Day-Of- The-Week Effect On Stock Returns And Volatility: Evidence From Muscat Securities Market - Msx Index And Bombay Stock Exchange – Sensex Index

Ravi Thirumalaisamy, Ph.D.[1] , Velmurugan, Ph.D.[2] ,
Mahmoud Abouraia, Ph.D.[3] , J. Sudarvel, Ph.D.[4]

[1]Assistant Professor, Finance, Accounting, and Economics Department, Faculty of Business and Economics, Modern College of Business & Science (MCBS), Muscat, Oman.
E-Mail: ravi@mcbs.edu.om
[2]Associate Professor of Commerce, Karpagam Academy of Higher Education, Coimbatore, Tamil Nadu, India
E Mail: drvelsngm@gmail.com
[3]Professor, Finance, Accounting, and Economics Department, Faculty of Business and Economics, Modern College of Business & Science (MCBS), Muscat, Oman.
E-Mail: ravi@mcbs.edu.om
[4]Assistant Professor of Management, Karpagam Academy of Higher Education, Coimbatore, Tamil Nadu, India
E Mail: j.sudarvel@gmail.com

ABSTRACT

This study delves into the Day-of-the-Week Effect, investigating its influence on both stock returns and volatility. The research centers on the Muscat Securities Market (MSX) Index and the Bombay Stock Exchange (BSE) Sensex Index as representative indicators of the Muscat and Bombay markets, respectively. By analyzing stock data from January 2012 to December 2022, the study aims to discern any systematic patterns in stock returns and volatility across different days of the trading week. This exploration contributes to a deeper understanding of market anomalies and behavioral trends that might affect investment decisions and strategies.

INTRODUCTION

Share price volatility refers to the degree of variation or fluctuation in the price of a particular stock or security over a given period of time. It is a measure of the rate at which the price of a stock or security moves up and down. Share price volatility is an important concept for investors and traders as it indicates the level of risk associated with holding or trading a particular stock. Volatility is typically measured using statistical calculations, with the most common measure being standard deviation. A higher standard deviation indicates greater volatility, while a lower standard deviation suggests lower volatility.

Several factors can contribute to share price volatility, including general market conditions, such as economic indicators, interest rates, geopolitical events, and market sentiment, can significantly impact share prices and contribute to volatility. Uncertainty and changing market conditions often result in increased volatility. Factors specific to a particular company, such as financial performance, earnings reports, management changes, product launches, mergers and acquisitions, and regulatory developments, can influence share price volatility. Positive or negative news about a company can cause significant price movements. Investor perceptions, expectations, and sentiment about a company or the overall market can substantially impact share price volatility. Positive news can drive optimism and lead to increased buying activity, while negative news can create fear and prompt selling pressure, both of which contribute to volatility. Higher trading volumes tend to amplify share price volatility. When there is increased buying or selling activity, it can lead to larger price swings, especially if there is a lack of liquidity in the market. Speculative activity, such as short-term, day, or algorithmic trading, can contribute to share price volatility. These trading strategies often seek to profit from short-term price fluctuations, which can intensify volatility in the market.

It's important to note that while share price volatility can present opportunities for investors and traders, it also carries risks.

Higher volatility implies a greater potential for both gains and losses, and investors should carefully assess their risk tolerance and investment goals before engaging in activities involving volatile securities. Overall, share price volatility reflects the dynamic nature of financial markets and the interplay of various factors that influence stock prices.

Understanding share price volatility helps investors assess the risk associated with investing in a particular stock or security. Stocks with higher volatility have a greater potential for price fluctuations and, therefore, higher risk. By studying volatility, investors can make more informed decisions about their investment portfolios and manage their risk exposure accordingly. Share price volatility provides valuable information for developing investment strategies. Some investors may prefer stocks with lower volatility for more stable and predictable returns, while others may seek out higher-volatility stocks for the potential of larger gains. By studying volatility patterns, investors can align their investment strategies with their risk preferences and financial goals. Volatility analysis helps traders determine the timing of their trades. Short-term traders, such as day traders, often rely on volatility to identify opportunities for quick profits. They look for stocks with high intraday price swings that can be exploited for short-term gains. Similarly, long-term investors may consider volatility patterns when deciding the optimal entry or exit points for their investments. Studying share price volatility across different stocks and sectors allows investors to diversify their portfolios effectively. By including stocks with varying levels of volatility, investors can potentially reduce their overall portfolio risk. Diversification helps mitigate the impact of price swings in individual stocks and promotes a more balanced and resilient investment approach. Share price volatility analysis is crucial for risk management. It enables investors to set appropriate stop-loss levels or implement hedging strategies to protect against significant price declines. By understanding a stock's historical and expected volatility, investors can establish risk management measures that align with their risk tolerance and investment objectives. Share price volatility provides insights into the overall market conditions and sentiment. When volatility increases, it often indicates higher uncertainty or market instability. Monitoring volatility across different stocks and sectors can help investors gauge the health of the broader market and make informed decisions accordingly. Share price volatility is a key input for quantitative models and statistical analysis used in finance. Volatility measures, such as standard deviation or implied volatility, are utilized in options

pricing models, risk modeling, and various quantitative trading strategies. Analysts and researchers can develop and refine quantitative models to better understand and predict market behavior by studying volatility. In summary, studying share price volatility is essential for risk assessment, investment strategy development, timing of trades, portfolio diversification, risk management, market monitoring, and quantitative analysis. It provides valuable insights that help investors and traders make more informed decisions and navigate the dynamic nature of financial markets.

