occurred and on events which, as of now, the market expects to take place in the future. In other words, in a Weak-form efficient stock market, no investor can predict future prices based on past prices or patterns. If the investors can identify certain patterns in stock prices allowing them to earn abnormal returns then the stock market is termed as Weak-form inefficient. For instance, if the investor observes a consistent pattern of negative returns on Monday and positive returns on Wednesdays. Then his trading strategy would be to buy on Mondays and to sell on Wednesdays. The presence of such calendar anomalies can help investors to earn abnormal returns and indicates market inefficiency and violates the weak form efficient market hypothesis.

Calendar anomalies such as Day-of-the-Week effect and January effect in stock market returns has been widely studied and documented in finance literature.[1]. Calendar effects i.e. turn of the year effect, week effect, and Holiday effect have been reported to generate very high and abnormal rate of returns in various developed stock markets[2].

The international studies show that different settlement systems produce different patterns of behaviour of stock returns under the different time frames. Studies has also recorded shift in the day-of-the-week effect with changes in settlement regimes in some stock exchanges e.g. in Kuala Lumpur, New Zealand etc [3].

[1] Kiymaz, Halil and Berument, Hakan (2003) "The day of the week effect on stock market volatility and volume: International evidence" Review of Financial Economics, Vol.12, pp. 363-380

[2] See Arora, Varun and Das, Sromon, (2007) "Day of the Week Effects in NSE Stock Returns: An Empirical Study" Retrieved from http://ssrn.com/abstract=1113332

[3] Badhani, K.N. "Anomaly or Rationality: Explaining the Day-of-the-Week Effect on S&P CNX Nifty Index-Returns during Different Settlement Regimes"
Retrieved from
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=962004

Table 1: Changes in Settlement Mechanism at National Stock Exchange (NSE)*

Date	Nature of Change
January 1, 1998	SEBI recommended for introduction of T+5 settlement on transactions in demat accounts.
January 10, 2000	Rolling settlement was introduced on T+ basis on ten selected securities.
May 8, 2000	Rolling settlement extended to 156 selected securities.
July 2, 2001	400 major securities covered by rolling settlement system. The end of badla system at BSE.
January 1, 2002	Compulsory rolling settlement for all the securities on T+5 basis was introduced.
April 1, 2002	T+5 settlement replaced by T+3 settlement.
April 1, 2003	Settlement-lag further reduced to T+2.

**Note.* Adapted from "Anomaly or Rationality: Explaining the Day-of-the-Week Effect on S&P CNX Nifty Index-Returns during Different Settlement Regimes" by Dr.K.N.Badhani (2007), p.5.

Settlement Regimes:

SEBI directed all Stock Exchanges in 1992-93 to adopt a Fixed Day Weekly Settlement progressively for all categories of shares by 1994-95. With the introduction of dematerialization of securities, SEBI moved the stock exchanges gradually to a T+2 rolling settlement from April 2003[4].

Under account period settlement (Fixed Day Weekly Settlement), trading take place for the "account period" (which could be a week or a fortnight). Trades are netted through the account period, and the net outstanding position at the end of the settlement period goes to settlement a few days later. Rolling settlement is the same as account period settlement, where the netting period is shrunk to one day. With rolling settlement, trades are netted through the day, and all open positions at the end of the day are settled n days later. This is called T +n rolling settlement, to denote settlement n days after T, the day of the trade[5].

In 2001, Indian stock market made a transition from the fixed-day weekly settlement system to a rolling settlement system. It is against this backdrop, we conduct this study which examines whether the market microstructure reforms such as introduction of rolling settlement mechanism by SEBI (Securities Exchange Board of India) did increase efficiency of the Indian Stock Market. In this study, particular attention is given to the evidence of Calendar anomaly especially the 'Day of the Week effect' on returns during fixed weekly settlement regimes and during rolling settlement regime.

[4] Sabarinathan, G (2002), "SEBI's regulation of Indian Securities Market: A Critical Review of Major Developments", Vikalpa, Vol.35, No.4, pp 13-26.

