

THE WEEKEND EFFECT ON THE STOCK RETURNS OF NATIONAL STOCK EXCHANGE

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Abstract:

The existence of seasonal variation in stock market returns violate the weak form market efficiency because prices of equity are no longer random and predicted on the base of past pattern. This motivates the market traders to formulate or select the trading strategy for stock selection to beat the market and produce abnormal return on the basis of past pattern. Variations in the stock returns of National Stock Exchange motivate to this study. This study examines whether there is a significant seasonal variation in the average daily stock returns and Monday effect in the National Stock Exchange for the period January 2014 to December 2018. T-test was conducted to check the significance of mean of Monday returns and other days of week returns.

Keywords: Weekend effect, Stock Returns, National Stock Exchange, Day of the week effect, Seasonal variation.

Introduction

There are existence of seasonal variations in the production & sales of product in the market. But existence of seasonal variability in stock market returns violates the efficient market hypothesis. According to efficient market hypothesis, stock prices reflect the available all the market information. Since all information available in the market, trader not efficient to avails any surplus returns. Thus, Efficient Market Hypothesis suggested that it's not possible to beat the market by stock selection or market timing (Mokua 2003). The existence of seasonal variation in stock market returns violate the weak form market efficiency because prices of equity are no longer random and predicted on the base of past pattern. This motivates the market traders to formulate or select the trading strategy for stock selection to beat the market and produce abnormal return on the basis of past pattern. Like, if there is documentation of 'Day of week effect', investor select trading strategy of buying on Monday

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and selling on Friday to make surplus profits. Pandey (2002) and Aggarwal & Tandon (1994) contend that mean returns of the stocks were uncommonly high on Fridays and low on Mondays. Berument & Kiyamaz (2001), French (1980) and Mangeni and Mike (2018) tested the weekend effect by apply t-test and resulted that there was presence of seasonal variations in stock market returns.

It is important to know whether there is variation in the risk associated with stock returns by day of the week patterns and whether a high (low) return is associated with a corresponding high (low) returns for a given day. Having such knowledge may aware investors to adjust their investments by considering day of the week effect in volatility. For example, Fama (1965) tested the hypothesis that returns generated in calendar time by comparing variance of stock returns for Monday with the variance for other days of the week.

Other studies illustrated that in the stock market of other developed countries aside from US for instance, Australia, UK , Canada and Japan display strong disposition of seasonality effects: French(1980), Penman (1987), Harris(1986), Cross(1973), Gibbon and Hess(1981), Smirlock and Starks(1986), Keirn and Stambaugh(1984), Condoyanni et al.(1987) and Wong & Ho(1986) presented empirical evidence that the average daily stock returns on Friday is unusually high while the average stock returns on Monday is unusually low. Dyl & Maberly (1986) and Cornell (1985) studied that in other financial markets including Treasury bill market, bond market and futures market day of the week effect was existed. Particularly the average return of Monday is significantly negative. There was no theoretical clarification about weekend effect or day of the week effect has been found. This study examines whether there is a significant seasonal variation in the average daily stock returns and Monday effect in the National Stock Exchange for the period January 2014 to December 2018. The average stock returns on Monday is significantly less compare to average stock return over the other days of the week.

Hypothesis

T-test is used to test the hypothesis. Therefore, hypothesis is as follows:

H_0 : Mean of the daily return of Monday = Mean of the daily return of other days

H_a : Mean of the daily return of Monday $\neq$ Mean of the daily return of other days

Data and Methodology

The study identified the stocks from NSE 500 a share index of National Stock Exchange from year January 2014 to December 2018. All of the data used in this study collected from the Yahoo Finance data base. Stocks return taken on daily basis from Yahoo Finance.

Two sample t-tests was implemented for test the null hypothesis that stock returns of all days of the week belong to the same universe; rejection of null hypothesis resulted that statistical anomaly in the price behavior on a specific day of the week. Caporale, Gil-Alana & Plastun (2015), and Borges (2009) contend that t-test is one of the best methods of testing the weekend effects.

Return Measurement:

Following work of the Borges (2009) as well as Mohamad, Hamid & Ali (1988), calculated the stock returns as:

$$\text{Return} = \text{LN} (\text{Current year return/Previous year return})$$

Risk Measurement:

$$\text{Standard Deviation} = \sqrt{\sum_{i=1}^N (r - ERR)^2 \times P}$$

The Monday effects was established by implementing t-test of the Monday daily returns against the average of the remaining four days as suggested by Borges (2009). The results are presented in table (2).

