A Study on Seasonality Effect in Indian Stock Market

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I hereby declare that the data presented in this Dissertation report entitled, "A Study on Seasonality Effect In Indian Stock Market" is based on the results of investigations carried out by me in the (Commerce) at the Goa Businness School, Goa University under the Supervision of Mr/Ms/Dr/Prof.(Aakruthi Alamkar) and the same has not been submitted elsewhere for the award of a degree or diploma by me. Futher, I understand that Goa University or its authorities will be not be responsible for the correctness of oberservations/experimental or other findings given the dissertation.

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This is to certify that the dissertation report " A Study On Seasonality effect in Indian Stock Market" is a bonafide work carried only by Ms. Prarthana Nilesh Manjrekar under my supervision in partial fulfillment of the requirements for the award of the degree of (Master of Commerce) in the Discipline (Commerce) at the (Goa Business School), Goa University/College.

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Abstract

Seasonality in stock market is regular and repetitive phenomenon occurring at some regular intervals of the time, which may generate abnormal or excess returns. This paper explores existence of seasonality in Indian Stock market in forms of Day of the week effect. For this purpose BSE 100 Companies were taken as sample. The daily closing, opening prices were collected from 1st April 2013 to 31st March 2023. The existence of day of the week effect is studied by considering normal returns(close to close) trading returns (open to close) and non trading returns (close to open). From the result it is revealed that Negative Monday effect is noticed and Tuesdays shows a tendency for stronger performance compared to other week days for all the companies in normal returns. It is found that Monday is more attractive trading days during the trading period. Monday returns are highest followed by Tuesday and Wednesday shows dip in the middle of the week lowest returns are noticed at the end of the week. It is found that Monday returns are highest and Friday returns are lowest in non trading period.

Chapter 1: Introduction

1.1 Introduction to Indian Stock market

Stock markets are recognized as venues for conducting commercial transactions including the purchase and sale of stocks, or shares, which represent ownership stakes in companies. This need not be a physical location; rather, it is an aggregate of stock buyers and sellers, a place, or a distinct thing. While commonly called stock market other terms like share market and equity market are also used to describe the same dynamic world of buying and selling. Without a doubt, stock markets play a crucial and essential role in a nation's economy. After a careful examination of the numerous economic indicators and their effects on the stock markets, it is found that, in addition to the broad money supply, inflation, the credit/deposit ratio, and the budget deficit, these factors also have a significant impact on stock market movements.

1.2 History of the Indian stock market

India represents one of the oldest stock markets in Asia, featuring a rich historical background. The setting up of stock markets is governed by the Securities Contracts (Regulation) Act of 1956, which defines stock markets as "a collection of individuals, whether organized or not, a corporate incorporated under the regulations of the Companies Act, 1956, whether under a scheme of corporatization and demutualization or otherwise," or "constituted before corporatization and demutualization."

India's financial sector is anticipated to become one of the world's leading markets shortly due to its rapid growth. The surge in financial markets is propelling the expansion of the Indian stock market and entices investors to make investments in it. The Indian share market has a history, dating back to 1875. Originally called the "Native Share and Stock Broker's Association," the Bombay Stock Exchange (BSE) was the first stock exchange in India. There were 318 members in the association at first. India can take pride in having 24 share markets spread around the nation, along with several financial intermediaries such as banks, insurance firms, mutual funds, and non-banking financial corporations.(Gupta et al., 2007)

1.3 Stock exchanges

The financial world revolves around stock markets, active exchanges where investors buy and sell company shares, effectively casting their financial voting votes for companies they think will

prosper. The Indian stock market mainly functions on two major stock exchanges, the Bombay Stock Exchange (BSE) and the National Stock Exchange (NSE). These two stock exchanges rank among the top five stock exchanges of developing economies of the world.

BSE

Founded in 1875 on busy Dalal Street in Mumbai the Bombay Stock Exchange (BSE), is the oldest in Asia. It is currently the tenth-largest stock exchange in the world. The BSE is a major driver of Indian industry, with a broad listing of 6,000 businesses and an estimated market capitalization of $4.9 trillion. Performance is measured by the benchmark index, the Sensex, which reached a record high of 40312.07 in June 2019.

NSE

“After its formation in June 1994, the NSE has grown into the top stock exchange in the nation in terms of trading volume. NSE is under the ownership of various financial institutions. It is the world’s largest derivatives exchange by number of contract trades for the calendar year 2022. Nifty 50, a 50-stock index is used extensively by investors in India. This index was launched in 1996 by NSE.”

1.4 Market Efficiency

The financial markets, which include the stock markets, draw researchers and investors. To increase the return on their investments, investors are seeking to forecast the market. Scholars aim to forecast it to evaluate how effective the forecasting models are. In actuality, researchers interested in creating prediction models face significant obstacles due to the financial markets. A highly efficient market is one in which all information is flawlessly transmitted that is, everyone receives the data completely transmitted that is, all are provided the information instantaneously, and at no cost that is, everyone gets the information for free. An inefficient market can assist investors in creating investment strategies that will enable them to take advantage of excess returns beyond their expectations. In contrast, an efficient market does not affect investment plans.

1.5 Introduction to Efficient Market Hypothesis

The concept of an efficient market or the "invisible hand" that labors incessantly to distribute resources most efficiently is the foundation of capitalism. This theory is the Efficient Market Hypothesis in the stock market context. This theory contends that stock prices instantly incorporate all available information. Therefore, there shouldn't be any stock market anomalies or regular drivers of high or low stock prices. If any irregularities seem to be ongoing, this may indicate that the market is not entirely efficient. It is probably the only one in finance or economics that inspires deeper debate amongst its supporters and opponents. (Gupta et al., 2007)

1.6 Types of Efficient Market Hypothesis

In 1970, Fama divided the efficient market hypothesis into three groups based on the amount of information reflected in market prices: weak form, semi-strong form, and Strong form the following is a synopsis of these several types of market efficiency:

1. Weak Form

A common term for the weak form efficiency is "Random walk." It implies that no one should be able to outperform the market using something that "everyone" can, since stock prices in weak forms of market efficiency are reflected by all available trading information that can be derived from the market data, such as past price, trading volume, etc. Therefore, nobody can use information related to past prices to identify the undervalued security and make a big profit from them. The weak version of market efficiency is violated when anomalies arise such as the day of the week effect, month of the year effect, January effect, and turn of the month effect, among others.

2. Semi-Strong Form

All information accessible to the general public is included in semi-strong form.

current values of stocks. Past pricing data, annual reports from the company (including financial reports, balance sheets, and profit and loss accounts), announcements from the corporation, macroeconomic variables like unemployment and inflation, and others are all publicly accessible. Before the event is revealed and sometimes even before it happens, certain

information is disregarded (to the extent that it is anticipated in advance). The market is impacted by issues like rights, bonuses, and profit reports even before the official releases. According to a semi-strong form, share prices react quickly and impartially to newly disclosed information, meaning that no one should be able to outperform the market by doing something "everyone else" is doing.

3. Strong Form

According to the strong-form version of the efficient market hypothesis, all information, such as information that is not generally known but is still available to the public, is thoroughly factored into current stock prices, and no kind of information will provide an investor with a competitive advantage. The prices of stocks indicate both public and private information about certain security in circumstances of strong form market efficiency. Supporters of this version of the theory contend that regardless of the data gathered or the research done, investors are not able to generate returns on their investments that are greater than typical market returns. The share prices, under strong form efficiency, represent all available information, both public and private, and nobody can obtain surplus returns.

1.7 Meaning of Seasonality

Research on the effects of seasonality in financial markets has attracted a lot of discussion from both practitioners and scholars. Seasonality in stock market returns has been noted in several international markets, providing information about how investors act and market dynamics. Examining the effects of seasonality concerning the Indian stock market offers a fascinating line of inquiry. The quickly changing economy of India, along with its broad socioeconomic environment, offers an exceptional context for investigating the existence and consequences of seasonality in stock market behavior. For investors, policymakers, plus market participants looking for opportunities to maximize investment strategies, control risks, and improve market efficiency, understanding the implications of seasonality in the Indian stock market is essential.

Seasonality is the term used to describe the periodic, regular, and repetitive fluctuations in a time series during less than a year. Seasonal changes in time series data are mostly caused by the shift in the weather. For instance, during the winter months, sales of wool clothing typically rise. In addition, traditions and customs have an impact on economic factors—for Example, gold sales

rise during the marriage season. In a similar vein, there are regular patterns in stock returns at specific times of the hour, day, week, or month.

Various efforts have been undertaken to develop a comprehension of the fluctuations in stock values. The only two methods used to forecast stock values in the past were fundamental and technical analysis. These two methods attracted analysts' and investors' attention for quite a lot of time. Researchers officially started attempting to create models for stock price estimation using econometric techniques in the early 1980s. Since then, seasonality or calendar anomalies have been demonstrated multiple times with the use of these techniques. The purpose of the proposed research project is to determine whether seasonal trends exist in the Indian stock markets. These kinds of results could be beneficial to both buy-and-hold investors and traders who want to trade intraday. Stock

1.8 Market Anomalies

Patterns or events in the financial markets that deviate from the predictions of major financial theories such as the Efficient Market Hypothesis (EMH) are known to be anomalies. Seasonal effects, at times known as anomalies, have been seen in developed financial markets about equity returns, particularly concerning variables in time. Asset pricing models are unable to explain such patterns in the market. These anomalies can be seen in actual data and often contradict the idea of market efficiency, which holds that asset values fluctuate randomly and completely take into account all relevant information.

Anomaly is a statistically significant variance between the actual average returns and the returns predicted by a specific asset pricing model. Therefore, becoming aware of anomalous returns (actual return less expected returns) is called an oddity. Evidence that appears to contradict the efficient market hypothesis is known as a market efficiency anomaly. Examples of such evidence include the small business impact, post-announcement earnings drift, book-to-market ratio, seasonality effect, and price-to-earnings ratio. There is a wealth of material in Indian contexts indicating that stock returns can also be forecast there. As a result, the EMH in India is likewise challenged by these inefficiencies. Anomalies fall into three groups.

1) Calendar anomalies 2) Fundamental Anomalies 3) Technical Anomalies

1) Calendar anomalies

Patterns in asset prices are tied to specific times of day, week, month, year, and holidays. Calendar anomalies are also known as seasonality or seasonal anomalies. some of the common anomalies are the January effect (stocks outperform in the first month of the year), the weekend effect (stocks tend to fall on Monday), the turn-of-the-month-effect (stock rise at the end of the previous month and the starting of the current month), holiday (stock fall or rise before or after the holiday). In this project, we are going to focus on calendar anomalies the most common anomaly is the day-of- the- week-effect

2) Fundamental anomalies

Patterns in asset prices that appear to contradict the principles of fundamental analysis are referred to as fundamental anomalies and they are also anomalies in the trading of financial instruments. The fundamental analysis is a process of examining security by attempting to determine its intrinsic values based on variables like the state of the economy and the financial health of the company. Some of the well-known fundamental anomalies are the value (stocks with low price-to-earnings ratios tend to outperform stocks with high price-to-earnings ratios), the size effect (smaller companies tend to perform more than larger companies), the high dividend yield effect (surpass the market and produce a higher return, low price to book(ratio yield higher returns compared to equities with high book to market ratios).

3) Technical analysis

Technical analysis is used to detect changes in asset prices that are referred to as technical anomalies. techniques like Moving average (buying equities when short-term averages rise above long-term averages and selling stocks when short-term averages fall below long-term averages), support and resistance (the price of asset finds buyers or sellers), relative strength index(RSI)(used to identify over buying and over selling conditions helps to identify potential reversals in price), Bollinger bands(identify periods of high or low volatility). Numerous studies have discovered that when the market is not efficient, prices have already taken past data into account, then technical analysis is useless.

1.9 Calendar Anomalies

Unusual moves in the stock market appear to be linked to specific times of the day, week, month, or year. These repeating patterns challenge established asset pricing theories and are statistically significant. They are referred to as calendar anomalies or seasonality.

These anomalies reflect gaps in our understanding of asset pricing or potential market inefficiencies. Surprisingly, calendar anomalies often diminish, reverse, or disappear if they are observed. This implies that investors might exploit them and finally eliminate the anomaly. Calendar irregularities present a problem to financial economists because they are difficult in traditional economic models. Due to their difficulty in being explained within the traditional framework of financial economics, calendar impacts on stock markets have been a challenge for economists. predictable tendencies in stock prices conflict with efficient market theory.

There are many calendar anomalies discovered by researchers such as the day of the week effect, month of the year effect, turn of the month effect, and holiday effect. This research is going to focus on the most famous anomaly day of the week effect.

1) Day of the week effect

This anomaly related to the day of the week raises the prospect of regular variation in returns on weekdays. A well-known illustration of this is the negative Monday effect, which refers to the tendency of stocks to decrease on Monday. This pattern isn't always the case. There may be no Monday influence or a positive Monday effect in some markets. In short, the day-of-the-week effect relates to the significant inequality in the mean of the returns for different days.

2) Month of the year effect

This anomaly appears to indicate there's a chance that some months have historically yielded higher or lower returns. The January effect is that stocks do better in January. seasonal trends for other months, such as September or October, might also include. This calendar effect relates to the significant inequalities in the mean returns for different months. Some months bring in more returns than other months. Day-to-day observations show that February is regarded as India's

pre-budget month and during this month. The stock market is rather quiet and moves in line with the announcements made regarding the budget.

3) Weekend effect

The weekend effect in financial markets in which stock returns on Monday are often lower than those of the immediately preceding Friday. The weekend effect is also known as the Monday effect. According to a few theories explaining the weekend effect, companies usually break bad news on Fridays after the market closes which results in a Monday stock price decline.(French, 1980) found significant average return for the other four days of the week was positive, and the average return for Monday was significantly negative during each of the five five-year subperiods.

4) Holiday effect

It is common knowledge in the financial market that stock prices behave differently on holidays. If statistical evidence indicates that the profits made on these days before and after vacations are greater than the profits made during. There will be an argument made that the stock market affect other days holidays

1.10 Objectives of study

1. To study the existence of Day of the week effect in Normal Returns in Indian Stock Market.
2. To study the existence of Day of the week effect in Trading Day Returns in Indian Stock Market.
3. To study the existence of Day of the week effect in Non-trading day Returns in the Indian Stock Market.

1.11 Research Question

- Is there any specific pattern (Day of the week effect) in returns for Indian Stock Market?
- If yes which day has highest effect ?

1.12 Hypothesis

- H0: There is a no significant difference in average normal returns across the days of the week.
- H0: There is a no significant difference in average returns on trading days across the days of the week
- H0: There is a no significant difference in average returns on non trading days across the days of the week.

1.13 Scope of the study

The study analyses the existence of a Day of the week effect in Indian Stock Market. As per Traditional Theory, same returns process would be operating over all trading and non –trading periods. Nevertheless there are reasons to assume that return sequence in open market may differ from the returns sequence during closed periods. For instance, during a trading day, stock price fluctuates as orders are executed. During nights, weekends and holidays there are no transactions, but shares value from close to open on the next trading day may still change to reflect revised expectations about firm's productivity. The study will look at normal returns, trading day returns, non-trading returns. This will help to analyze how the stock market performs during different days of the week and identify trends and patterns. Day of the week effect is a theory that suggests that the stock market performs differently on certain days.

1.14. Research gap

While previous studies have explored the existence of different anomalies in Indian stock Market. This study contributes to examine the presence of day of the week effect in returns during trading hours and non trading hours. This study differs from the previous efforts by distinguish between trading day and non trading returns.

1.15 Chapterization Scheme

1.15.1 Chapter1: Introduction

Introduction to Indian Stock Market, history of Indian stock market, Stock exchanges, NSE, BSE, Market efficiency, introduction to Efficient Market Hypothesis, Types of Efficient Market

Hypothesis, meaning of Seasonality, market anomalies, Calendar anomalies, fundamental anomalies, Technical anomalies, meaning of calendar anomalies, types of calendar anomalies, objectives of study, hypothesis, scope of study.