[5] Reproduced from Shah, Ajay and Thomas, Susan (2001) "Policy Issues in the Indian Securities Market"

Literature Review:

Badhani (2007) examined the behaviour of S&P CNX Nifty returns across the days-of-the-week during the different settlement regimes for the period of ten years from April 1995 to March 2005. During the fixed-day weekly settlement system, he observed that returns were inflated on first day of the settlement cycle i.e. on Wednesday and after the implementation of rolling settlement system no any day-of-the-week effect is found in S&P CNX Nifty index returns.

Chander, Mehta and Sharma (2008) empirically scrutinized the four market series namely BSE 100, BSE Sensex, S&P CNX Nifty and S&P CNX 500 for the day-of-the-week effect for a ten year period. The entire series was divided into two sub periods, viz., (1) pre-rolling settlement period, April 1997 – December 2001 and (2) post-rolling settlement period, January 2002 – March 2007. They found Friday returns are the highest and Monday returns are the lowest in the post-rolling settlement documenting evidence of the presence of the day-of-the-week effect.

Das and Arora (2007) in their study investigated the existence of seasonality in India's stock market in order to detect the Day of the week effect in the Stocks listed on the National Stock Exchange. They analyzed the post-reform period using data of stocks on NSE and BSE for the period from November 1994 to September 2007. Their results confirmed the existence of Day of the Week Effect on stock returns in India for 66 Stocks implying that the stock market in India is inefficient.

Gupta (2006) re-examined the day-of-the-week effect on the Indian Stock Market after the introduction of the compulsory rolling settlement for a three year period i.e. 2002 to 2005 using non-parametric test. The results showed the returns to be the highest on Friday for all the indices and provided evidence of the day-of-the-week effect for BSE 100 and S&P CNX 500 index for the Indian stock market.

Nath and Dalvi (2005) examined empirically the day of the week effect anomaly in the Indian equity market for the period from 1999 to 2003 using both high frequency and end of day data for the benchmark Indian equity market index S&P CNX NIFTY. They found in their study that after the introduction of the rolling settlement, Friday has become significant.

Sarma (2004) explored the day-of-the-week effect on the Indian stock market returns in the post-reform era using daily returns generated by the SENSEX, NATEX, and BSE200 during January 1st 1996 to August 10th 2002. The Monday-Friday set for all the indices has the highest positive deviation thereby indicating the presence of opportunity to make consistent abnormal returns through a trading strategy of buying on Mondays and selling on Fridays.

Poshakwale (1995) found empirical evidence on weak form efficiency and the day of the week effect in Bombay Stock Exchange over a period of 1987-1994. The null hypothesis that there is no difference between the returns achieved on different days of the week is also rejected, as there is clear evidence that the average returns are different on each day of the week.

Balaban (1995) investigated informational efficiency of the Istanbul Securities Exchange (ISE) in terms of the Istanbul Securities Exchange Composite Index for the period January 1988-August 1994 and found the presence of day of the week effect.

Berument and Kiymaz (2001) tested the presence of the day of the week effect on stock market volatility by using the S&P 500 market index during the period of January 1973 and October 1997 using GARCH framework. The findings show that the day of the week effect is present in both volatility and return equations. While the highest and lowest returns are observed on Wednesday and Monday, the highest and the lowest volatility are observed on Friday and Wednesday, respectively.

Brooks & Persand (2001) investigated the presence of day-of-the-week effects in five Southeast Asian stock markets during the 1990s. Two of the stock returns series, those of South Korea and the Philippines did not show any significant evidence for the presence of this calendar anomaly. The other three markets had at least one day of the week where the average return was significantly positive or significantly negative.

Kiymaz and Berument (2003) investigated the day of the week effect on the volatility of major stock market indexes for the period of 1988 through 2002. Using a conditional variance framework (GARCH), they found that the day of the week effect is present in both return and volatility equations. The highest volatility occurs on Mondays for Germany and Japan, on Fridays for Canada and the United States, and on Thursdays for the United Kingdom.

Pandey I.M. (2003) investigated the existence of seasonality in India's stock market. He covered the post-reform period using the monthly return data of the Bombay Stock exchange's Sensitivity Index for the period from April 1991 to March 2002 for analysis. The results confirm the existence of seasonality in stock returns in India and the January effect.