REVIEW OF LITERATURE

Thushara and Prabath Perera (2023) in their study that there is convincing evidence for the weekday impact. The stock returns also have a Wednesday, Thursday, and Friday influence. As a result, traders using a strategy based on historical data might generate anomalous returns. To get unusual returns, it is advised to purchase stock on Mondays and Tuesdays and sell it on Wednesdays, Thursdays, and Fridays.

Noor Ahmad Enaizeh, and Qais A. Al Kilani (2022) in their study, which covered every day of the week from 2011 to 2019, the researchers used a descriptive-analytical technique. They also used the ordinary least squares statistical method for data analysis. The Kolmogorov-Smirnov test results showed that the study's data is normally distributed, and it was also noted that there was a variation in stock returns based on the different weekdays.

Neha Bankoti (2021) she observed in her study that there was no indication of a day-of-the-week impact in the Indian stock market in recent years since there was no discernible day-of-the-week effect in stock returns for the years 2010 to 2019. The empirical analysis suggests that, in the majority of situations, the null hypothesis that there is no discernible difference between the mean stock returns for different days of the week cannot be rejected. However, there were rare instances, such as Monday returns for BSE small and NSE midcap.

Zeel Mangukiya and Dr. Vijay Gondaliya, (2021) in their result of the study It contests the existence of random walks and supports the idea that the Indian capital market is not inefficient. The best option that produces satisfying results for selecting the right time to buy and sell stocks. During their study period, the market

was not efficient and the stock market's price behaviour was unpredictable.

Rizky Luxianto et al. (2020) in their study find out the Indonesian investors has found evidence of irrational behavior and certain patterns in their trading activities. Specifically, the study indicates that investors tend to exhibit irrational behavior by buying risky stocks on Wednesdays and selling them on the following Mondays. Furthermore, the study suggests that investor behavior in Indonesia is influenced by factors such as mood, reason, and psychology. When investors are in a good mood, they tend to engage in more active trading. However, interestingly, these active traders focus on less speculative stocks, avoiding higher risks. As a result, they are able to earn larger profits from these less speculative and non-speculative equities. This finding suggests that investor behavior in the Indonesian market is not solely driven by rational decision-making based on fundamental factors but is also influenced by psychological factors. The mood of investors appears to play a role in shaping their trading strategies and preferences for certain types of stocks. It is important to note that this study focuses specifically on Indonesian investors and their behavior in the market. The findings may not be generalizable to other markets or investor populations. However, they provide valuable insights into the role of irrational behavior and psychological factors in shaping trading activities and investment outcomes in Indonesia. Further research and analysis could help deepen the understanding of these phenomena and their implications for investors and market participants.

Pramod Kumar Patjoshi and Girija Nandini, (2020) in their result of the study has discovered that the lowest and maximum returns for each of the four indices are the same. The highest return is seen on Wednesday, while the lowest return is shown on Tuesday. In all Indices, Monday has the largest standard deviation. But the days with the lowest standard deviation were Tuesday and Thursday. As a result, it shows that Monday has more volatility. For the Sensex, BSE 100, BSE 200, and BSE 500, the P value denotes the rejection of the null hypothesis of equal mean returns at the 1% level of significance. As a result, the weekly days are where the seasonality pattern appears. The coefficients show that for all of the sample indices, the returns on different days of the week are statistically significant.

Savas Gayaker, Yeliz YalcinM and Hakan Berument (2020) in their study, they found out that the day of the week influence is not just a peculiarity of the market. If reducing this 'anomaly' is the goal, it could be important to think about changing the settlement date from two to one or zero. We may argue that the direction of monetary policy and rules, which have an impact on short-term risk-free interest rates, should change the patterns of the day of the week effect.

MahammadrafiqueMeman and Purnima M. Chouhan, (2018) in their result of the On Wednesday, the study had an overall high return. In order to receive a big return, investors should invest on Wednesday. When the total outcome is taken into account, Friday showed more variation. Thus, we can conclude that if investors take on more risk, there is a lower likelihood of receiving a high return. The Granger causality test and the unit root test have been employed to identify stock market anomalies.