Table 1: Daily Mean Returns

Year	Monday	Tuesday	Wednesday	Thursday	Friday
2014	0.006672	0.006823	0.006749	0.006448	0.006515
2015	-0.00046	0.000145	0.000119	-0.00018	-0.00062
2016	0.00028	0.00056	0.000699	0.001376	0.000654
2017	0.005881	0.005963	0.005774	0.005669	0.005737
2018	-0.00051	-0.00088	-0.00084	-0.0009	-0.00088
Average	0.002373	0.002522	0.0025	0.002483	0.002281

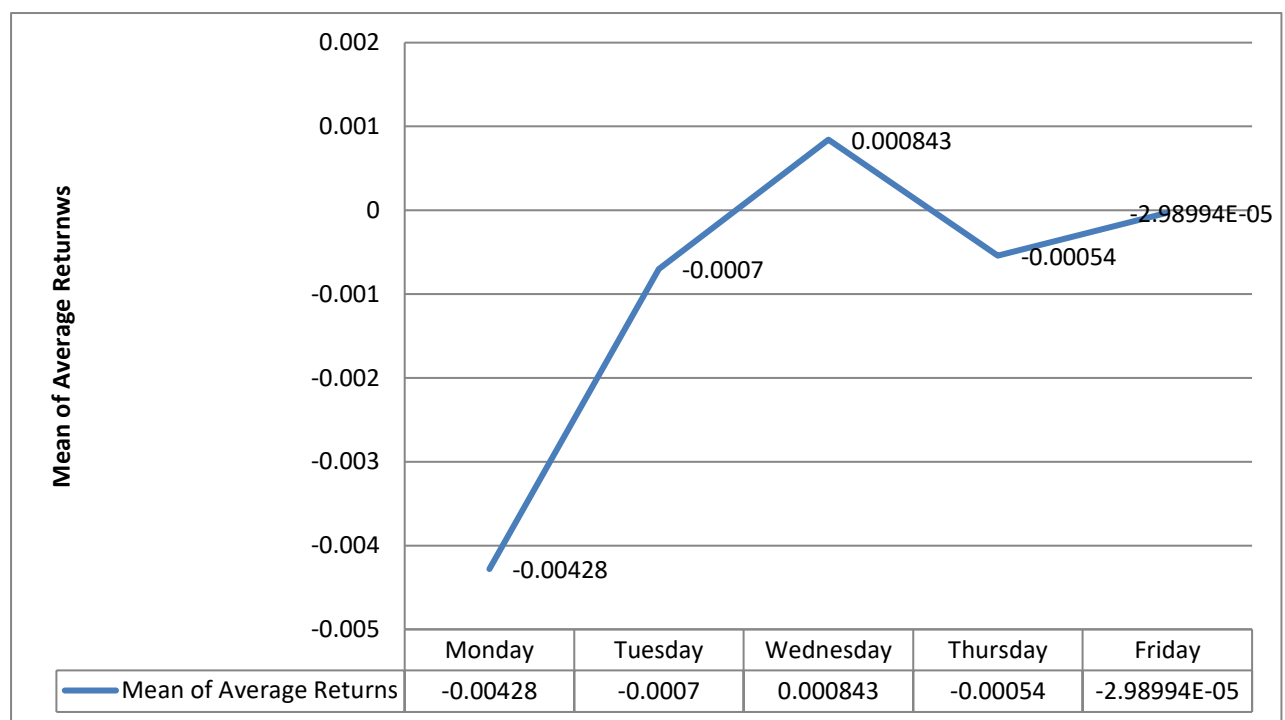
The mean return for Monday is positive (0.002373) but lesser than Tuesday (0.002522), Wednesday (0.0025) and Thursday (0.002483) but not to Friday (0.002281). Monday mean higher, out of 5 year in 2 years in comparison to average Monday mean of 5 years. Tuesday had largest average return in 5 years in comparison to other days.

Table 2: Monday Effects

Average Daily Returns	N	Mean	Std. Deviation	t-value	P- value	Mean Difference
Other Days	987	0.000536	0.01191	2.06	0.039607	0.004816
Monday	255	-0.00428	0.036866			

Here, N represents the number of observations. Level of significance (α) is taken at 5%.

The Table (2) demonstrated, the Monday daily average returns are negative and NSE daily average returns of other days of weeks are positive. And results implies that the null hypothesis rejected because p-value was lesser than the level of significance 0.05 ($P < 0.05$) that means there was significant difference between Monday stock returns and other days stock returns. Standard deviation demonstrated that there was more variations in Monday returns (0.036866) in comparison to other days of the week returns (0.01191).

Figure 1: Trend Analysis of Daily Stock Returns

The trend of daily mean average stock returns of all the days were plotted on graph (Figure 1). The results demonstrated that the Wednesday daily average stock returns at National Stock Exchange were higher in all years compared to other days. The least daily stocks returns were recorded on Monday.

Finding and Conclusions:

The results are significance to different stock market participants such as fund managers, regulatory authorities and investors. Stock market investors can devise their investing strategies and timing on the basis of study results and earn superior returns by anticipating future prices. As the results of study indicate, Friday returns are high at the National Stock Exchange. Since the Monday returns are negative, investors can take advantage and buy shares on Monday and sell them on Wednesday in order to earn superior returns.

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