Objective of the Study:

This study investigates the stock returns patterns during the different settlement regimes to analyze the impact of settlement procedures on market efficiency. This study tests the presence of the day of the week effect on stock market returns of three NSE indices for the period of January, 1995 through July, 2012 using GARCH (1,1) framework.

The hypothesis being tested is:

H_0: There is no difference between the stock returns on different days of the week after the introduction of rolling settlement. In other words, there is no presence of day-of-the-week effect in post-rolling settlement regime and the Indian stock market has become weak-form efficient.

H_1: There is a difference between the stock returns on different days of the week after introduction of rolling settlement. In other words, there is a presence of day-of-the-week effect in post-rolling settlement regime and the Indian stock market has become weak-form inefficient.

Data and Methodology:

There are various indices available that are widely used as the indicator of the performance of the stock markets in India. These indices are constructed based on different methods and hence are expected to behave differently. Three different indices related to Indian stock exchanges are used in the study: S&P CNX NIFTY (Nifty), CNX Nifty Junior and S&P CNX 500 (NSE-500). The data consists of daily closing values of the three indices. The data on above stock market indices is obtained from the NSE website - www.nseindia.com. The data is collected for the period January 1 1995 to July 31st 2012 and the data is split into the following periods based on different settlement regimes.

Sample Period: 1	From January 1, 1995 to July 1, 2001	Fixed-day Weekly Settlement System
Sample Period: 2	From July 2, 2001 to July 31st 2012	Rolling Settlement regime

The data consists of daily closing values of the three indices.

S & P CNX Nifty

Sample Period 1: 02-01-1995 to 29-06-2001 – 1607 observations

Sample Period 2: 02-07-2001 to 31-07-2012 – 2754 observations

S & P CNX Nifty Junior

Sample Period 1: 04-10-1995 to 29-06-2001 – 1424 observations

Sample Period 2: 02-07-2001 to 31-07-2012 – 2754 observations

S & P CNX 500

Sample Period 1: 07-06-1999 to 29-06-2001 – 520 observations

Sample Period 2: 02-07-2001 to 31-07-2012 – 2751 observations

Daily market returns are calculated from the daily price indices such as follows: $R_t = \text{Ln}\,(P_t/P_{t-1})$.[6]

R_t = Market return in period t; P_t = Index Price at day t

P_{t-1} = Index price at period t-1; Ln = Natural Log

Methodology of the Study:

Most of the research literature suggests the use of a day of the week dummy variable for testing day of the week effect in stock returns. The dummy variable takes a value of unity for a given day and a value of zero for all other days. The following regression is used to test whether there is any statistically significant difference among index returns on different days of the week:

$$R_t = B_1 D_{1t} + B_2 D_{2t} + B_3 D_{3t} + B_4 D_{4t} + B_5 D_{5t} + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots 1$$

[6] Finance literature suggest the use of continuously compounded returns

Table 2: S&P CNX Nifty daily returns during Fixed Weekly Settlement

Conditional Mean Equation	*Coefficient*	*Std. Error*	*z*	*p-value*	
Mon	-0.0024836	0.000849869	-2.9223	0.00347	***
Tue	-0.00158614	0.000874304	-1.8142	0.06965	
Wed	0.00633037	0.000859155	7.3681	<0.00001	***
Thu	-0.000547228	0.000859401	-0.6368	0.52428	
Fri	-0.000669305	0.000855392	-0.7825	0.43395	
Return_1	0.130163	0.0269792	4.8246	<0.00001	***
Conditional Variance Equation					
ω	1.81973e-05	5.43477e-06	3.3483	0.00081	***
α	0.0888137	0.0168094	5.2836	<0.00001	***
β	0.84657	0.0297654	28.4415	<0.00001	***

Mean dependent var	-0.000073		S.D. dependent var	0.016998
Log-likelihood	4334.176		Akaike criterion	-8648.352
Schwarz criterion	-8594.599		Hannan-Quinn	-8628.389