1.15.2 Chapter2: Literature Review

Literature review, Anomalies in Indian and Global stock market ,

1.15.3 Chapter3: Research Methodology

Sample size ,period of study, companies considered, tools and techniques used to analysis the day of the week effect.

1.15.4 Chapter4: Data analysis and Findings and Conclusions

This chapter deals with introduction to day of the week effect and descriptive statistics, unit root test, dummy variable regression analysis is used to analysis day of the week effect , This chapter will bring results from analysis, major findings, conclusions and suggestions which are carried out**.**

Chapter 2: Literature review

2.1 Anomalies in Indian Stock Market

Day of the week effect

(Poshakwale, 1996)this study has presented evidence concentrating on the weak form efficiency and on the day of the week in BSE under the consideration that variance is time dependent. There is clearly evidence that average returns are different from other days of the week. The weekend effect is evident as returns achieved weekends effect Fridays consistently yield higher returns compared to other weekdays suggesting an exploitable market anomaly.**(Amanulla & Thiripalraju, 2001)** The weekend effect is investigated in this study using the daily stock returns of 82 companies listed on the Bombay Stock Exchange (BSE) and three stock market price indices: the BSE sensitive index, the BSE national index, and the S&P CNX Nifty index. Due to a potential influence from the National Stock Exchange (NSE) on the week-end effect, this study found that there is a consistent positive return on Wednesday and a negative return on Tuesday. It also demonstrated a reversal in the week-end effect, with positive returns on Monday and negative returns on Friday in modified carryforward transactions and revised modified carry-forward transactions.**(Berument & Kiymaz, 2001)** This paper has examined the existence day of the week effect on stock market volatility by using the S&P 500 market index during the period January 1973 to October 1997. Day of the week effect present in both volatility and returns equations. Found highest on Wednesday and lowest on Monday, highest volatility on Friday and lowest volatility on Wednesday. **(Sarma, 2004)**tested daily returns of three indices SENSEX, NATEX, and BSE 200 for the presence of seasonality and found that Monday-Friday set for all the indices had the highest positive deviation, indicating the opportunity to make abnormal returns through a strategy of buying on Mondays and selling on Friday**.(Raj & Kumari, 2006)** studied the day of the week effect using data from 1979 to 1998 on BSE & NSE. Reported negative returns on Tuesday moreover found returns on Monday were higher compared to returns of other days.**(Ahmed, 2006)** presences of day of the week effect has been observed by using parametric and non-parametric testing in both mean and volatility. Result reveals BSE starts upwards, declines in middle of the week, and ends downwards, while NSE starts downwards and gets upwards in middle of the week and ends downwards. Returns on Wednesday are positive and highest and returns on Friday are negative and minimum in both

markets. Monday mean of non- trading returns are different compared to other days of week for BSE. However, in NSE Wednesday trading and non-trading are significant compared to other days of week **(V. H. Kumar & Deo, 2007)**In this study, an attempt has being made to analyze the presence of day of the week effect in stock returns and volatility. Log returns data is used on SENSEX BSE 200 and Nifty for a period from January 1st 1997 to June 30th 2005 .The study confirms weekend effect Monday shows the highest variation in returns that impact stock volatility. Regular returns Wednesday yield highest returns, Friday shows negative returns , Monday-Tuesday, Monday-Friday & Wednesday-Friday pairs yields highest positive deviations across Indices**. (Sah, 2009)**found Friday effect in Nifty returns while Nifty junior returns were statistically significant on Friday, Monday and Wednesday. (Garg et al., 2010)the author examines the presence of seasonal anomalies in developed and emerging stock market, The study analyzes five types of anomalies the analysis reveals the existences of Monday effect only in India, and other anomalies in Indian and US market.**(Nageswari & Selvam, 2011)** the author analyzed the day of the week effect for the period of 1st April 2000 to 31st march 2010 the study found maximum returns on Wednesday and negative returns on Monday. **(Dr. V. Khanna, 2014)**the authors finds that day-of-the-week-effect exists in the Indian stock market, with the highest average returns occurring on Tuesdays. They also find that the results are statistically significant, which refutes the EMH. A number of possible explanations for day-of-the-week-effect, including measurement error, settlement effect, Badla trading practices, and window dressing. The authors note that none of these explanations are fully satisfactory. In this paper it has seen that day -of-the-week-effect is real phenomenon in the Indian stock market.**(Mitra & Khan, 2014**) the author examined the presence of day of the week effect in both high frequency and close to close returns in S&P CNX NIFTY and applied five models. Results found Wednesday effect on Interday returns, Monday is the lowest returns and higher volatility. Friday also suffers lowest return indicating presence of reverse weekend effect. Model 2 and 3 are significant for both Intraday and Interday returns.**(Srinivasan & Kalaivani, 2014)** the author looked at how day of the week effect affects stock returns and volatility in Indian market. ARCH (1,1), EGARCH(1,1), TGARCH (1,1) models were tested to look into the existence of daily anomalies between July 1, 1997 and June 29,2012. The result confirm NSE-Nifty and BSE-SENSEX returns perform better on Mondays and Wednesday. Monday returns are significantly higher then Wednesday returns. Furthermore, Tuesday effects have negative impact on volatility

after controlling the persistence and asymmetric effects. **(Tor, 2016)**Results indicate lower returns on Tuesday and maximum returns on Wednesday in Nifty index. Buy scripts on Tuesday and selling them on Friday. The high leptokurtic value suggest is that intraday trader should invest in Monday and Wednesday because they may get better returns than on other days**(Jaisinghani, 2016)** analyzed daily close to close returns of 11 different indices of NSE from 1994 to 2014. Results display that negative Monday effect and positive Friday effect. However, for some indices Wednesday's returns are significantly higher as compared to returns over the other days**. (S. Kumar & Pathak, 2016)author** has examined the (DOW and January effect) in Indian currency with respect to INR. Currency pairs examined are USD-INR, EUR-INR, GBP-INR, and JPY-INR from January 1999 to December 2014.1st study to examine DOW effect and January effect in Indian currency market. Results indicate that 1st three days of week Monday to Wednesday are positive are positive and higher than returns on Thursday and Friday which show negative and smaller returns. The study also shows January effect returns during January are higher than other month. All currencies there is significant evidence of DOW effect**.(V. Khanna, 2016)** found reversal Monday effect. Monday is causing highest variability in weekly distribution of mean returns during the period**.(Kaushik, 2017)** in his studies he has examined and compare the weekday effect on major three indices of the Indian capital market utilizing the GARCH model. In his study he has found existence of day-of-the-week-effect and volatility with positive Monday effect for small-cap indices. Tuesday has negative effect on returns for all three indices. This effect are not observed on mid-cap and large-cap Indices**.(H. Kumar & Jawa, 2017)** in his study it does not specifically investigate the causes of anomalies, but it revealed the presences of a significant Wednesday effect and significant December effect**. (Paital & Panda, 2018)**In his study he also found positive weekend effect and a negative Tuesday effect. Which results in stocks were more likely to go up on Fridays and Mondays, and down on Tuesday. Its also find negative Thursday effect for all three indices and negative Friday effect on returns for nifty small-cap index**. (Aggarwal & Jha, 2023)**study reveals significantly positive Monday, Tuesday, Wednesday, Thursday, and Friday returns in NSE- Nifty market returns. Results also shows the significant negative effect of Tuesday on volatility equations of GARCH model for Indian stock market**. (Dattatreya, 2024)**Although theoretically Friday has more return and Monday has less return it may vary for different stocks and over different span of time. Stock market anomalies do present in Indian capital market. One golden strategy cannot

be applied for all stocks. Asian paints when compared with Axis bank has more return. Hence it is advisable for investor to analyze properly before investing.

2.2 Anomalies in Global Stock Market

(Gibbons & Hess, 1981) The study examined the impact of the day of the week on US stock returns for the S&P 500 and CRSP indices between 1962 and 1978. Reported negative returns on Monday, but positive returns on Friday.**(Rogalski, 1984)**this focuses on Monday effect and relationship with trading and non trading day returns. it identifies the non-trading weekend effect as the main driver of the Monday effect. This study also shows the importance of opening price data in understanding the day of the week effect..**(Akyol, 2011)** the author has found that the returns tends to higher on Friday and lower on Mondays. Weekend effect has disappeared from the Istanbul Stock Exchange (ISE) in recent years. Also found some evidence that there is a correlation between the length of a holiday and non-trading period and the returns earned during it. The longer a non-trading period lasts, the greater the returns in the morning session preceding the holiday and the lower the returns in the morning session after the holiday. Uncertainty imposed on stock returns by the length of a non-trading period. **(Du Toit et al., 2018)** analyzed the day of the week effect in South African stock market indices on Johannesburg stock exchange (JSE) it was evident that in both volatility and return equations the highest returns are observed on Monday and Tuesdays, while the lowest returns are on Fridays. Positive mean returns on Monday and Friday and negative mean returns on Friday

Chapter 3: Methodology

3.1 Sample taken

The data collected for the study is secondary data. The data of opening and closing prices collected for selected companies of the BSE 100 Index have been taken from the BSE website www.bseindia.com for 10 years from April 2013 to March 2023.

3.2 Companies Data

A total of 39 companies have been considered for the study from the BSE 100 Index. The company's returns were able to beat the Sensex returns in last 10 years only those companies have been included in the study.

Sr.no	Companies
1.	Adani Enterprises ltd
2.	Adani Ports And Special Economic Zon ltd
3.	Apollo Hospitals Enterprise ltd
4.	Ashok Leyland
5.	Bajaj Finance
6.	Bajaj FinServ
7.	Bajaj Holding & Investments
8.	Bharat Forge LTD
9.	Bharti Airtel
10.	Britannia Industries ltd
11.	Cholamandalam Investment and Finance Company ltd
12.	Dabur India ltd
13.	Divis Laboratories ltd
14.	DLF ltd
15.	Eicher Motors ltd
16.	Grasim Industries ltd
17.	Havells India ltd
18.	HDFC Bank ltd
19.	Indian hotels

20.	Info Edge
21.	JSW Steel
22.	Kotak Mahindra Bank
23.	Marico
24.	Maruti Suzuki
25.	Nestle
26.	Page Industries
27.	PI Industries
28.	Pidilite Industries
29.	Reliance Industries ltd
30.	SRF
31.	TATA Consultancy services
32.	TATA Elxsi
33.	TATA Motors
34.	TATA Steel
35.	Titan
36.	Trent
37.	Ultra Tech Cement
38.	UPL Limited
39.	Voltas

3.3 Period of Study

The study is from the period of 10 years from 1st April 2013 to 31st March 2023.

3.4 Statistical and Econometrics techniques

To test the presence of the day of the week effect in returns. The stock returns data is used in this study. Daily close to close returns are computed as natural logarithm of the ratio successive closing values. Saturday and Sunday has been excluded as they are non-trading days even if trading took place. Overall stock returns (close to close) which were further divided into trading returns(open to close) (daytime returns) and non-trading returns(close to open) (overnight returns) trading day has been calculated as natural logarithm of the ratio of the closing price to

the opening price. All non-trading period returns were calculated opening price to the closing price on the preceding day the market was open.(Rogalski, 1984)

$R_{t(cc)} = \ln(P_t / P_{t-1})$

Where,

$R_{t(cc)}$= returns on day t

P_t= daily closing prices on day t

P_{t-1}= daily closing prices of day t-1

Trading returns (open to close)

$R_{t(oc)}=\ln(P_{c,t}/P_{o,t})$

Where,

$P_{c,t}$ = Closing prices on day t

$P_{o,t}$ = opening prices on day t

Non trading returns (close to open)

$R_{t(co)}= \ln (P_{o,\,t} / P_{c,\,t})$

Where ,

$P_{o,\,t}$ = Opening prices on day t

$P_{c,\,t}$ = closing price on day t-1

Descriptive statistics

It is a field of statistics that focuses on summarizing the data set.

Mean (Average daily returns): Mean is average which is computed as the sum of all observed outcomes from the sample divided by the total number of events.

Standard Deviation: it is the square root of the variance, it measures the spread of a distribution around the mean. It is considered as the most reliable measure of variability. It is affected by individual values in the distribution.

Skewness : the degree of asymmetry in the distribution of a real valued random variable is measured by its skewness.

Kurtosis: it is measure of the tailedness of a distribution. Medium kurtosis are Mesokurtic. Low kurtosis is platykurtic, high Kurtosis are leptokurtic.

Augment Dickey Fuller test

It is also important to test the stationary of a series or else OLS Regression results will be incorrect. For this purpose, Augmented Dickey Fuller test to check the returns are stationary or not. If we use non stationary data, it may cause spurious regression. There many test to check the stationarity of data but ADF test is widely test to check the stationarity.

Dummy variable regression model for day of the week effect

to examine the day of the week effect the following dummy variable regression equation was formed for all days of the week except Saturday and Sunday. Monday has been taken as the benchmark day i.e. mean returns for Monday will be compared with that of other days. Therefore mean returns of Monday will be the constant term for the regression equation. Remaining 4 dummy variables representing the other days of week (Tuesday to Friday) to test for the difference in the mean returns across the days of the week the following equation was formed:

$$Ty = \alpha_1 + \alpha_2 \, DTue + \alpha_3 \, DWed + \alpha_4 \, DThu + \alpha_5 \, DFri + \varepsilon_1$$

Where,

Yt = log returns

α1 to α5 = the mean returns for Monday through Friday

DTue to DFri = the dummy variables taken for Tuesday to Friday

(DTue = 1 if day is Tuesday, zero otherwise and so on)

ε1= is an error or residual term

After estimating the results from the above equation, the presence of autocorrelation is checked using Durbin- Watson statistics and Breusch- Pagan LM test for serial correlation. Serial correlation is removed by using the ARMA model the higher order autoregressive model **(Lodha, 2015)**

Chapter 4: Analysis of data and Findings and Conclusion

Data analysis normal returns

4.1 Unit root test

In time series econometrics , it is necessary to check stationarity of a series before using it in the regression analysis in order to avoid spurious regression.. stationarity of series id tested using Augmented Dickey Fuller test (ADF). The hypothesis for testing stationarity of series using ADF test is:

Ho: There is presence of unit root test in the series

H1: There no unit root test in the series

Table 1: Result of ADF Test for BSE 100 Companies daily close to close returns

Companies	Types	t-value	Critical values		
			1%	5%	10%
Adani enterprises	Intercept	-25.54239	-3.432810	-2.862513	-2.567333
	Trend and intercept	-25.55836	-3.961769	-3.411632	-3.127688
	None	-25.53302	-2.565901	-1.940952	-1.616613
Adani ports and special economic co ltd	Intercept	-50.10136	-3.432808	-2.862512	-2.567332
	Trend and intercept	-50.09568	-3.961766	-3.411630	-3.127687
	None	-50.08205	-2.565900	-1.940952	-1.616613
Apollo Hospitals and enterprise	Intercept	-48.63857	-3.432808	-2.862512	-2.567332
	Trend and intercept	-48.63857	-3.961766	-3.411630	-3.127687
	None	-48.60107	-2.565900	-1.940952	-1.616613
Ashok Leyland	Intercept	-47.33324	-3.432808	-2.862512	-2.567332
	Trend and intercept	-47.33683	-3.961766	-3.411630	-3.127687
	None	-47.30742	-2.565900	-1.940952	-1.616613
Bajaj finance	Intercept	-49.50634	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.49798	-3.961766	-3.411630	-3.127687