*** Significant at 1% level ** Significant at 5% level

Table 3: CNX Nifty Junior daily returns during Fixed Weekly Settlement

Conditional Mean Equation	*Coefficient*	*Std. Error*	*z*	*p-value*	
Mon	-0.00212416	0.000896439	-2.3696	0.01781	**
Tue	-0.00260909	0.000927335	-2.8135	0.00490	***
Wed	0.00869506	0.000921459	9.4362	<0.00001	***
Thu	-0.00173634	0.000932256	-1.8625	0.06253	
Fri	-0.00194543	0.000908064	-2.1424	0.03216	**
Return_1	0.170769	0.0285371	5.9841	<0.00001	***
Conditional Variance Equation					
ω	1.21958e-05	3.45095e-06	3.5340	0.00041	***
α	0.135098	0.0213751	6.3203	<0.00001	***
β	0.837052	0.0249107	33.6022	<0.00001	***

Mean dependent var	0.000044		S.D. dependent var	0.020521
Log-likelihood	3737.889		Akaike criterion	-7455.778
Schwarz criterion	-7403.180		Hannan-Quinn	-7436.131

*** Significant at 1% level ** Significant at 5% level

Table 4: S&P CNX 500 daily returns during Fixed Weekly Settlement

Conditional Mean Equation	*Coefficient*	*Std. Error*	*z*	*p-value*	
Mon	0.000564241	0.00168464	0.3349	0.73768	
Tue	0.000809423	0.00177221	0.4567	0.64786	
Wed	0.00642641	0.00168227	3.8201	0.00013	***
Thu	0.000152452	0.00177783	0.0858	0.93166	
Fri	-0.00138719	0.00167657	-0.8274	0.40801	
Return_1	0.158701	0.0487653	3.2544	0.00114	***
Conditional Variance Equation					
ω	6.24907e-05	2.48698e-05	2.5127	0.01198	**
α	0.22968	0.0642876	3.5727	0.00035	***
β	0.623766	0.100807	6.1877	<0.00001	***

Mean dependent var	-0.000214		S.D. dependent var	0.020825
Log-likelihood	1317.737		Akaike criterion	-2615.474
Schwarz criterion	-2572.974		Hannan-Quinn	-2598.822

*** Significant at 1% level ** Significant at 5% level

Where D_{1t} = 1 if day t is a Monday and 0 otherwise; D_{2t} = 1 if t is a Tuesday and 0 otherwise; and so on. The OLS coefficients B_1 to B_5 are the mean returns for Monday through Friday, respectively. The stochastic error term is indicated by ε_t. If there is any seasonal effect it will be indicated by a statistically significant 't' value of the dummy coefficient for that day[7]. Equation 1 has the possibility of having auto-correlated errors. To eliminate this possibility, we include a one lag value of the return variable R_{t-1} to the equation 1 and it becomes as follows[8]:

$$R_t = B_1 D_{1t} + B_2 D_{2t} + B_3 D_{3t} + B_4 D_{4t} + B_5 D_{5t} + R_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots 2$$

The drawback of an OLS model (Equation 2) is that it assumes that the expected value of all error terms, in absolute value, is the same at any given point. This assumption is called homoskedasticity.To address this drawback, we use the GARCH model (Generalized Autoregressive Conditional Heteroskedasticity) proposed initially by Engle (1982) and further developed by Bollerslev (1986). In this paper, we investigate the day of the week effect in stock market returns and volatility using a conditional variance framework (GARCH) followed by Berument and Kiyaz (2001). GARCH (1,1) model to examine day-of-the-week effect on the market returns takes the following form:

$$R_t = B_1 D_{1t} + B_2 D_{2t} + B_3 D_{3t} + B_4 D_{4t} + B_5 D_{5t} + R_{t-1} + \varepsilon_t \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots 2.1$$

$$h_t = \omega + \alpha \varepsilon^2_{t-1} + \beta h_{t-1} \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots 2.2$$

Where $\omega >= 0$, $\alpha >= 0$, $\beta >= 0$, and $\alpha + \beta <= 1$

ω - Long term mean of the variance

ε^2_{t-1} - past squared residuals from the conditional mean equation

h_{t-1} - lagged values of h_t (previous realized variance)

Equation 2.1 (Conditional Mean Equation) and Equation 2.2 (Conditional Variance Equation) are jointly estimated using maximum likelihood estimation technique.

Quantitative Results and Interpretation:

Results of GARCH Model for Fixed Day Weekly Settlement regime:

The results of the mean equation and variance equations of GARCH model for the three NSE indices during the Fixed Weekly Settlement regime are presented in following tables numbered 2, 3 and 4.