	None	-49.50904	-2.565900	-1.940952	-1.616613
Bajaj FinServ	Intercept	-49.50634	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.49798	-3.961766	-3.411630	-3.127687
	None	-49.50904	-2.565900	-1.940952	-1.616613
Bajaj holding investment	Intercept	-45.08920	-3.432808	-2.862512	-2.567332
	Trend and intercept	-45.08012	-3.961766	-3.411630	-3.127687
	None	-45.03204	-2.565900	-1.940952	-1.616613
Bharat forge	Intercept	-48.48413	-3.432808	-2.862512	-2.567332
	Trend and intercept	-48.50019	-3.961766	-3.411630	-3.127687
	None	-48.47615	-2.565900	-1.940952	-1.616613
Britannia	Intercept	-50.04096	-3.432825	-2.862519	-2.567337
	Trend and intercept	-50.11104	-3.961790	-3.411642	-3.127694
	None	-49.97295	-2.565906	-1.940953	-1.616613
Bharti airtel	Intercept	-52.32432	-3.432808	-2.862512	-2.567332
	Trend and intercept	-52.31599	-3.961766	-3.411630	-3.127687
	None	-52.31487	-2.565900	-1.940952	-1.616613
Cholafin	Intercept	-49.76562	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.75863	-3.961766	-3.411630	-3.127687
	None	-49.77102	-2.565900	-1.940952	-1.616613
HDFC Bank	Intercept	-38.32490	-3.432808	-2.862512	-2.567332
	Trend and intercept	-38.33553	-3.961767	-3.411631	-3.127688
	None	-38.31016	-2.565900	-1.940952	-1.616613
Dabur	Intercept	-51.58801	-3.432808	-2.862512	-2.567332
	Trend and intercept	-51.60022	-3.961766	-3.411630	-3.127687
	None	-51.52795	-2.565900	-1.940952	-1.616613
Divis laboratories ltd	Intercept	-47.44024	-3.432808	-2.862512	-2.567332
	Trend and intercept	-47.43057	-3.961766	-3.411630	-3.127687

	None	-47.43738	-2.565900	-1.940952	-1.616613
DLF	Intercept	-51.29473	-3.432808	-2.862512	-2.567332
	Trend and intercept	-51.30722	-3.961766	-3.411630	-3.127687
	None	-51.30408	-2.565900	-1.940952	-1.616613
Eichermot	Intercept	-49.76520	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.81574	-3.961766	-3.411630	-3.127687
	None	-49.77528	-2.565900	-1.940952	-1.616613
Grasim industries ltd	Intercept	-50.40986	-3.432808	-2.862512	-2.567332
	Trend and intercept	-50.40583	-3.961766	-3.411630	-3.127687
	None	-50.41833	-2.565900	-1.940952	-1.616613
Havells	Intercept	-51.16970	-3.432823	-2.862518	-2.567336
	Trend and intercept	-51.16902	-3.961787	-3.411641	-3.127693
	None	-51.17858	-2.565905	-1.940953	-1.616613
Info Edge	Intercept	-48.97301	-3.432823	-2.862518	-2.567336
	Trend and intercept	-48.97093	-3.961787	-3.411641	-3.127693
	None	-48.91366	-2.565905	-1.940953	-1.616613
Indian hotel co ltd	Intercept	-49.98827	-3.432823	-2.862518	-2.567336
	Trend and intercept	-49.98026	-3.961787	-3.411641	-3.127693
	None	-49.95071	-2.565905	-1.940953	-1.616613
JSW Steel	Intercept	-51.93780	-3.432823	-2.862518	-2.567336
	Trend and intercept	-51.92997	-3.961787	-3.411641	-3.127693
	None	-51.94834	-2.565905	-1.940953	-1.616613
Kotak Mahindra bank	Intercept	-49.80712	-3.432823	-2.862518	-2.567336
	Trend and intercept	-49.79846	-3.961787	-3.411641	-3.127693
	None	-49.80182	-2.565905	-1.940953	-1.616613
Marico	Intercept	-51.39803	-3.432823	-2.862518	-2.567336
	Trend and intercept	-51.38803	-3.961787	-3.411641	-3.127693

	None	-51.39707	-2.565905	-1.940953	-1.616613
Maruti Suzuki	Intercept	-48.82491	-3.432808	-2.862512	-2.567332
	Trend and intercept	-48.87647	-3.961766	-3.411630	-3.127687
	None	-48.75487	-2.565900	-1.940952	-1.616613
Mphasis	Intercept	-52.49000	-3.432808	-2.862512	-2.567332
	Trend and intercept	-52.47921	-3.961766	-3.411630	-3.127687
	None	-52.45289	-2.565900	-1.940952	-1.616613
Nestle	Intercept	-50.61730	-3.432808	-2.862512	-2.567332
	Trend and intercept	-50.60698	-3.961766	-3.411630	-3.127687
	None	-50.54581	-2.565900	-1.940952	-1.616613
Page industries	Intercept	-47.79292	-3.432808	-2.862512	-2.567332
	Trend and intercept	-47.82184	-3.961766	-3.411630	-3.127687
	None	-47.69986	-2.565900	-1.940952	-1.616613
Pi industries	Intercept	-49.52183	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.52137	-3.961766	-3.411630	-3.127687
	None	-49.51814	-2.565900	-1.940952	-1.616613
Pidilite industries	Intercept	-47.88251	-3.432808	-2.862512	-2.567332
	Trend and intercept	-47.88022	-3.961766	-3.411630	-3.127687
	None	-47.75240	-2.565900	-1.940952	-1.616613
Reliance	Intercept	-49.78847	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.77857	-3.961766	-3.411630	-3.127687
	None	-49.78012	-2.565900	-1.940952	-1.616613
SRF	Intercept	-50.11907	-3.432808	-2.862512	-2.567332
	Trend and intercept	-50.15675	-3.961766	-3.411630	-3.127687
	None	-50.09517	-2.565900	-1.940952	-1.616613
TATA Consultancy	Intercept	-49.50058	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.49307	-3.961766	-3.411630	-3.127687

	None	-49.50110	-2.565900	-1.940952	-1.616613
TATA Elxsi	Intercept	-46.52159	-3.432808	-2.862512	-2.567332
	Trend and intercept	-46.51746	-3.961766	-3.411630	-3.127687
	None	-46.43914	-2.565900	-1.940952	-1.616613
TATA Motors	Intercept	-49.17015	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.16052	-3.961766	-3.411630	-3.127687
	None	-49.17781	-2.565900	-1.940952	-1.616613
Titan	Intercept	-51.73433	-3.432808	-2.862512	-2.567332
	Trend and intercept	-51.72578	-3.961766	-3.411630	-3.127687
	None	-51.63676	-2.565900	-1.940952	-1.616613
Trent	Intercept	-49.19705	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.19608	-3.961766	-3.411630	-3.127687
	None	-49.20672	-2.565900	-1.940952	-1.616613
Ultra tech cement	Intercept	-48.90521	-3.432808	-2.862512	-2.567332
	Trend and intercept	-48.89551	-3.961766	-3.411630	-3.127687
	None	-48.86417	-2.565900	-1.940952	-1.616613
UPL Limited	Intercept	-48.99321	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.03515	-3.961766	-3.411630	-3.127687
	None	-48.96037	-2.565900	-1.940952	-1.616613
Voltas	Intercept	-50.79393	-3.432808	-2.862512	-2.567332
	Trend and intercept	-50.85011	-3.961766	-3.411630	-3.127687
	None	-50.70763	-2.565900	-1.940952	-1.616613

Source: Compiled by author

The above table1 shows the ADF test statistics and critical values at level .The result clearly indicate that the ADF test statistic is less than the critical values in all the series at 1%, 5% and 10% levels of significance so null hypothesis is rejected i.e. there is unit root and accept the alternative hypothesis

4.2 Descriptive Statistics

Table 2: Day wise Descriptive statistics for Companies normal returns (close to close) Series

companies	mean		Standard deviation		skewness		kurtosis	
	Highest	Lowest	Highest	Lowest	Positive	Negative	Highest	Lowest
Adani enterprises	Tuesday	Friday (-)	Wednesday	Tuesday	Monday & Tuesday	All other days	Wednesday	Friday
Adani ports	Tuesday	Thursday	Monday	Thursday	Tuesday	All other days	Wednesday	Thursday
Apollo hospitals and enterprise	Thursday	Wednesday	Monday	Thursday	All other days	Monday	Monday	Thursday
Ashok Leyland	Tuesday	Thursday	Thursday	Tuesday	Friday	All other days	Thursday	Tuesday
Bajaj finance	Tuesday	Thursday	Thursday	Friday	Tuesday & Wednesday	All other days	Thursday	Friday
Bajaj FinServ	Tuesday	Thursday	Thursday	Friday	Tuesday & Wednesday	All other days	Thursday	Friday
Bajaj holding investment	Thursday	Monday	Monday	Wednesday	All other days	Monday &Tuesday	Monday	Friday
Bhart forge	Tuesday	Friday (-)	Thursday	Tuesday	Friday	All other days	Thursday	Friday
Bharti airtel	Tuesday	Wednesday	Monday	Thursday	All other days	Monday	Tuesday	Friday
Britannia	Wednesday	Thursday	Thursday	Friday	All other days	Thursday	Thursday	Friday
Cholafin	Tuesday	Friday	Friday	Tuesday	All other days	Monday &Friday	Friday	Monday
HDFC Bank	Friday	Thursday	Thursday	Tuesday	All other days	Monday &Thursday	Thursday	Friday
Dabur	Tuesday	Monday	Monday	Friday	All other days	Monday	Monday	Wednesday
Divis laboratories	Friday	Monday	Wednesday	Thursday	Thursday	All other days	Wednesday	Monday
DLF	Wednesday	Monday	Monday	Wednesday	Friday	All other days	Tuesday	Friday
Eichermot	Tuesday	Monday	Monday	Thursday	All other days	Monday	Monday	Tuesday
Grasim Industries	Monday	Thursday	Monday	Thursday	Tuesday & Friday	All other days	Thursday	Tuesday
Havells	Thursday	Tuesday	Tuesday	Wednesday	All other days	Monday & Tuesday	Tuesday	Wednesday
Indian hotel coltd	Tuesday	Monday	Monday	Friday	All other days	Monday	Monday	Tuesday
Info edge	Tuesday	Monday	Monday	Wednesday	All days	_____	Tuesday	Friday
JSW steel	Thursday	Friday	Wednesday	Friday	All other days	Monday & Wednesday	Wednesday	Friday
Kotak Mahindra bank	Friday	Monday (-)	Wednesday	Tuesday	All other days	Monday &Wednesday	Wednesday	Friday
Marico	Wednesday	Tuesday (-)	Tuesday	Thursday	All other days	Monday &Tuesday	Tuesday	Wednesday

Maruti Suzuki	Tuesday	Thursday (-)	Monday	Wednesday	All other days	Tuesday	Monday	Friday
Mphasis	Wednesday	Monday (-)	Thursday	Wednesday	All other days	Monday	Thursday	Monday
Nestle	Thursday	Monday (-)	Friday	Thursday	All other days	Monday &Wednesday	Tuesday	Thursday
Page industries	Friday	Monday (-)	Thursday	Tuesday	All other days	Monday	Friday	Wednesday
PI industries	Tuesday	Friday	Friday	Wednesday	All other days	Friday	Friday	Wednesday
Pidilite industries	Wednesday	Thursday	Monday	Wednesday	All other days	Monday& Thursday	Monday	Wednesday
Reliance	Tuesday	Thursday	Thursday	Tuesday	All other days	Monday& Thursday	Thursday	Friday
SRF	Tuesday	Monday	Wednesday	Thursday	All other days	Monday& Wednesday	Wednesday	Tuesday
TATA consultancy	Monday	Thursday	Thursday	Wednesday	Tuesday & Friday	All other days	Thursday	Wednesday
TATA motors	Tuesday	Monday	Tuesday	Friday	All other days	Monday& Friday	Tuesday	Monday
TATA Elxsi	Wednesday	Thursday	Monday	Wednesday	All other days	Monday & Thursday	Monday	Wednesday
Trent	Tuesday	Monday	Monday	Thursday	All other days	Monday	Monday	Friday
Titan	Tuesday	Wednesday	Monday	Wednesday	Monday & Thursday	All other days	Monday	Thursday
Ultra tech cement	Tuesday	Monday	Monday	Wednesday	All other days	Monday & Thursday	Monday	Wednesday
UPL limited	Wednesday	Tuesday	Tuesday	Wednesday	All other days	Wednesday & Friday	Tuesday	Friday
Voltas	Friday	Monday	Monday	Wednesday	All other days	Tuesday	Monday	Tuesday

Source: Compiled by author

From the summarized details of descriptive statistics for bse 100 companies which shows mean returns on Tuesday are highest and positive. Returns for Wednesday are the second highest. On other hand , lower mean returns on Mondays or Thursday. Mondays historically tend to have lower returns and higher volatility compared to other days. Tuesday show a tendency for stronger performance compared to other weekdays.

The highest kurtosis on Monday suggests that the returns on Monday have a distribution with more extreme values compared to a normal distribution (leptokurtic). This could indicate higher volatility or greater likelihood of extreme price movements on Mondays. Thursday indicates outliers, though not as extreme as on Mondays. This suggests that Thursday may also exhibit higher variability or potential for outliers in returns. While Fridays and Wednesday exhibit distributions with lighter tails and lower variability in returns.

4.3 Dummy Variable Regression Analysis for companies

HO: There is no significant difference between day of the week returns

H1: there is significant difference between day of the week returns

Table 3: Result of Dummy Variable Regression Analysis

Companies	Variables									
	Monday (c)	Tuesday	Wednesday	Thursday	Friday	Adj R^2	F-statics	D-W statics	AIC	SBC
Adani enterprise	0.001620 (0.737)	0.003418 (1.102)	-0.004558 (-1.472)	-0.001643 (-0.529)	-0.000968 (-0.310)	0.00120	1.74072	1.9710	-3.2022	-3.1904
Adani ports	-0.000810 (-0.734)	0.003132 (2.009)	0.000687 (0.441)	0.001307 (0.837)	0.001955 (1.247)	0.00030	1.19036	2.0144	-4.5774	-4.5656
Apollo hospital	0.000156 (0.163)	0.000606 (0.451)	-2.4 (-0.018)	0.001088 (0.809)	0.000892 (0.660)	-0.00115	0.28669	1.9589	-4.8753	-4.8635
Ashok Leyland	0.000524 (0.440)	0.000844 (0.501)	0.000148 (0.087)	-0.000207 (-0.122)	0.000319 (0.188)	-0.00144	0.11233	1.9044	-4.4261	-4.4143
Bajaj finance	-0.001384 (-0.592)	0.004959 (1.503)	0.003136 (0.34150)	-0.001040 (-0.3150)	0.003025 (0.91183)	0.00019	1.11808	1.9929	-3.0780	-3.0662
Bajaj FinServ	-0.001384 (-0.592)	0.004959 (1.5032)	0.003136 (0.34150)	-0.001040 (-0.3150)	0.003025 (0.91183)	0.00019	1.11808	1.9929	-3.0780	-3.0662
Bajaj holding investment	-0.000898 (-1.05)	0.001911 (1.58)	0.001636 (1.36)	0.002752 (2.88)**	0.001971 (1.62)	0.00066	1.41095	1.8046	-5.0923	-5.0806
Bharat forge	0.000496 (0.408)	0.0001355 (0.791)	0.000155 (0.090)	-0.000183 (-0.106)	-0.001137 (-0.660)	-0.00074	0.53875	1.9511	-4.3895	-4.3777
Bharti Airtel	0.000130 (0.143)	0.001101 (0.864)	-6.17 (-0.048)	-0.000495 (-0.388)	0.000715 (0.558)	-0.00079	0.50988	2.1037	-4.9825	-4.9707
Britannia	0.000957 (0.986)	-0.000226 (-0.164)	0.001381 (1.010)	-0.001192 (-0.869)	-0.000533 (-0.387)	-0.00005	0.96423	2.0217	-4.8371	-4.8254
Cholafin	-0.000761 (-0.406)	0.003289 (1.244)	0.002574 (0.975)	0.002718 (1.027)	-0.002843 (-1.069)	0.00140	1.86410	2.0048	-3.5213	-3.5096
HDFC Bank	-0.000607 (-0.663)	0.001429 (-1.106)	0.001120 (0.046)	6.00 (0.046)	0.002369 (1.823)***	0.00028	1.17361	2.0919	-4.9532	-4.94899
Dabur	-0.000629 (-0.926)	0.001787 (1.863)***	0.001434 (1.497)	0.001220 (1.270)	0.001433 (1.486)	0.00004	1.02596	2.0756	-5.5486	-5.5368
Divis	-8.13 (-0.073)	0.000818 (0.527)	-0.000864 (-0.557)	0.000895 (0.576)	0.001706 (1.093)	-0.00033	0.79187	1.9052	-4.5865	-4.5747
DLF	-0.002838 (-2.079)**	0.003589 (1.862)***	0.004331 (2.250)**	0.003496 (1.812)***	0.003457 (1.783)***	0.00090	1.55603	2.0665	-4.1532	-4.1414
Eichermot	-0.005818 (-2.547)**	0.008433 (2.615)*	0.007926 (2.461)**	0.006542 (2.026)***	0.006449 (1.988)***	0.00196	2.21108	2.0025	-31.123	-3.1117
Grasim industries	6.93 (0.041)	0.000877 (0.370)	0.000475 (0.200)	-0.003705 (1.561)	0.000918 (0.384)	0.00056	1.34536	2.0292	-3.7387	-3.7270
Havells	0.000916 (0.554)	-0.002549 (-1.092)	-0.000180 (-0.077)	0.000612 (0.262)	-0.001307 (-0.557)	-0.00068	0.57705	2.0700	-3.7778	-3.7660

Indian hotel co.	-0.000421` (0.405)	0.002423 (1.650)***	0.002202 (1.502)	0.000949 (0.645)	0.001476 (0.057)	0.00034	1.20961	2.0135	-4.6978	-4.6860
Info edge	-0.001590 (1.450)	0.005102 (3.294)*	0.0023037 (1.492)	0.003163 (2.040)**	0.002120 (1.361)	0.00297	2.84180	1.9633	-4.5904	-4.5861
JSW steel	-0.001254 (-0.537)	0.003018 (0.915)	0.001892 (-0.574)	0.004050 (1.227)	0.001191 (0.359)	0.00005	1.03484	2.0879	-3.7949	-3.0677
Kotak Mahindra bank	-0.000702 (-0.692)	0.001005 (0.702)	0.000389 (0.272)	0.001683 (1.175)	0.002445 (1.699)***	-0.00010	0.93828	2.0054	-4.7492	-4.7374
Marico	-0.000753 (-0.776)	0.000661 (0.482)	0.002282 (1.668)***	0.000954 (0.695)	0.001501 (1.090)	-0.00033	0.79606	2.0672	-4.8618	-4.8244
Maruti Suzuki	0.000436 (0.528)	0.002014 (1.728)***	-5.39 (-0.046)	-0.000271 (0.232)	-9.77 (-0.083)	0.00055	1.34134	1.9656	-5.1593	-5.1475
Mphasis	-0.000540 (-0.577)	0.001928 (1.459)	0.002332 (1.767)***	0.001295 (0.979)	0.000213 (0.160)	0.00033	1.20819	2.1106	-4.9087	-4.8969
Nestle	-0.000677 (-1.017)	0.001047 (1.115)	0.001525 (1.626)	0.002077 (2.210)	0.000944 (1.779)	0.00071	1.44010	2.0407	-5.5911	-5.5793
Page industries	-0.000556 (-0.604)	0.002222 (1.709)***	0.002154 (1.659)***	0.000945 (0.726)	0.002394 (1.831)***	0.00043	1.26604	1.9183	-4.9406	-4.9289
Pi industries	0.000272 (0.158)	0.001674 (0.689)	0.000678 (0.279)	0.001647 (0.677)	-0.002252 (-0.921)	-0.00020	0.87289	1.9944	-3.6894	-3.6776
Pidilite industries	0.000764 (1.066)	-0.000233 (-0.230)	0.000967 (0.957)	-0.000512 (-0.505)	0.000391 (0.383)	-0.00056	0.65147	1.9247	-5.4408	-5.4291
Reliance	-0.001034 (-1.101)	0.002826 (1.956)	0.002644 (1.833)	-0.000538 (-0.372)	0.002458 (1.692)***	0.00240	2.48757	2.0000	-4.7303	-4.7186
SRF	0.000505 (0.276)	0.003035 (1.177)	-0.002709 (-1.052)	0.002153 (0.834)	0.000305 (0.117)	0.00080	1.49369	2.0161	-3.5720	-3.5603
TATA Consultancy	0.001338 (1.421)	-0.000558 (-0.420)	-0.000854 (-0.643)	-0.002679 (-2.013)**	-0.001136 (0.849)	0.00023	1.14308	1.9939	-4.8963	-4.8845
TATA Elxsi	0.000967 (0.714)	0.001172 (0.613)	0.001473 (0.771)	-0.001139 (-0.595)	0.000557 (0.2890	-0.00066	0.58977	1.8691	-4.1697	-4.1579
TATA Motors	-0.000909 (-0.754)	0.002963 (1.740)***	0.000520 (0.305)	0.001395 (0.818)	0.000588 (0.343)	-0.00011	0.92696	1.9796	-4.4016	-4.3898
Titan	0.001326 (1.434)	0.001281 (0.981)	-0.002221 (-1.704)	0.000137 (0.104)	-0.001193 (-0.909)	0.00182	2.12654	2.0791	-4.9326	-4.9208
Trent	-0.005928 (-2.607)*	0008607 (2.680)*	0.006727 (2.098)**	0.007324 (2.278)**	0.007631 (2.363)**	0.00211	2.30752	1.9808	-3.1320	-3.1202
Ultra tech cement	-7.31 (-0.009)	0.001926 (1.712)***	0.000723 (0.644)	-0.000234 (-0.207)	0.000472 (0.417)	0.00020	1.12526	1.9685	-5.2303	-52185
UPL limited	0.001549 (1.429)	-0.002283 (-1.492)	0.000314 (0.205)	-0.001010 (-0.659)	-0.001146 (-0.744)	-0.00014	0.90955	1.9718	-4.6148	-4.6030
Voltas	-2.20 (-0.002)	0.001299 (0.927)	0.000849 (0.606)	0.0012921 (0.357)	0.001429 (0.310)	-0.00105	0.34895	2.0452	-4.7905	-4.7788

(* denotes significant at 1% level of significance,** denotes significance at 5% and *** denotes significance at 10% level of significance)

The significance of t-value is denoted by *, ** and *** for 1%, 5% and 10% levels of significance, respectively. Adjusted R^2, F-Statistics, Durban-Watson (D-W) Statistics, Akaike Information Criterion (AIC) and Schwartz Information Criterion (SBC) have also been given. Thus, it becomes very easy to compare these values among different companies and between different models also. The above table shows that different companies have different significant days returns. Some companies like Adani enterprise, Adani ports and Special Economic zones ltd., Apollo hospital enterprise, Ashok Leyland, Bajaj finance, Bajaj FinServ, Bharat forge, Bharti Airtel , Britannia, Cholamandalam Investment and finance company, Divis laboratories ltd, Grasim industries ltd, Havells, JSW steel, Nestle, Pi industries, Pidilite industries, SRF, TATA Elxsi, Titan, UPL Limited, Voltas are not having significant difference between returns of any day . Returns of Monday are not significant at 1% level of significance for all companies except Trent company. At 5% level of significance DLF and Echier Motors and no company is significant at 10 % level of significance negative Monday effect is noticed in above results . Tuesday, Wednesday, Thursday, and Friday are significant for the companies DLF, Eichermot and Trent. It is noticed that Tuesday are significant mostly at 10% level of significance for Dabur, DLF, Indian hotel, Maruti Suzuki, Page industries, TATA Motors ,Ultra tech cement and 1% level of significance for Trent and Info edge. Wednesday, Thursday, Friday no company is significant at 1% level of significance. Negative Monday effect is noticed from the above results. Therefore we reject the null hypothesis and accept the alternative hypothesis

4.4 Serial correlation LM Test

HO: There is no serial correlation

H1: there is serial correlation

Table 4: results of serial correlation LM Test

Companies	F statics	P-value
Adani enterprise	0.5120	0.4743
Adani ports	1.3869	0.2390
Apollo hospital	1.0268	0.3110
Ashok Leyland	5.5949	0.0181

Bajaj finance	0.0306	0.8611
Bajaj FinServ	0.0306	0.8611
Bajaj holding investment	23.4202	0.0000*
Bharat forge	1.4072	0.2356
Bharti Airtel	2.0261	0.1547
Britannia	0.2981	0.5851
Cholafin	0.0153	0.9013
HDFC Bank	3.2115	0.0732
Dabur	3.5743	0.0588
Divis	5.3941	0.0203*
DLF	2.7337	0.0984
Eichermot	0.0059	0.9380
Grasim industries	0.5256	0.4685
Havells	2.6452	0.1040
Indian hotel co.	0.1207	0.7282
Info edge	0.6673	0.4141
JSW steel	4.8091	0.0284*
Kotak Mahindra bank	0.0188	0.8909
Marico	2.8728	0.0902
Maruti Suzuki	0.7122	0.3988
Mphasis	7.9795	0.0048*
Nestle	1.1167	0.2907
Page industries	3.9312	0.0475*
Pi industries	0.0167	0.8970
Pidilite industries	3.3551`	0.0671
Reliance	0.0016	0.9678
SRF	0.1623	0.6870
TATA Consultancy	0.0194	0.8892
TATA Elxsi	10.5743	0.0012*
TATA Motors	0.2451	0.6206
Titan	3.8873	0.0488*
Trent	0.2240	0.6360
Ultra tech cement	0.6013	0.4381
UPL limited	0.4670	0.4944
Voltas	1.2617	0.2614

The Breusch-Pagan LM test for serial correlation has been applied to regression results as a result few companies are showing the existence of serial correlation. To address the potential serial correlation in the model, we employed ARIMA model we corrected the autocorrelation by order one. This choice was based on the theoretical rationale that past values of dependent variable are relevant to current value and the observed trend in the data. After employing AR(1), the model and performed diagnostics on the residuals were re-estimated. The Breusch-Pagan LM test indicated a significant reduction in serial correlation, suggesting that AR(1) effectively addressed this issue.

4.5 ARIMA Model

Table 5 : LM Test Statistics Before and After ARIMA Modeling for Companies

companies	Before ARIMA		AR	After ARIMA	
	F-Statistic	P-value		F-Statistic	P-value
Bajaj Holding Investment	23.4202	0.0000	1	1.5177	0.2181
Divis laboratories	5.3941	0.0203	1	0.0314	0.8593
JSW Steel	4.8091	0.0284	1	0.00052	0.9817
Mphasis	7.9795	0.0048	1	2.6542	0.1034
Page Industries	3.9312	0.0475		0.0013	0.9710
TATA Elxsi	10.5743	0.0012	1	1.1595	0.2817
titan	3.8873	0.0488	1	2.0696	0.1504

Source: Compiled by author

Table 6: Results after Inclusion of ARIMA Terms for correction of Autocorrelation

companies	Monday (c)	Tuesday	Wednesday	Thursday	Friday	Adjusted r2	f-statistics	D-W	AIC	SCB
Bajaj holding investment	-0.000913 (-1.071)	0.001878 (1.637)	0.001644 (1.378)	0.002807 (2.348)	0.002033 (1.761)	0.0096	5.79839	1.9950	-5.1013	-5.0872
Divis laboratories	-8.38 (-0.076)	0.000816 (0.537)	-0.000878 (-0.567)	0.000902 (0.582)	0.001734 (1.136)	0.00144	1.71477	1.9991	-4.5879	-4.5738
JSW Steel	-0.001264 (-0.541)	0.003027 (0.899)	-0.001902 (-0.577)	0.004078 (1.235)	0.001208 (0.357)	0.00160	1.79136	1.9995	-3.0863	-3.0665
Mphasis	-0.000534 (-0.570)	0.001903 (1.403)	0.002331 (1.767)***	0.001286 (0.972)	0.000208 (0.152)	0.00315	2.56178	2.0007	-4.9111	-4.8970
Page Industries	-0.000559 (-0.607)	0.002229 (1.747)***	0.002154 (1.662)***	0.001299 (0.741)	0.001283 (1.858)	0.00162	1.80160	1.9983	-4.9414	-4.9273
TATA Elxsi	0.000937 (0.692)	0.001247 (0.674)	0.001483 (0.780)	-0.001136 (0.596)	0.000623 (0.334)	0.00321	2.58888	2.0028	-4.1732	-4.1591
Titan	0.001321 (1.429)	0.001281 (0.963)	-0.002237 (-1.715)	0.000154 (0.117)	-0.001172 (-0.876)	0.00299	2.48092	1.9974	-4.9334	-4.9334

Source: Compiled by author

Data analysis of trading returns

4.6 Unit root test

In time series econometrics , it is necessary to check stationarity of a series before using it in the regression analysis in order to avoid spurious regression.. stationarity of series id tested using Augmented Dickey Fuller test (ADF). The hypothesis for testing stationarity of series using ADF test is:

Ho: There is presence of unit root test in the series

H1: There no unit root test in the series

Table 7: Result of ADF Test for Companies daily open to close returns

Companies	Type	t-value	Critical values		
			1%	5%	10%
Adani enterprise	Intercept	-25.78858	-3.432809	-2.862512	-2.567333
	Trend and intercept	-25.81109	-3.961767	-3.411631	-3.127688
	None	-25.23572	-2.565900	-1.940952	-1.616613
Adani ports	Intercept	-50.19511	-3.432807	-2.862511	-2.567332
	Trend and intercept	-50.20049	-3.961764	-3.411629	-3.127687
	None	-49.54809	-2.565900	-1.940952	-1.616613
Apollo Hospitals and enterprise	Intercept	-48.44941	-3.432807	-2.862511	-2.567332
	Trend and intercept	-48.47525	-3.961764	-3.411629	-3.127687
	None	-48.21672	-2.565900	-1.940952	-1.616613
Ashok Leyland	Intercept	-49.14149	-3.432807	-2.862511	-2.567332
	Trend and intercept	-49.13195	-3.961764	-3.411629	-3.127687
	None	-48.71558	-2.565900	-1.940952	-1.616613
Bajaj finance	Intercept	-48.60910	-3.432807	-2.862511	-2.567332
	Trend and intercept	-48.63526	-3.961764	-3.411629	-3.127687
	None	-48.55695	-2.565900	-1.940952	-1.616613