In Table 2, the estimated slope coefficients represent the mean returns on each day of the week. It is evident that except for Wednesday, the returns are negative on all other days of the week. The returns on Wednesday are positive and statistically significant at 1% level of significance. The largest negative returns are observed on Monday.

The results in Table 3 clearly show that except for Wednesday, the returns are negative on all other days of the week. The returns on Wednesday are positive and statistically significant at 1% level of significance. The largest negative returns are observed on Tuesday followed by Monday.

The results in Table 4 show that the returns are positive for all trading days except for Friday. The returns on Wednesday are positive and statistically significant at 1% level of significance. None of the returns on other days of the week are statistically significant.

Interpretation for Table No. 2, 3, and 4:

The results in the above tables clearly indicate that returns on Wednesday are positive and greater than returns on all other days of the week on all the three NSE indices. In addition, returns on Wednesday are statistically significant on all the three NSE indices. Therefore we have sufficient evidence to conclude that there was a Wednesday effect during the Fixed Weekly Settlement regime.

Results of GARCH Model during Rolling settlement regime:

The results of the mean equation and variance equations of GARCH model for the three NSE indices during the Rolling Settlement regime are presented in following tables numbered 5, 6 and 7.

The results in Table 5 for S&P CNX Nifty show that returns are positive for all trading days, the highest being for Friday followed by Thursday. The returns on Friday and Thursday are statistically significant at 5% level.

The results in Table 6 for CNX Nifty Junior shows that the mean returns are positive for all days of the week. The highest mean return is observed on Friday closely followed by Wednesday and lowest return is seen on Thursday. The returns on Friday are positive and statistically significant at 1% level.

The results in Table 7 for S&P CNX 500 show that returns are positive for all trading days of the week. The highest return is observed on Friday followed by Wednesday and the lowest return is seen on Tuesdays. The return on Fridays is statistically significant at 1% level and the returns on Monday and Wednesday are also statistically significant at 5% level.

Interpretation for Table No. 5,6 and 7:

The results in the above tables clearly indicate that returns on Fridays are positive and greater than returns on all other days of the week on all the three NSE indices. In addition, returns on Fridays are statistically significant on all the three NSE indices. Therefore, we have sufficient evidence to conclude that Friday is the significant day i.e. there is a Friday effect after the introduction of rolling settlement procedure. We reject the null hypothesis that there is no difference in stock returns on different days of the week after introduction of rolling settlement as the returns on Friday are the highest and statistically significant on all three NSE indices.

[7] See Damodar Gujarati, Basic Econometrics, 4th Edition, Tata-Mcgraw Hill, Chapter 9

[8] It is not uncommon to find that the stock price today depends, among other things, on stock price of yesterday. Damodar Gujarati in his book "Basic Econometrics" suggests that autocorrelation occurs when we omit lag terms. Hence, we add the lagged term.

Table 5: S&P CNX Nifty daily returns during Rolling Settlement

Conditional Mean Equation	*Coefficient*	*Std. Error*	*z*	*p-value*	
Mon	0.000955808	0.000512055	1.8666	0.06196	
Tue	0.000984055	0.000518371	1.8984	0.05765	
Wed	0.000949414	0.000521938	1.8190	0.06891	
Thu	0.00108169	0.000508622	2.1267	0.03344	**
Fri	0.00122062	0.000519057	2.3516	0.01869	**
Return_1	0.0768645	0.0205585	3.7388	0.00018	***
Conditional Variance Equation					
ω	6.90889e-06	1.3721e-06	5.0353	<0.00001	***
α	0.134791	0.0154543	8.7219	<0.00001	***
β	0.841572	0.0169446	49.6661	<0.00001	***

Mean dependent var	0.000551	S.D. dependent var	0.016279	
Log-likelihood	7862.248	Akaike criterion	-15704.50	
Schwarz criterion	-15645.30	Hannan-Quinn	-15683.11	