Bajaj FinServ	Intercept	-48.60910	-3.432807	-2.862511	-2.567332
	Trend and intercept	-48.63526	-3.961764	-3.411629	-3.127687
	None	-48.55695	-2.565900	-1.940952	-1.616613
Bajaj holding investment	Intercept	-45.36820	-3.432807	-2.862511	-2.567332
	Trend and intercept	-45.36106	-3.961764	-3.411629	-3.127687
	None	-45.28040	-2.565900	-1.940952	-1.616613
Bharat forge	Intercept	-50.89016	-3.432807	-2.862511	-2.567332
	Trend and intercept	-50.91629	-3.961764	-3.411629	-3.127687
	None	-50.54868	-2.565900	-1.940952	-1.616613
Bharti Airtel	Intercept	-50.90185	-3.432807	-2.862511	-2.567332
	Trend and intercept	-50.89159	-3.961764	-3.411629	-3.127687
	None	-50.60680	-2.565900	-1.940952	-1.616613
Britannia	Intercept	-47.53370	-3.432807	-2.862511	-2.567332
	Trend and intercept	-47.53313	-3.961764	-3.411629	-3.127687
	None	-47.33640	-2.565900	-1.940952	-1.616613
Cholafin	Intercept	-23.42073	-3.432810	-2.862513	-2.567333
	Trend and intercept	-23.46294	-3.961769	-3.411632	-3.127688
	None	-23.31449	-2.565900	-1.940952	-1.616613
HDFC Bank	Intercept	-24.06125	-3.432810	-2.862513	-2.567333
	Trend and intercept	-24.06833	-3.961769	-3.411632	-3.127688
	None	-23.90534	-2.565900	-1.940952	-1.616613
Dabur	Intercept	-51.97730	-3.432810	-2.862513	-2.567333
	Trend and intercept	-51.96754	-3.961769	-3.411632	-3.127688
	None	-51.40345	-2.565900	-1.940952	-1.616613
Divis laboratories ltd	Intercept	-47.53370	-3.432810	-2.862513	-2.567333
	Trend and intercept	-47.12497	-3.961769	-3.411632	-3.127688
	None	-46.423310	-2.565900	-1.940952	-1.616613

DLF	Intercept	-52.35807	-3.432810	-2.862513	-2.567333
	Trend and intercept	-52.38151	-3.961769	-3.411632	-3.127688
	None	-52.23310	-2.565900	-1.940952	-1.616613
Eichermot	Intercept	-46.35427	-3.432807	-2.862511	-2.567332
	Trend and intercept	-46.38042	-3.961764	-3.411629	-3.127687
	None	-46.19217	-2.565900	-1.940952	-1.616613
Grasim industries	Intercept	-50.76391	-3.432807	-2.862511	-2.567332
	Trend and intercept	-50.75685	-3.961764	-3.411629	-3.127687
	None	-50.58774	-2.565900	-1.940952	-1.616613
Havells	Intercept	-10.86533	-3.432807	-2.862511	-2.567332
	Trend and intercept	-10.83036	-3.961764	-3.411629	-3.127687
	None	-10.90359	-2.565900	-1.940952	-1.616613
Indian hotel co ltd	Intercept	-48.08919	-3.432807	-2.862511	-2.567332
	Trend and intercept	-48.11611	-3.961764	-3.411629	-3.127687
	None	-47.74635	-2.565900	-1.940952	-1.616613
Info edge	Intercept	-47.20033	-3.432807	-2.862511	-2.567332
	Trend and intercept	-47.21898	-3.961764	-3.411629	-3.127687
	None	-47.12299	-2.565900	-1.940952	-1.616613
JSW steel	Intercept	-53.63725	-3.432807	-2.862511	-2.567332
	Trend and intercept	-53.62828	-3.961764	-3.411629	-3.127687
	None	-53.64670	-2.565900	-1.940952	-1.616613
Kotak Mahindra bank	Intercept	-50.17962	-3.432810	-2.862513	-2.567333
	Trend and intercept	-50.17189	-3.961769	-3.411632	-3.127688
	None	-50.12826	-2.565900	-1.940952	-1.616613
Marico	Intercept	-38.30229	-3.432810	-2.862513	-2.567333
	Trend and intercept	-38.29547	-3.961769	-3.411632	-3.127688
	None	-37.29547	-2.565900	-1.940952	-1.616613

Maruti Suzuki	Intercept	-47.25374	-3.432810	-2.862513	-2.567333
	Trend and intercept	-47.29876	-3.961769	-3.411632	-3.127688
	None	-47.18763	-2.565900	-1.940952	-1.616613
Mphasis	Intercept	-59.90861	-3.432810	-2.862513	-2.567333
	Trend and intercept	-50.89931	-3.961769	-3.411632	-3.127688
	None	-50.60531	-2.565900	-1.940952	-1.616613
Nestle	Intercept	-46.60454	-3.432810	-2.862513	-2.567333
	Trend and intercept	-46.61049	-3.961769	-3.411632	-3.127688
	None	-46.27921	-2.565900	-1.940952	-1.616613
Page industries	Intercept	-47.17406	-3.432810	-2.862513	-2.567333
	Trend and intercept	-47.17094	-3.961769	-3.411632	-3.127688
	None	-47.02569	-2.565900	-1.940952	-1.616613
Pi industries	Intercept	-50.87406	-3.432810	-2.862513	-2.567333
	Trend and intercept	-50.86372	-3.961769	-3.411632	-3.127688
	None	-50.64133	-2.565900	-1.940952	-1.616613
Pidilite industries	Intercept	-49.24073	-3.432810	-2.862513	-2.567333
	Trend and intercept	-49.23527	-3.961769	-3.411632	-3.127688
	None	-48.46002	-2.565900	-1.940952	-1.616613
Reliance	Intercept	-49.70486	-3.432810	-2.862513	-2.567333
	Trend and intercept	-49.69756	-3.961769	-3.411632	-3.127688
	None	-49.50589	-2.565900	-1.940952	-1.616613
SRF	Intercept	-49.13191	-3.432810	-2.862513	-2.567333
	Trend and intercept	-49.12788	-3.961769	-3.411632	-3.127688
	None	-49.13113	-2.565900	-1.940952	-1.616613
Tata consultancy	Intercept	-48.31291	-3.432807	-2.862511	-2.567332
	Trend and intercept	-48.31167	-3.961764	-3.411629	-3.127687
	None	-48.22811	-2.565900	-1.940952	-1.616613

Tata Elxsi	Intercept	-47.60913	-3.432807	-2.862511	-2.567332
	Trend and intercept	-47.64535	-3.961764	-3.411629	-3.127687
	None	-47.38563	-2.565900	-1.940952	-1.616613
Tata motors	Intercept	-51.92208	-3.432807	-2.862511	-2.567332
	Trend and intercept	-51.95220	-3.961764	-3.411629	-3.127687
	None	-51.35570	-2.565900	-1.940952	-1.616613
titan	Intercept	-52.13240	-3.432807	-2.862511	-2.567332
	Trend and intercept	-52.12546	-3.961764	-3.411629	-3.127687
	None	-51.90099	-2.565900	-1.940952	-1.616613
Trent	Intercept	-47.90922	-3.432810	-2.862513	-2.567333
	Trend and intercept	-47.90934	-3.961769	-3.411632	-3.127688
	None	-47.67954	-2.565900	-1.940952	-1.616613
Ultra tech cement	Intercept	-47.48361	-3.432810	-2.862513	-2.567333
	Trend and intercept	-47.47456	-3.961769	-3.411632	-3.127688
	None	-47.25627	-2.565900	-1.940952	-1.616613
UPL limited	Intercept	-49.16040	-3.432810	-2.862513	-2.567333
	Trend and intercept	-49.20353	-3.961769	-3.411632	-3.127688
	None	-48.99932	-2.565900	-1.940952	-1.616613
Voltas	Intercept	-52.09271	-3.432810	-2.862513	-2.567333
	Trend and intercept	-52.13102	-3.961769	-3.411632	-3.127688
	None	-51.81908	-2.565900	-1.940952	-1.616613

Source: Compiled by author

The above table shows the ADF test statistics and critical values at level . The result clearly indicate that the ADF test statistic is less than the critical values in all the series at 1%, 5% and 10% levels of significance so null hypothesis is rejected i.e. there is unit root and accept the alternative hypothesis. Now since the data is stationary it an be used for further analysis.

4.7 Descriptive Statistics

Table 8:Results of Day wise Descriptive statistics for trading day returns (open to close) series

Companies	Mean		Standard deviation		Skewness		Kurtosis	
	Highest	Lowest	Highest	Lowest	Positive	Negative	Highest	Lowest
Adani enterprise	Tuesday	Wednesday	Wednesday	Friday	Tuesday	All other days	Wednesday	Monday
Adani ports and special economics zone ltd	Tuesday (-)	Wednesday	Wednesday	Thursday	Tuesday & Thursday	All other days	Wednesday	Tuesday
Apollo hospital	Friday (-)	Wednesday(-)	Monday	Thursday	All other days	Monday	Monday	Tuesday
Ashok Leyland	Monday (-)	Thursday (-)	Thursday	Tuesday	All other days	Monday & Wednesday	Thursday	Tuesday
Bajaj finance	Tuesday	Monday (-)	Monday	Thursday	All other days	Monday & Wednesday	Friday	Thursday
Bajaj FinServ	Tuesday	Monday (-)	Monday	Thursday	All other days	Monday & Wednesday	Friday	Thursday
Bajaj holdings investment	Friday (-)	Monday (-)	Tuesday	Wednesday	Thursday & Friday	All other days	Tuesday	Friday
Bharat forge	Tuesday	Wednesday	Thursday	Wednesday	All other days	Monday & Tuesday	Monday	Wednesday
Britannia	Wednesday	Tuesday (-)	Monday	Thursday	All other days	-----	Wednesday	Thursday
Bharti airtel	Tuesday (-)	Wednesday (-)	Wednesday	Thursday	All other days	------	Friday	Monday
Cholafin	Tuesday	Friday (-)	Monday	Tuesday	All other days	Monday	Monday	Tuesday
HDFC Bank	Friday	Monday (-)	Wednesday	Thursday	Thursday& Friday	All other days	Wednesday	Thursday
Dabur	Friday (-)	Monday (-)	Wednesday	Thursday	All other days	Monday	Thursday	Wednesday
Divis laboratories ltd	Friday (-)	Monday (-)	Monday	Wednesday	Wednesday	All other days	Friday	Wednesday
DLF	Wednesday (-)	Monday (-)	Friday	Wednesday	Friday	All other days	Tuesday	Wednesday
Eichermot	Tuesday	Monday (-)	Monday	Thursday	All other days	Monday	Friday	Thursday
Grasim industries	Wednesday	Thursday	Monday	Wednesday	All other days	Monday & Tuesday	Monday	Thursday

Havells	Thursday	Tuesday (-)	Tuesday	Friday	Monday & Thursday	All other days	Tuesday	Monday
Indian hotel co ltd	Wednesday (-)	Monday	Monday	Tuesday	All other days	Monday	Friday	Tuesday
Info Edge	Tuesday	Monday (-)	Tuesday	Wednesday	All other days	-------	Monday	Thursday
JSW Steel	Thursday	Wednesday(-)	Monday	Wednesday	All other days	Monday	Monday	Tuesday
Kotak Mahindra bank	Friday	Tuesday (-)	Wednesday	Tuesday	All other days	Monday & Wednesday	Wednesday	Monday
Marico	Wednesday (-)	Monday (-)	Tuesday	Thursday	All other days	Monday & Friday	Friday	Thursday
Maruti Suzuki	Monday	Wednesday (-)	Friday	Thursday	All other days	Monday	Wednesday	Friday
Mphasis	Wednesday (-)	Friday (-)	Monday	Wednesday	All other days	------	Monday	Tuesday
Nestle	Thursday (-)	Tuesday (-)	Friday	Thursday	All other days	------	Wednesday	Monday
Page industries	Friday	Monday	Thursday	Tuesday	All other days	-----	Friday	Wednesday
PI industries	Thursday	Wednesday	Monday	Wednesday	All other days	-------	Monday	Wednesday
Pidilite	Wednesday (-)	Thursday (-)	Friday	Thursday	All other days	Monday & Thursday	Monday	Wednesday
Reliance	Friday (-)	Monday (-)	Monday	Thursday	All other days	Monday	Wednesday	Thursday
SRF	Tuesday	Monday (-)	Friday	Tuesday	All other days	Monday	Friday	Wednesday
TATA Consultancy	Monday	Thursday (-)	Friday	Wednesday	All other days	Wednesday & Thursday	Friday	Tuesday
TATA Elxsi	Thursday	Friday (-)	Monday	Wednesday	All other days	Thursday	Tuesday	Wednesday
TATA Motors	Friday (-)	Wednesday (-)	Tuesday	Friday	All other days	-------	Tuesday	Friday
Titan	Tuesday	Wednesday (-)	Tuesday	Wednesday	All other days	Tuesday	Tuesday	Monday

Trent	Tuesday(-)	Monday (-)	Tuesday	Thursday	All other days	Monday	Monday	Friday
Ultra Cement ltd	Wednesday (-)	Tuesday (-)	Friday	Wednesday	Wednes day	Friday	Friday	Wednesday
UPL limited	Wednesday (-)	Monday (-)	Monday	Friday	Monday & Wednes day	All other days	Monday	Friday
Voltas	Friday (-)	Wednesday (-)	Monday	Tuesday	All other days	Tuesday & Wednesday	Tuesday	Wednesday

Source: Compiled by author

From the summarized details of descriptive statistics for BSE 100 companies it is quite evident that mean returns of Tuesday are highest and positive for most of the companies among other days of the week followed by Friday are second highest mean returns and Wednesday which are mostly negative mean returns. On other hand lowest and negative mean returns are found on Monday and then second lowest mean returns are found on Wednesday. The standard deviation is highest on Monday and lowest Thursday. Skewness is generally negative for most of the days it means that during these days the distribution of variable being observe tends to be skewed toward higher values later in a week.

4.8 dummy variable regression analysis

Table 9: Results of Dummy variable regression analysis

Companies	variables									
	Monday	Tuesday	Wednesday	Thursday	Friday	Adjusted R^2	f-statics	D-W	AIC	SBC
Adani enterprise	-0.000922 (-0.439)	0.002787 (0.941)	-0.004445 (-1.503)	-0.001071 (-0.361)	-0.000712 (-0.239)	0.00087	1.52828	1.9698	-3.2940	-3.2822
Adani ports	-0.003068 (-2.902)*	0.001630 (1.091)	-0.000773 (-0518)	0.000392 (0.262)	0.000642 (0.427)	-0.00048	0.69914	2.0207	-4.6620	-4.6502
Apollo hospital	-0.002074 (-2.160)**	0.000891 (0.656)	-0.000332 (-0.244)	0.000796 (0.586)	0.001383 (1.014)	-0.00076	0.52802	1.9499	-4.8550	-4.8432
Ashok Leyland	-0.001852 (-1.630)	-0.000258 (-0.160)	-0.000830 (-0.518)	-0.001086 (-0.676)	-0.000588 (-0.364)	-0.00138	0.14644	1.9799	-4.5182	-4.5064
Bajaj finance	-0.003471 (-3.384)*	0.004037 (2.786)*	0.002792 (1.930)***	0.003638 (2.508)**	0.002799 (1.921)***	0.00221	2.37097	1.9538	-4.7228	-4.7110
Bajaj FinServ	-0.003471 (-3.381)*	0.004037 (2.786)*	0.002792 (1.930)***	0.003638 (2.508)**	0.002799 (1.921)***	0.00221	2.37097	1.9538	-4.7228	-4.7110
Bajaj holding investment	-0.002078 (-2.430)**	0.001301 (1.077)	0.000870 (0.721)	0.001812 (1.498)	0.001816 (1.494)	-0.00034	0.78590	1.8169	-5.0866	-5.0748
Bharat forge	-0.002781 (-2.742)	0.000774 (0.540)	0.001882 (1.316)	0.000786 (0.548)	0.001104 (0.766)	-0.00089	0.45124	2.0476	-4.7475	-4.7358

Bharti Airtel	-0.000819 (-0.913)	0.000341 (0.268)	-0.001776 (-1.404)	-0.001588 (-1.252)	-0.000517 (-0.405)	0.00017	1.10942	2.0499	-4.9913	-4.9796
Britannia	-0.001345 (-1.851)***	-0.000526 (-0.512)	0.001689 (1.648)***	0.000506 (0.492)	-0.000408 (-0.395)	0.00087	1.53984	1.9138	-5.4127	-5.4009
Cholafin	-0.002388 (-2.084)**	0.002787 (1.721)***	0.001415 (0.875)	0.002111 (1.3033)	2.96 (0.018)	0.00028	1.17324	1.9935	-4.5012	-4.4895
HDFC Bank	-0.001594 (-2.638)*	0.000654 (0.766)	0.000476 (0.558)	0.001157 (1.353)	0.002350 (2.737)*	0.00190	2.17778	1.9898	-5.7807	-5.7689
Dabur	-0.002316 (-3.294)*	0.001057 (1.064)	0.000650 (0.655)	0.000575 (0.578)	0.001174 (1.174)	-0.00092	0.432889	2.0874	-5.4775	-5.4657
Divis	-0.001252 (-1.449)	-0.001685 (-1.380)	-0.001047 (-0.859)	0.001447 (-1.194)	-0.001282 (-1.045)	-0.00069	0.57255	1.8915	-5.0674	-5.0556
DLF	-0.003360 (-2.689)*	0.002419 (1.371)	0.002638 (1.496)	0.002512 (1.421)	0.002439 (1.373)	-0.00031	0.80707	2.1030	-4.3279	-4.3161
Eichermot	-0.003741 (-4.013)*	0.003896 (2.958)*	0.003396 (2.582)*	0.002283 (1.732)***	0.002553 (1.928)***	0.00259	2.60193	1.8609	-4.9138	-4.9020
Grasim industries	-0.001050 (-1.263)	-0.000397 (-0.337)	-3.98 (-0.033)	0.000434 (0.369)	-0.000295 (-0.250)	-0.00137	0.15100	2.0439	-5.1497	-5.1329
Havells	-0.000805 (-0.911)	-0.000143 (-0.114)	-0.001397 (-1.121)	-0.000118 (-0.094)	-0.001855 (-1.478)	-0.00009	0.94264	2.0628	-5.0211	-5.0093
Indian hotel co.	-0.002865 (-2.739)*	0.001179 (0.798)	0.001429 (0.968)	0.000687 (0.464)	0.000888 (0.597)	-0.00117	0.27373	1.9355	-4.6835	-4.6718
Info edge	-0.003268 (-3.023)*	0.004489 (2.939)*	0.001987 (1.303)	0.002675 (1.750)***	0.001801 (1.172)	0.00202	2.25204	1.8969	-4.6173	-4.6055
JSW steel	-0.001364 (-1.381)	0.001844 (1.321)	0.001341 (0.962)	0.002486 (1.779)***	0.000586 (0.417)	-0.00000	0.99573	2.1546	-4.7980	-4.7863
Kotak Mahindra bank	-0.001235 (-1.649)***	-0.000406 (-0.384)	0.000713 (0.674)	0.000833 (0.786)	0.002164 (2.034)	0.00114	1.70793	2.0193	-5.3516	-5.3398
Marico	-0.003614 (-5.070)*	0.002385 (2.368)**	0.002552 (2.538)**	0.001218 (1.208)	0.001606 (1.586)	0.00175	2.08173	2.0188	-5.4504	-5.4386
Maruti Suzuki	-0.000788 (-1.006)	0.000887 (0.801)	-0.000471 (-0.425)	-0.000214 (0.192)	0.000164 (0.147)	-0.0009	0.43158	1.9010	-5.2612	-52495
Mphasis	-0.002534 (-2.723)*	0.001425 (1.083)	0.002150 (1.638)	0.001050 (0.798)	-0.000116 (-0.087)	0.00011	1.06876	2.0542	-4.9177	-4.9059
Nestle	-0.002920 (-4.484)*	0.001519 (1.651)***	0.001913 (2.081)**	0.002626 (2.851)*	0.002184 (2.360)**	0.00223	2.38307	1.8744	-56309	-5.6191
Page industries	-0.002853 (-3.103)*	0.002217 (1.706)***	0.002225 (1.715)***	0.000814 (0.625)	0.002948 (2.255)**	0.00112	1.69433	1.8950	-4.9412	-4.9294
Pi industries	-0.002313 (-2.283)**	0.001450 (1.013)	-0.000393 (-0.274)	0.001586 (1.107)	0.001186 (0.823)	-0.00033	0.79387	2.0477	-4.7474	-4.7356
Pidilite industries	-0.001980 (-2.827)*	-0.000769 (-0.777)	0.000941 (0.952)	-0.000844 (-0.832)	0.000538 (0.539)	0.00042	1.26417	1.9810	-5.4854	-5.4736
Reliance	-0.000288 (-0.392)	-0.001453 (-1.405)	-0.000562 (-0.544)	-6.34 (-0.061)	-0.001860 (1.788)***	0.00047	1.29352	2.0012	-5.3979	-5.3861
SRF	-0.001312 (-1.261)	0.002287 (1.556)	0.000344 (0.234)	0.002244 (1.525)	1.49 (0.010)	0.00047	1.29290	1.9753	-4.6944	-4.6827
TATA Consultancy	0.000380 (0.593)	-0.000935 (-1.033)	-0.001312 (-1.451)	-0.001726 (1.904)***	-0.001137 (-1.248)	0.00000	1.00203	1.9445	-5.6637	-5.6519
TATA Elxsi	-0.000782 (0.678)	-0.000758 (-0.465)	-0.000553 (-0.340)	-0.003105 (-	-0.000830 (-0.507)	0.00012	1.07685	1.9150	-4.4913	-4.4795

				1.907)***						
TATA Motors	-0.002697 (-2.651)*	0.000824 (0.573)	-0.000592 (-0.412)	0.000638 (0.443)	0.000821 (0.568)	-0.00101	0.37286	2.0906	-4.7387	-4.7270
Titan	-0.000929 (-1.078)	0.001025 (0.842)	-0.002051 (-1.687)***	4.18 (0.034)	-0.000735 (-0.6000)	0.00124	1.76562	2.0949	-5.0708	-5.0590
Trent	-0.003346 (-3.493)*	0.003222 (2.380)**	0.000985 (0.728)	0.002600 (1.918)***	0.002191 (1.608)	0.00135	1.83331	1.9271	-4.8588	-4.8470
Ultra tech cement	-0.001525 (-1.959)**	0.001425 (1.296)	0.000278 (0.253)	-0.000307 (-0.279)	-8.25 (-0.074)	-0.00037	0.77068	1.9099	-5.2743	-5.2626
UPL limited	-0.000187 (-0.187)	-0.002260 (-1.601)	0.000270 (-0.191)	-0.001411 (0.999)	-0.001736 (-1.222)	-0.00010	0.93862	1.978	-4.7763	-4.7645
Voltas	-0.002068 (-2.107)**	0.000326 (0.235)	5.41 (0.039)	0.000583 (0.420)	0.001518 (1.089)	-0.00098	0.39155	2.0940	-4.8130	-4.8013

Source: Compiled by author

(* denotes significant at 1% level of significance,** denotes significance at 5% and *** denotes significance at 10% level of significance)

The significance of t-value is denoted by *, ** and *** for 1%, 5% and 10% levels of significance, respectively. Adjusted R^2, F-Statistics, Durban-Watson (D-W) Statistics, Akaike Information Criterion (AIC) and Schwartz Information Criterion (SBC) have also been given. Thus, it becomes very easy to compare these values among different companies and between different models also. The above table shows that different companies have different significant days returns. Some companies like Adani enterprise, Ashok Leyland, Bharat forge, Bharti airtel divis laboratories, Grasim industries, Havells, Maruti Suzuki limited are not having any significant difference between trading returns in different days of the week . out of 39 companies 16 companies returns on Monday are significant at 1% level of significance are Adani ports, Bajaj finance, Bajaj FinServ, HDFC Bank,Dabur,DLF, Eichermot, Indian hotel co. ltd ,info edge, Marico ,Mphasis, Nestel, Page Indutries, Pidilite industries, TATA motors, Trent. At 5% level of significance are apollo hospital, Bajaj holding investment Cholafin, pi industries, ultra tech cement, Voltas. And at 10%level of significance are Britannia and Kotak Mahindra bank. Returns on Tuesday, Wednesday, Thursday are significant for few companies but with combination of Monday. Expect JSW steel, Titan, TATA Elxsi, TATA Consultancy, Reliance. Monday is more attractive day for trading as it is noticed in pervious studied after two days of holiday Saturday and Sunday investors leading to higher trading activity and potential higher returns on Monday. overall results of dummy variable regression analysis suggest that there are differences in stock returns between different days of the week for some companies in Indian stock market. However, the specific days that are significant vary from company to company.

4.9 Serial correlation

Table 10: Result of Serial correlation LM test

Companies	F-statics	P-value
Adani enterprise	0.5552	0.4563
Adani ports	0.2739	0.6007
Apollo hospital	1.5312	0.2160
Ashok Leyland	0.2353	0.6276
Bajaj finance	1.2910	0.2560
Bajaj FinServ	1.2910	0.2560
Bajaj holding investment	20.53997	0.0000*
Bharat forge	1.4168	0.2340
Bharti Airtel	1.5427	0.2143
Britannia	4.4897	0.0342*
Cholafin	0.0188	0.8909
HDFC Bank	0.0571	0.8111
Dabur	4.9184	0.0267*
Divis	7.2417	0.0072*
DLF	6.8292	0.0090*
Eichermot	11.9394	0.0006*
Grasim industries	1.2056	0.2723
Havells	2.5036	0.1137
Indian hotel co.	2.5274	0.1120
Info edge	6.5368	0.0106*
JWS steel	14.88625	0.0001*
Kotak Mahindra bank	0.2312	0.6306
Marico	0.2338	0.6287
Maruti Suzuki	6.0256	0.0142*
Mphasis	1.8598	0.1728
Nestle	9.4681	0.0021*
Page industries	6.7905	0.0092*
Pi industries	1.4215	0.2333
Pidilite industries	0.2172	0.6412
Reliance	0.0009	0.9754
SRF	0.3363	0.5620

TATA Consultancy	1.8898	0.1693
TATA Elxsi	4.4396	0.0352*
TATA Motors	5.1205	0.0237*
Titan	5.570	0.0183*
Trent	3.1720	0.0750*
Ultra tech cement	4.9129	0.0267*
UPL limited	0.2400	0.6242
Voltas	5.4653	0.0195*

Source: Compiled by author

For some companies there is the existence of serial correlation. Therefore, Breusch- Godfrey LM test for serial correlation has been applied to the regression results, after existence of serial correlation ARIMA modeling framework specifically the higher order autoregressive model is used i.e. AR(1),AR(2),AR(3) and again the LM-test has been applied to confirm the removal of serial correlation and again the regression test has been applied to check if the results changes. The regression analysis shows that there is clearly improvement in the statistics adjusted r2,F-statistics, D-W statics has become closer 2 . Divis laboratories are now showing significance for Monday returns at 1% level of significance.

4.10 ARIMA Model

Table 11: LM Test Statistics Before and After ARIMA Modeling for Companies return series.

companies	Before ARIMA		AR	After ARIMA	
	F-Statistics	P-value		F-Statistics	P-value
Bajaj Holding Investment	20.53997	0.0000	1	0.0571	0.8111
Britannia	4.4897	0.0342	1	0.7355	0.3912
Dabur	4.9184	0.0267	2	0.1231	0.7257
Divis Laboratories co ltd	7.2417	0.0072	1	0.0990	0.7530
DLF	6.8292	0.0090	1	0.3420	0.5587
Eichermot	11.9394	0.0006	1	0.0588	0.8083
Info Edge	6.5368	0.0106	1	1.1241	0.2891
JSW Steel	14.88625	0.0001	1	0.0026	0.9593
Maruti Suzuki	6.0256	0.0142	1	3.3332	0.0680

Nestle	9.4681	0.0021	1	1.2480	0.2640
Page Industries	6.7905	0.0092	1	0.2525	0.6153
TATA Elxsi	4.4396	0.0352	1	0.80008	0.3709
TATA Motors	5.1205	0.0237	1	1.1685	0.2798
Titan	5.570	0.0183	1	0.4393	0.5075
ULTRA tech cement	4.9129	0.0267	1	2.2374	0.1348
Voltas	5.4653	0.0195	2	1.6747	0.1957

Source: Compiled by author

Table 12: Results after Inclusion of ARIMA Terms for Correction of Autocorrelation

companies	Monday c	Tuesday	Wednesday	Thursday	Friday	Adjusted R2	F-Statistics	d-w	AIC	SCB
Bajaj Holding Investment	-0.002076 (-2.429) **	0.001240 (1.075)	0.000853 (0.712)	0.001853 (1.545)	0.001841 (1.585)	0.00753	4.74249	1.9978	-5.094	-5.080
Britannia	-0.001353 (-1.862) ***	-0.000494 (-0.491)	0.001680 (1.642)	0.000494 (0.481)	-0.000377 (-0.373)	0.002290	1.32314	1.9977	-5.413	-5.399
Dabur	-0.002289 (-3.254) *	0.001037 (1.023)	0.000616 (0.608)	0.000547 (0.538)	0.001115 (1.093)	0.00233	1.961305	1.9973	-5.479	-5.463
Divis Laboratories co ltd	-0.003239 (-3.753) *	0.001084 (0.913)	0.000315 (0.259)	0.001239 (1.018)	0.001855 (1.553)	0.00208	2.02840	1.9993	-5.070	-5.056
DLF	-0.003413 (-2.732) *	0.002547 (1.408)	0.002667 (1.513)	0.002547 (1.441)	0.002502 (1.375)	0.00205	2.01672	1.9989	-4.329	-4.315
Eichermot	-0.003708 (-3.979) *	0.003850 (3.026) *	0.003384 (2.586)*	0.002234 (1.703)***	0.002495 (1.949)***	0.00700	4.47947	2.0005	-4.917	-4.903
Info Edge	-0.003263 (-3.018)*	0.004481 (3.008)*	0.001970 (1.295)	0.002673 (1.753)	0.001805 (1.204)	0.00426	3.11286	1.997645	-4.619	-4.605
JSW Steel	-0.001384 (-1.402)	0.0018630 (1.290)	0.001336 (0.960)	0.002549 (1.826)***	0.000603 (0.415)	0.00560	3.77872	1.999376	-4.803	-4.789
Maruti Suzuki	-0.000799 (-1.020)	0.000895 (0.828)	-0.000416 (-0.377)	-0.000237 (-0.214)	0.000180 (-0.165)	0.0011	1.55151	1.996191	-5.262	-5.248
Nestle	-0.002911	0.001527	0.001895	0.002592	0.002186	0.00565	3.80711	1.995386	-5.633	-5.619

	(-4.470)*	(1.710)***	(2.071)**	(2.826)*	(2.435)**					
Page Industries	-0.002849 (-3.098)*	0.002205 (1.742)***	0.002216 (1.713)***	0.000839 (0.647)	0.002922 (2.293)**	0.003469	2.71705	2.001030	-4.943	-4.929
TATA Elxsi	-0.000804 (-0.697)	-0.000710 (-0.445)	-0.000545 (-0.336)	-0.003101 (-1.909)***	-0.000780 (-0.486)	0.00152	1.75091	2.001485	-4.492	-4.478
TATA Motors	-0.002696 (-2.650)*	0.000839 (0.571)	-0.000624 (-0.434)	0.000632 (0.439)	0.000840 (0.568)	0.00065	1.32314	2.001519	-4.740	-7.259
Titan	-0.000931 (-1.080)	0.001020 (0.820)	-0.002062 (1.696)	5.43 (0.044)	-0.000721 (-0.576)	0.00309	2.52919	2.001154	-5.072	-5.058
Ultra Tech Cement	-0.001547 (-1.987)**	0.001453 (1.350)	0.000306 (0.279)	-0.000298 (-0.271)	-3.70 (-0.034)	0.00121	1.60032	1.996495	-5.275	-5.261
Voltas	-0.002021 (-2.060)**	0.000305 (0.215)	2.06 (0.014)	0.000573 (0.405)	0.001409 (0.990)	0.00214	1.88222	1.996698	-4.814	-4.793