*** Significant at 1% level ** Significant at 5% level

Table 6: CNX Nifty Junior daily returns during Rolling Settlement

Conditional Mean Equation	*Coefficient*	*Std. Error*	*z*	*p-value*	
Mon	0.000826489	0.000529409	1.5612	0.11849	
Tue	0.00074737	0.000543701	1.3746	0.16926	
Wed	0.00100747	0.000548024	1.8384	0.06601	
Thu	0.000658269	0.000545627	1.2064	0.22765	
Fri	0.0014265	0.000544758	2.6186	0.00883	***
Return_1	0.164711	0.0203658	8.0876	<0.00001	***
Conditional Variance Equation					
ω	7.90197e-06	1.55151e-06	5.0931	<0.00001	***
α	0.155198	0.0152827	10.1552	<0.00001	***
β	0.826458	0.0152167	54.3125	<0.00001	***

Mean dependent var	0.000661	S.D. dependent var	0.017964	
Log-likelihood	7655.587	Akaike criterion	-15291.17	
Schwarz criterion	-15231.98	Hannan-Quinn	-15269.79	

*** Significant at 1% level ** Significant at 5% level

Table 7: S & P CNX 500 daily returns during Rolling Settlement

Conditional Mean Equation	*Coefficient*	*Std. Error*	*z*	*p-value*	
Mon	0.000986823	0.000485515	2.0325	0.04210	**
Tue	0.000590188	0.000493556	1.1958	0.23178	
Wed	0.00117347	0.000495275	2.3693	0.01782	**
Thu	0.00095359	0.000486948	1.9583	0.05019	
Fri	0.00138348	0.000495625	2.7914	0.00525	***
Return_1	0.117279	0.0206296	5.6850	<0.00001	***
Conditional Variance Equation					
ω	5.99755e-06	1.19256e-06	5.0291	<0.00001	***
α	0.141222	0.0151012	9.3517	<0.00001	***
β	0.839744	0.015728	53.3916	<0.00001	***

Mean dependent var	0.000606	S.D. dependent var	0.015934	
Log-likelihood	7948.936	Akaike criterion	-15877.87	
Schwarz criterion	-15818.69	Hannan-Quinn	-15856.49	

*** Significant at 1% level ** Significant at 5% level

Conclusion:

We analyzed the data of three stock indices on NSE using GARCH (1,1) framework to find if day wise returns are significant or not and can provide and arbitrage opportunity to investors. We investigated the stock returns patterns during the Fixed Weekly Settlement regime and after the introduction of Rolling Settlement to analyze the impact of settlement procedures on market efficiency. The returns on all the three indices studied confirm the presence of day-of-the-week effect (Wednesday effect) on NSE during the fixed day weekly settlement regime. From the analysis, it is quite apparent that during fixed day weekly settlement regime, the returns were positive on Wednesdays most of the time, indicating existence of clear arbitrage opportunity for investors who can buy in other days and sell on Wednesdays where chance of making profits is higher. This is easy to understand as the settlement cycle on NSE was Wednesday to Tuesday meaning the traders would carry out heavy buying on Wednesday, explaining the highly significant positive returns for Wednesday and as Tuesday was the last day for settlement, they would resort to heavy selling to square of their long positions explaining the reason why Monday and Tuesday report negative returns as also observed in the results. Our results are consistent with Badhani (2007), who also observed in his study that during the fixed-day weekly settlement system, the returns were inflated on first day of the settlement cycle i.e. on Wednesday.

After the introduction of the rolling settlement procedures, the Wednesday effect vanishes and surprisingly we see evidence of Friday effect. Our results support the findings of Chander, Mehta and Sharma (2008), Nath and Dalvi (2005) and Sarma (2004), who also observed that after the introduction of rolling settlement, the returns are the highest on Friday. The possible explanation for Friday being the significant day, could be that Friday being the last trading day of the week, the traders rush to square of their positions to avoid carrying any open positions for settlement. Our results provide evidence of day-of-the-week effect (Friday effect) on all three indices of NSE indicating that Indian Stock Market is still weak-form inefficient even after the introduction of rolling settlement. On the flip-side, we observe that during Fixed Weekly Settlement regime, mean returns were mostly negative on all days of the week except on Wednesdays but after introduction of rolling settlement, mean returns are positive for all trading days of the week. The results of this study point out that a clear winning strategy for the investors would be to buy on other days of the week and sell on Fridays.

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