Source: Compiled by author

Data analysis of Non Trading returns

4.11 Unit root test

In time series econometrics , it is necessary to check stationary of a series before using it in the regression analysis in order to avoid spurious regression.Stationary of series id tested using Augmented Dickey Fuller test (ADF). The hypothesis for testing stationary of series using ADF test is:

Ho: There is presence of unit root test in the series

H1: There no unit root test in the series

Table 13: Result of ADF Test for companies daily close to open returns

companies	types	T-statics	Critical values		
			1%	5%	10%
Adani enterprises	Intercept	-49.35604	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.34676	-3.961766	-3.411630	-3.127687
	None	-32.35556	-2.565900	-1.940952	-1.616613
Adani ports	Intercept	-32.51824	-3.432808	-2.862512	-2.567332
	Trend and intercept	-32.52266	-3.961766	-3.411630	-3.127687
	None	-11.61440	-2.565900	-1.940952	-1.616613
Apollo hospitals and enterprise	Intercept	-46.82307	-3.432808	-2.862512	-2.567332
	Trend and intercept	-46.89729	-3.961766	-3.411630	-3.127687
	None	-13.34312	-2.565900	-1.940952	-1.616613
Ashok Leyland	Intercept	-18.76713	-3.432808	-2.862512	-2.567332
	Trend and intercept	-18.86237	-3.961766	-3.411630	-3.127687
	None	-16.07000	-2.565900	-1.940952	-1.616613
Bajaj finance	Intercept	-49.96792	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.96005	-3.961766	-3.411630	-3.127687
	None	-49.92969	-2.565900	-1.940952	-1.616613

Bajaj FinServ	Intercept	-49.96792	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.96005	-3.961766	-3.411630	-3.127687
	None	-49.92969	-2.565900	-1.940952	-1.616613
Bajaj holding investment	Intercept	-48.95177	-3.432808	-2.862512	-2.567332
	Trend and intercept	-48.94817	-3.961766	-3.411630	-3.127687
	None	-18.34528	-2.565900	-1.940952	-1.616613
Bharat forge	Intercept	-49.06491	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.85575	-3.961766	-3.411630	-3.127687
	None	-48.08502	-2.565900	-1.940952	-1.616613
Britannia	Intercept	-4911567	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.18742	-3.961766	-3.411630	-3.127687
	None	-48.33612	-2.565900	-1.940952	-1.616613
Bharti airtel	Intercept	-31.95571	-3.432809	-2.862512	-2.567333
	Trend and intercept	-3195503	-3.961767	-3.411631	-3.127688
	None	-15.74508	-2.565904	-1.940953	-1.616613
Cholafin	Intercept	-49.42183	-3.432809	-2.862512	-2.567333
	Trend and intercept	-49.45852	-3.961767	-3.411631	-3.127688
	None	-49.33671	-2.565904	-1.940953	-1.616613
HDFC Bank	Intercept	-49.94061	-3.432809	-2.862512	-2.567333
	Trend and intercept	-49.98579	-3.961767	-3.411631	-3.127688
	None	-49.73155	-2.565904	-1.940953	-1.616613
Dabur	Intercept	-32.16110	-3.432809	-2.862512	-2.567333
	Trend and intercept	-32.21184	-3.961767	-3.411631	-3.127688
	None	-8.368885	-2.565904	-1.940953	-1.616613
Divis laboratories ltd	Intercept	-47.84802	-3.432808	-2.862512	-2.567332
	Trend and	-47.93864	-3.961766	-3.411630	-3.127687

	intercept				
	None	-46.63819	-2.565900	-1.940952	-1.616613
DLF	Intercept	-49.72010	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.71199	-3.961766	-3.411630	-3.127687
	None	-48.90110	-2.565900	-1.940952	-1.616613
Eichermot	Intercept	-50.14552	-3.432809	-2.862512	-2.567333
	Trend and intercept	-50.17001	-3.961767	-3.411631	-3.127688
	None	-50.11241	-2.565904	-1.940953	-1.616613
Grasim industries ltd	Intercept	-49.76079	-3.432808	-2.862512	-2.567332
	Trend and intercept	-49.75377	-3.961766	-3.411630	-3.127687
	None	-49.73530	-2.565900	-1.940952	-1.616613
Havells	Intercept	-50.33309	-3.432809	-2.862512	-2.567333
	Trend and intercept	-50.32625	-3.961767	-3.411631	-3.127688
	None	-50.19978	-2.565904	-1.940953	-1.616613
Info Edge	Intercept	-31.74800	-3.432809	-2.862512	-2.567333
	Trend and intercept	-31.75497	-3.961767	-3.411631	-3.127688
	None	-24.11764	-2.565904	-1.940953	-1.616613
Indian hotel co ltd	Intercept	-30.79683	-3.432809	-2.862512	-2.567333
	Trend and intercept	-30.96405	-3.961767	-3.411631	-3.127688
	None	-15.27393	-2.565904	-1.940953	-1.616613
JSW Steel	Intercept	-50.08826	-3.432809	-2.862512	-2.567333
	Trend and intercept	-50.07908	-3.961767	-3.411631	-3.127688
	None	-50.09808	-2.565904	-1.940953	-1.616613
Kotak Mahindra bank	Intercept	-50.95691	-3.432809	-2.862512	-2.567333
	Trend and intercept	-50.94658	-3.961767	-3.411631	-3.127688

	None	-50.78769	-2.565904	-1.940953	-1.616613
Marico	Intercept	-49.25714	-3.432809	-2.862512	-2.567333
	Trend and intercept	-49.24715	-3.961767	-3.411631	-3.127688
	None	-48.28530	-2.565904	-1.940953	-1.616613
Maruti Suzuki	Intercept	-32.69350	-3.432809	-2.862512	-2.567333
	Trend and intercept	-32.69062	-3.961767	-3.411631	-3.127688
	None	-24.47065	-2.565904	-1.940953	-1.616613
M phasis	Intercept	-48.40383	-3.432809	-2.862512	-2.567333
	Trend and intercept	-48.39759	-3.961767	-3.411631	-3.127688
	None	-31.72032	-2.565904	-1.940953	-1.616613
Nestle	Intercept	-31.09676	-3.432809	-2.862512	-2.567333
	Trend and intercept	-31.16398	-3.961767	-3.411631	-3.127688
	None	-11.27607	-2.565904	-1.940953	-1.616613
Page industries	Intercept	-50.31022	-3.432809	-2.862512	-2.567333
	Trend and intercept	-50.39436	-3.961767	-3.411631	-3.127688
	None	-17.49421	-2.565904	-1.940953	-1.616613
Pi industries	Intercept	-34.32031	-3.432809	-2.862512	-2.567333
	Trend and intercept	-34.32670	-3.961767	-3.411631	-3.127688
	None	-34.11834	-2.565904	-1.940953	-1.616613
Pidilite industries	Intercept	-32.74870	-3.432809	-2.862512	-2.567333
	Trend and intercept	-32.87018	-3.961767	-3.411631	-3.127688
	None	-10.96335	-2.565904	-1.940953	-1.616613
Reliance	Intercept	-50.01633	-3.432809	-2.862512	-2.567333
	Trend and intercept	-50.01161	-3.961767	-3.411631	-3.127688
	None	-49.58686	-2.565904	-1.940953	-1.616613
SRF	Intercept	-50.10573	-3.432809	-2.862512	-2.567333
	Trend and	-50.14011	-3.961767	-3.411631	-3.127688

	intercept				
	None	-50.02859	-2.565904	-1.940953	-1.616613
TATA Consultancy	Intercept	-50.21839	-3.432809	-2.862512	-2.567333
	Trend and intercept	-50.20846	-3.961767	-3.411631	-3.127688
	None	-50.05102	-2.565904	-1.940953	-1.616613
TATA Elxsi	Intercept	-48.92350	-3.432809	-2.862512	-2.567333
	Trend and intercept	-48.95607	-3.961767	-3.411631	-3.127688
	None	-47.19129	-2.565904	-1.940953	-1.616613
TATA Motors	Intercept	-32.75217	-3.432809	-2.862512	-2.567333
	Trend and intercept	-32.87024	-3.961767	-3.411631	-3.127688
	None	-18.04772	-2.565904	-1.940953	-1.616613
Titan	Intercept	-48.68063	-3.432809	-2.862512	-2.567333
	Trend and intercept	-48.70464	-3.961767	-3.411631	-3.127688
	None	-17.92125	-2.565904	-1.940953	-1.616613
Trent	Intercept	-49.89287	-3.432809	-2.862512	-2.567333
	Trend and intercept	-49.88570	-3.961767	-3.411631	-3.127688
	None	-49.84268	-2.565904	-1.940953	-1.616613
Ultra tech cement	Intercept	-25.23674	-3.432809	-2.862512	-2.567333
	Trend and intercept	-25.23183	-3.961767	-3.411631	-3.127688
	None	-14.16478	-2.565904	-1.940953	-1.616613
UPL Limited	Intercept	-49.70355	-3.432809	-2.862512	-2.567333
	Trend and intercept	-49.69559	-3.961767	-3.411631	-3.127688
	None	-48.34058	-2.565904	-1.940953	-1.616613
Voltas	Intercept	-47.38969	-3.432809	-2.862512	-2.567333
	Trend and intercept	-47.38981	-3.961767	-3.411631	-3.127688
	None	-14.88148	-2.565904	-1.940953	-1.616613

4.12 Descriptive statistics

Table 14: Day wise Descriptive statistics for Companies daily close to open returns

Companies	Mean		Standard deviation		skewness		Kurtosis	
	Highest	Lowest	Highest	Lowest	Positive	Negative	Highest	Lowest
Adani enterprise	Monday	Wednesday	Wednesday	Tuesday	---------	All days	Wednesday	Monday
Adani ports and special economics zone ltd	Monday	Friday	Friday	Monday	All other days	Tuesday & Friday	Tuesday	Monday
Apollo hospital	Tuesday	Thursday	Friday	Monday	Monday & Tuesday	All other days	Monday	Tuesday
Ashok Leyland	Wednesday	Friday	Friday	Monday	--------	All days	Tuesday	Monday
Bajaj finance	Monday	Wednesday (-)	Wednesday	Tuesday	Tuesday	All other days	Wednesday	Tuesday
Bajaj FinServ	Monday	Wednesday (-)	Wednesday	Tuesday	Tuesday	All other days	Wednesday	Tuesday
Bajaj holdings investment	Wednesday	Friday	Friday	Tuesday	Monday & Tuesday	All other days	Thursday	Monday
Bharat forge	Thursday	Wednesday	Wednesday	Monday	Monday	All other days	Wednesday	Friday
Britannia	Monday	Wednesday	Wednesday	Tuesday	Monday & Friday	All other days	Wednesday	Tuesday
Bharti airtel	Tuesday	Friday	Friday	Monday	------	All days	Friday	Wednesday
Cholafin	Tuesday	Thursday	Thursday	Monday	Monday & Friday	All other days	Thursday	Friday
HDFC Bank	Monday	Wednesday	Wednesday	Tuesday	All other days	Wednesday& Friday	Wednesday	Monday
Dabur	Tuesday	Thursday	Tuesday	Monday	All other days	Tuesday & Friday	Tuesday	Monday
Divis laboratories ltd	Friday	Tuesday	Tuesday	Thursday	Wednesday & Friday	All other days	Tuesday	Thursday
DLF	Tuesday	Friday	Friday	Monday	-------	All days	Monday	Thursday
Eichermot	Monday	Friday	Friday	Tuesday	Monday & Tuesday	All other days	Friday	Monday
Grasim industries	Monday	Wednesday (-)	Wednesday	Monday	All other days	Tuesday & Wednesday	Wednesday	Friday
Havells	Monday	Tuesday	Friday	Monday	Friday	All other days	Monday	Thursday
Indian hotel co ltd	Monday	Thursday	Friday	Monday	All other days	Wednesday & Thursday	Thursday	Wednesday
Info Edge	Wednesday	Monday	Friday	Monday	Monday & Tuesday	All other days	Thursday	Monday
JSW Steel	Wednesday	Tuesday (-)	Tuesday	Wednesday	------	All days	Tuesday	Thursday
Kotak	Monday	Tuesday	Friday	Tuesday	Monday	All other	Tuesday	Thursday

Mahindra bank						days		
Maruti Suzuki	Friday	Monday	Friday	Monday	All other days	Monday & Wednesday	Monday	Wednesday
Marico	Monday	Friday	Friday	Monday	Monday	All other days	Wednesday	Thursday
Mphasis	Monday	Tuesday	Friday	Monday	Monday	All other days	Friday	Monday
Nestle	Tuesday	Monday	Tuesday	Monday	All other days	Monday & Wednesday	Monday	Thursday
Page industries	Wednesday	Thursday	Friday	Tuesday	Thursday	All other days	Wednesday	Tuesday
Pi industries	Tuesday	Thursday	Thursday	Monday	Tuesday	All other days	Thursday	
Pidilite industries	Wednesday	Thursday	Friday	Thursday	All other days	Wednesday& Friday	Wednesday	Thursday
Reliance	Tuesday	Wednesday	Wednesday	Monday	Monday and Tuesday	All other days	Wednesday	Thursday
SRF	Thursday	Tuesday (-)	Tuesday	Wednesday	All other days	Tuesday & Wednesday	Tuesday	Friday
TATA Consultancy	Tuesday	Wednesday	Thursday	Tuesday	---------	All days	Wednesday	Tuesday
TATA Elxsi	Tuesday	Friday	Wednesday	Friday	----------	All days	Friday	Wednesday
TATA motors	Monday	Thursday	Friday	Monday	All other days	Tuesday & Thursday	Thursday	Monday
Titan	Monday	Thursday	Friday	Monday	Wednesday & Friday	All other days	Tuesday	Monday
Trent	Tuesday	Friday	Friday	Tuesday	Monday & Tuesday	All other days	Friday	Thursday
Ultra tech	Monday	Friday	Friday	Tuesday	Monday & Tuesday	All other days	Friday	Wednesday
UPL limited	Wednesday	Monday	Friday	Wednesday	----------	All days	Monday	Wednesday
Voltas	Wednesday	Thursday	Thursday	Monday	All other days	Thursday & Friday	Thursday	Tuesday

Source: Compiled by author

From the summarized details of descriptive statistics for BSE 100 companies it is analyzed that Monday has positive and higher mean returns followed by Tuesdays which indicates a positive return bias for the beginning of the week. followed by Wednesday which shows dip in the middle

of the week. Thursday and Friday have lowest mean returns. High standard deviation on Friday and lower standard deviation on Monday this shows lower volatility at the week's beginning. Overall Wednesdays high kurtosis suggest a day with more extreme data points while Thursday low kurtosis indicates a day with more typical distribution of data around the average value.

4.13 Dummy variable regression analysis

Table 15: Results of Dummy variables regression analysis

Companies	Variables									
	Monday(c)	Tuesday	Wednesday	Thursday	Friday	Adj R^2	F-statics	D-W statics	AIC	SBC
Adani enterprise	0.002931 (4.449)*	-0.000556 (-0.597)	-0.000845 (-0.909)	-0.000441 (-0.473)	-0.000400 (0.427)	-0.00127	0.21558	1.9883	-5.6080	-5.5963
Adani ports	0.003780 (8.581)*	-0.000280 (-0.450)	-0.000497 (-0.799)	-0.000201 (-0.323)	-0.001422 (-2.271)**	0.00092	1.56925	1.9522	-6.4129	-6.4011
Apollo hospital	0.001860 (5.189)*	0.000674 (1.331)	0.000613 (1.211)	-0.000106 (-0.209)	0.000510 (1.001)	0.0000	1.03208	1.8810	-6.8253	-6.8135
Ashok Leyland	0.003046 (5.876)*	0.000211 (0.288)	0.000524 (0.719)	3.87 (0.052)	-0.000220 (-0.299)	-0.00115	0.28804	1.9486	-6.0941	-6.0823
Bajaj finance	0.002900 (1.368)	-0.000547 (-0.182)	-0.005361 (1.793)***	0.000761 (-0.253)	-0000489 (0.162)	0.00016	1.09994	2.0124	-3.2711	-3.2594
Bajaj FinServ	0.002900 (1.368)	-0.000547 (-0.182)	-0.005361 (1.793)***	0.000761 (-0.253)	-0000489 (0.162)	0.00016	1.09994	2.0124	-3.2711	-3.2594
Bajaj holding investment	0.001716 (3.847)*	0.000157 (0.249)	0.000256 (0.406)	-0.000232 (-0.368)	-0.000385 (-0.607)	-0.00104	0.35561	1.9722	-6.3884	-6.3766
Bharat forge	0.002098 (2.817)*	0.000616 (0.586)	0.000597 (0.568)	-0.000534 (-0.507)	0.000816 (0.771)	-0.00071	0.55879	1.9751	-5.3654	-5.3536
Bharti Airtel	0.002000 (4.829)*	0.000448 (0.765)	-1.28 (-0.021)	0.000258 (0.440)	-0.001167 (-1.984)**	0.00207	2.28134	1.9426	-6.5383	-6.5265
Britannia	0.002666 (3.931)*	-0.000874 (0.912)	-0.002058 (-2.151)**	-0.000290 (-0.302)	-0.000370 (-0.383)	0.00072	1.44444	1.9779	-5.5500	-5.5382
Cholafin	0.001764 (1.139)	0.000868 (0.397)	0.000336 (0.153)	-0.003066 (1.400)	0.000625 (0.284)	0.00012	1.07936	1.9901	-3.8994	-3.8876
HDFC Bank	0.001504 (2.104)**	-3.09 (-0.030)	-0.001524 (-1.511)	-0.000489 (-0.483)	-0.000195 (-0.192)	-0.00034	0.78719	2.0113	-5.4442	-5.4324
Dabur	0.002182 (7.178)*	0.000354 (0.824)	0.000127 (0.297)	-0.000268 (-0.622)	-0.000242 (-0.559)	-0.00043	0.73349	1.9562	-7.1549	-7.1432
Divis	0.003157 (4.199)*	-0.000283 (-0.266)	-0.001195 (-1.127)	-0.000349 (0.328)	-0.000105 (-0.098)	-0.00097	0.39841	1.9263	-5.3457	-5.3339
DLF	0.001441 (2.753)*	0.000732 (0.989)	0.000225 (0.304)	7.77 (0.104)	-0.000671 (-0.902)	-0.00013	0.91882	2.0048	-6.0682	-6.6564
Eichermot	-0.002094 (-0.991)	0.004554 (1.526)	0.004548 (1.526)	0.004276 (1.431)	0.003913 (1.304)	-0.00023	0.85365	2.0195	-3.2790	-3.2673
Grasim industries	0.001527 (1.017)	0.000575 (0.271)	-0.000357 (-0.168)	-0.003685 (-1.736)***	0.000282 (0.132)	0.00055	1.34267	2.0040	-3.9625	-3.9507
Havells	-0.000796 (-0.535)	0.003749 (1.787)	0.003043 (1.453)	0.003175 (1.511)	0.002766 (1.310)	-0.00003	0.97852	2.0273	-3.9825	-3.9708
Indian hotel co.	0.003389 (6.354)*	-0.000344 (-0.456)	-0.000644 (-0.856)	-0.001659 (-2.199)**	-0.000549 (-0.723)	0.00057	1.35710	1.8285	-6.0305	-6.0187
Info edge	0.001813 (3.605)*	0.000268 (0.377)	0.000483 (0.680)	6.13 (0.086)	0.000180 (0.251)	-0.00139	0.14326	1.8664	-6.1480	-6.1362
JWS steel	0.000970	-0.004164	0.000766	-0.000230	-0.000600	-0.00029	0.82107	2.0163	-3.2653	-3.2535

	(0.456)	(-1.386)	(0.255)	(-0.076)	(0.198)					
Kotak Mahindra bank	0.001737 (2.319)**	-0.001619 (-1.529)	-0.000333 (-0.315)	-0.001146 (-1.082)	-0.000701 (-0.658)	0.00042	0.73740	2.0497	-5.3505	-5.3388
Marico	0.001061 (1.420)	0.001555 (1.473)	0.001542 (1.463)	0.001730 (1.637)	0.001819 (1.713)***	0.00002	1.92167	1.9840	-5.3563	-5.3445
Maruti Suzuki	0.002027 (6.093)*	-0.000423 (-0.900)	-0.000860 (-1.832)***	-0.000932 (-1.980)**	-0.000565 (-1.194)	0.00043	1.26848	2.1553	-6.9741	-6.9623
Mphasis	0.002423 (5.068)*	-0.000379 (-0.561)	-0.000211 (-0.312)	-0.000118 (-0.174)	-0.000259 (-0.381)	-0.00147	0.08998	1.9491	-6.2492	-6.2374
Nestle	0.001590 (5.319)*	0.000280 (0.662)	0.000106 (0.250)	0.000298 (0.703)	0.000684 (1.610)	-0.00040	0.75338	1.9611	-7.1880	-7.1763
Page industries	0.002126 (5.191)*	6.75 (0.116)	0.000267 (0.461)	-0.00124 (-0.214)	0.000181 (0.310)	-0.00139	0.13921	2.0260	-6.5586	-6.5468
Pi industries	0.002694 (1.777)***	0.000922 (0.430)	-8.97 (-0.041)	-0.003632 (-1.694)***	0.000211 (0.097)	0.00062	1.38820	1.9925	-3.9417	-3.9299
Pidilite industries	0.003001 (9.388)*	-0.000150 (0.332)	0.000121 (0.267)	-0.000423 (-0.935)	-9.14 (-0.201)	-0.00096	0.40547	1.9709	-7.0543	-7.0425
Reliance	0.000795 (1.105)	0.001709 (1.684)	0.001413 (1.394)	-0.000592 (-0.582)	0.001000 (0.979)	0.00135	1.83386	2.0136	-5.4353	-5.4235
SRF	0.002308 (1.521)	-0.003542 (-1.653) ***	-0.000463 (-0.216)	0.000232 (0.108)	-0.000747 (-0.346)	0.00002	1.01264	2.0174	-3.9404	-3.9286
TATA Consultancy	0.001207 (1.702)***	0.000256 (0.255)	-0.001256 (-1.256)	-0.000271 (-0.270)	-8.65 (-0.085)	-0.00051	0.68036	2.0221	-5.4620	-5.4502
TATA Elxsi	0.003454 (4.671)*	0.000289 (0.276)	0.000206 (0.197)	-0.000351 (-0.335)	-0.001362 (-1.295)	-0.00029	0.81647	1.9711	-5.3768	-5.3726
TATA Motors	0.003447 (5.865)*	-0.000872 (-1.049)	-0.000680 (-0.819)	-0.001924 (-2.315)**	-0.001099 (-1.316)	0.00066	1.40906	1.9604	-5.8364	-5.8246
Titan	0.002479 (5.571)*	-0.000437 (-0.694)	-0.000317 (-0.504)	-0.000628 (-0.997)	1.57 (0.024)	-0.00098	0.39244	1.9598	-6.3925	-6.3807
Trent	0.002486 (1.147)	0.000404 (0.131)	-0.000149 (-0.048)	0.000275 (0.089)	-0.004712 (-1.529)	-0.00001	0.99375	2.0092	-3.2259	-3.2141
Ultra tech cement	0.001974 (6.628)*	-0.000108 (-0.257)	-0.000273 (-0.650)	-5.73 (-0.136)	-0.000306 (-0.721)	0.00129	0.20261	1.9275	-7.1954	-7.1837
UPL limited	0.001543 (2.831)*	0.000685 (0.890)	0.000712 (0.927)	0.000673 (0.873)	0.000464 (0.599)	-0.00113	0.30401	2.0030	-5.9894	-5.9776
Voltas	0.002764 (6.684)*	7.70 (0.131)	0.000193 (0.330)	-0.000955 (1.633)	-0.000515 (-0.877)	0.00059	1.36710	1.9075	-6.5416	-6.5298

Source: Compiled by author

(* denotes significant at 1% level of significance,** denotes significance at 5% and *** denotes significance at 10% level of significance)

The significance of t-value is denoted by *, ** and *** for 1%, 5% and 10% levels of significance, respectively. Adjusted R^2, F-Statistics, Durban-Watson (D-W) Statistics, Akaike Information Criterion (AIC) and Schwartz Information Criterion (SBC) have also been given. Thus it becomes very easy to compare these values among different companies and between different models also. For companies like Cholafin, Eichermot, Havells, JSW Steel, Reliance, Trent have no significant difference in the stock returns across different days of the week .There

is a strong evidence of day of the effect in the companies specially returns on Monday are significant at 1% level of significance for most of the companies Adani Enterprise, Adani ports, Apollo Hospital co ltd, Ashok Leyland, Bajaj Holding Investment, Bharat Forge, Bharti Airtel, Britannia, Dabur, Divis Laboratories, DLF, Indian Hotel Co ltd, Info Edge, Maruti Suzuki, Mphasis, Nestle, Page Industries, Pidilite Industries, TATA Elxsi, TATA Motors, Titan, Ultra tech cement, UPL Limited, Voltas. 5% level of significance for HDFC Bank, Kotak Mahindra Bank and 10% level of significance for Pi industries, TATA Consultancy. Tuesday, Wednesday, Thursday, and Friday are significant for very few companies. It shows there's a statistically relevant difference on companies stock price opens relatively to its previous close price on Monday compared to other days. After two days of non-trading days Saturday and Sunday investors leading to higher trading activity and potential higher returns on Monday. Tuesday, Wednesday, Thursday are significant for few companies suggest a weak effect for these days.

4.14 serial correlation

Table 16: Serial correlation LM- Test

Companies	F-statics	P -value
Adani enterprise	0.0744	0.7851
Adani ports and special economics co ltd	1.3925	0.2381
Apollo hospital	8.7050	0.0032*
Ashok Leyland	1.6204	0.2031
Bajaj finance	0.0965	0.7561
Bajaj FinServ	0.0965	0.7561
Bajaj holding investment	0.4725	0.4919
Bharat forge	0.3785	0.5385
Bharti Airtel	2.0269	0.1547
Britannia	0.2948	0.5872
Cholafin	0.0578	0.8099
HDFC Bank	0.0800	0.7773
Dabur	1.1537	0.2829
Divis	3.3348	0.0679
DLF	0.0147	0.9034
Eichermot	0.2370	0.6264
Grasim industries	0.0103	0.9189

Havells	0.4591	0.4981
Indian hotel co.	18.04912	0.0000*
Info edge	-10.9700	0.0009*
JSW steel	0.1655	0.6841
Kotak Mahindra bank	1.5243	0.2171
Marico	0.1561	0.6928
Maruti Suzuki	15.0062	0.0001*
Mphasis	1.5850	0.2081
Nestle	0.9272	0.3357
Page industries	04232	0.5154
Pi industries	0.0341	0.8533
Pidilite industries	0.5162	0.4725
Reliance	0.1154	0.7340
SRF	0.1883	0.6643
TATA Consultancy	0.3151	0.5746
TATA Elxsi	0.4998	0.4796
TATA Motors	0.9426	0.3317
Titan	0.9811	0.3220
Trent	0.0528	0.8182
Ultra tech cement	3.136	0.0767
UPL limited	0.0059	0.9387
Voltas	5.2638	0.0219*

Source: Compiled by author

For some companies there is existence of serial correlation. Therefore, Breusch- Godfrey LM test for serial correlation has been applied to the regression results, after existence of serial correlation ARIMA modeling framework specifically the higher order autoregressive model is used i.e. AR(1),AR(2),AR(3) and again the LM-test has been applied to confirm the removal of serial correlation and again the regression test has been applied to check if the results changes. As far as significance is concerned after removing the serial correlation there is no much change from previous results. Improvement is seen in the adjusted R*2, F-statics , D-W Statistics has now became closer to 2 or more than 2 for all the companies. It shows that using the higher order autoregressive model (ARMA) has fitted well.

4.15 ARIMA Model

Table 17: LM-test Statistics Before and After ARIMA Modeling for Companies returns series

companies	Before ARIMA		AR	After ARIMA	
	F-Statistics	P-value		F-Statistics	P-value
Apollo	8.7050	0.0032	1	1.8114	0.1785
Indian hotel co ltd	18.04912	0.0000	1	2.1189	0.1456
Info Edge	-10.9700	0.0009	1,2,3	0.4624	0.4966
Maruti Suzuki	15.0062	0.0001	1,2,3	0.0470	0.8283
Voltas	5.2638	0.0219	1	2.0779	0.1496

Source: Compiled by author

Table 18: Results after Inclusion of ARIMA for Correction of Autocorrelation

companies	Monday	Tuesday	Wednesday	Thursday	Friday	Adjusted r2	F-Statistics	D-W	AIC	SBC
Apollo hospital	0.001868 (5.212)*	0.000665 (1.351)	0.00605 (1.201)	-0.000121 (-0.240)	0.000503 (1.015)	0.00317	2.56980	2.0029	-6.2803	-6.8138
Indian hotel co ltd	0.003435 (6.424)*	-0.000417 (-0.579)	-0.000734 (-1.032)	-0.001721 (-1.032)	-0.000564 (-0.778)	0.01468	7.12521	2.0043	-6.0439	-6.0274
Info edge	0.001828 (3.600)*	0.000196 (0.286)	0.000453 (0.678)	4.89 (0.073)	0.000196 (0.284)	0.00937	4.33456	2.0011	-6.1576	-6.1387
Maruti Suzuki	0.002050 (6.142)*	-0.000435 (-0.897)	0.000909 (-2.066)**	-0.000945 (-2.142)**	-0.000609 (-1.250)	0.01874	7.72783	1.9940	-6.9913	-6.9725
Voltas	0.002782 (6.736)*	4.26 (0.074)	0.000177 (0.304)	-0.000966 (1.657)***	-0.000541 (-0.941)	0.00233	2.15253	2.0026	-6.5433	-6.5292

Source: Compiled by author

4.16 Findings

The current research is focused on evaluating the existence of major calendar anomaly in Indian stock markets that is day of the week effect. This research has focused on the normal, trading and non-trading returns for the period of 1st April 2013 to 31st march 2023. The test used for test in the hypothesis includes Descriptive statistics, Augmented Dickey Fuller Test, regression Analysis. The data include opening and closing prices of daily returns of the companies.

- Summary statistics of daily returns revealed that Tuesday mean returns are highest and lower mean returns are noticed Monday and Thursdays. Regression analysis revealed that Negative Monday effect is noticed and Tuesdays shows a tendency for stronger performance compared to other week days in normal returns.
- Summary statistics of daily returns revealed that Tuesday has high mean returns followed by Friday and negative mean returns are found on Wednesday lowest mean returns are found on Monday and Wednesday. Regression analysis revealed that Monday returns are significant at 1% level of significance. It is noticed that other days of week are significant for few companies but with combination of Monday. It is found that Monday seems to be more attractive trading day in the trading hours.
- Summary statics of daily returns Monday mean returns are highest followed by Tuesday Wednesday shows dip in the middle week followed Thursday and Friday. It is found that Monday has different mean as compared to other days of week. Regression analysis revealed Monday returns are more significant than other day of week in non-trading period.

4.17 Conclusion

The study examines the existence of day of the week effect in Indian stock market. The day of the week effect is observed using descriptive statistics dummy variable regression analysis. There is a strong evidence day of the week effect in the companies. Negative Monday effect is noticed and Tuesdays shows a tendency for stronger performance compared to other week days for all the companies in normal returns. It is found that Monday is more attractive trading days during the trading period. Monday returns are highest followed by Tuesday and Wednesday shows dip in the middle of the week lowest returns are noticed at the end of the week.

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