Rashmi Ranjan Paital and Ajaya Kumar Panda (2018) In their analysis, they discovered that Tuesday is a low-risk and low-return day compared to Monday, whereas Monday is a high-risk and high-return day. On Monday, traders who are willing to take on more risk will see better returns. The study's overall conclusions imply that the Indian market is not efficient and may be predicted based on past data.

Krunal Soni and Dr. Sanjay Joshi, (2018) in their study showed that the Indian stock market, it has been determined that there is no discernible variation between the mean return on different days of the week. This finding suggests that the day of the week effect, which refers to consistent patterns or variations in stock returns depending on specific days, does not exist in the Indian stock market. The absence of a day of the week effect makes it easier to comprehend and convey the concept of seasonality in the market. Seasonality refers to recurring patterns or trends that occur during certain periods, such as months or seasons, and can influence stock prices or market behavior. With the understanding that there is no day of the week effect in the Indian stock market, investors and market participants can focus more on analyzing and interpreting other factors that may impact stock returns, such as economic indicators, company fundamentals, market trends, and global events. This study's findings contribute to the overall knowledge and understanding of market anomalies and can help refine investment strategies and decision-making processes. It emphasizes the importance of

considering a wide range of factors beyond the day of the week when analyzing and predicting stock market behavior in India.

Harman arora and dr.parminder Bajaj, (2017) in their study find that the Investors can increase their returns by timing their investments because the Indian stock market is not efficient. research that shows a Monday effect exists in every bank where a weekday effect is proven. 4 out of 6 banks have confirmed the Monday effect. For several banks, a link between Monday and Tuesday was also noted. Two banks, namely Bank of Baroda and HDFC Bank, did not exhibit a day-of-the-week influence overall. The stock market reopens on Monday following a two-day holiday. Therefore, any news—good or bad—has a big impact on the profits made on Monday. But there's a chance you could get more money on Monday.

Katherina Jessica Clorinda and A. Jatmiko Wibowo, (2017) in their study learn how the firm's return varies by day, which led to the conclusion that there is a weekday effect within the company in the LQ45 stock index.

Nikhil Kaushik, (2017) in his study find out the forecast profitable trading propositions for the price of future small-cap indices. However, it was determined that the scenario was not very profitable for large- and mid-cap indices.

Sudarvel et al. (2016) in their study confirms the existence of seasonality in stock returns in India and the prevalence of the day of the week effect in the Indian stock market, it aligns with the notion that anomalies and patterns can indeed be observed in stock markets. These anomalies and patterns can impact stock returns and influence trading strategies. It is important to note that the stock market is a complex and dynamic system, and research on anomalies and patterns is an ongoing process. Different studies may produce varying results due to differences in methodologies, data sets, and time periods analyzed. To gain a comprehensive understanding of the subject, it is recommended to review multiple studies, including more recent ones, and consider the broader body of research on seasonality and the day of the week effect in the Indian stock market. This can help establish a more robust understanding of the anomalies and patterns observed in stock markets.

Juan Liu (2015) in his study examined the ten S&P 500 sector indexes for the existence of the weekday effect on returns and volatility. The study was conducted between February 2005 and

February 2015. On Monday, there was no discernible change in any sector's return or volatility; but, on Tuesday, there was a definite day-of-the-week influence on both returns and volatility. Each day of the week has a different impact depending on the sort of industry being investigated.

STATEMENT OF THE PROBLEM

The efficient market hypothesis (EMH) asserts that financial markets rapidly and accurately incorporate all available information into asset prices, making it difficult for investors to consistently outperform the market. However, a growing body of empirical research has revealed persistent patterns in stock market returns that deviate from EMH predictions, often referred to as stock market anomalies. One such anomaly is the "Day of the Week Effect," which challenges the idea of market efficiency by highlighting systematic variations in stock returns across different days of the trading week.

The Day of the Week Effect, also known as the "Weekend Effect," refers to the observed pattern where stock returns display distinct behaviors on different days of the trading week. Specifically, this anomaly suggests that average stock returns on certain days, such as Mondays, might significantly differ from returns on other days, such as Fridays. These deviations from market efficiency have garnered considerable attention from researchers and practitioners due to their potential implications for investment strategies, portfolio management, and market efficiency.

Despite extensive research on stock market anomalies, the Day of the Week Effect remains an intriguing puzzle with multiple dimensions that require further investigation:

Researchers have observed inconsistent findings regarding the magnitude and direction of the Day of the Week Effect. While some studies report significantly lower returns on Mondays, others find that Fridays exhibit weaker performance. Clarifying the patterns and identifying factors contributing to these variations is crucial for understanding the underlying mechanisms of the anomaly. The Day of the Week Effect is influenced by a variety of factors, including market psychology, investor behavior, and institutional trading patterns. However, no single explanation has been universally accepted. Behavioral biases, market microstructure effects, and macroeconomic news releases are some of the factors that have been proposed as potential drivers. Investigating these factors comprehensively could shed light on the anomaly's causes.

While the Day of the Week Effect has been extensively studied in major stock markets, its prevalence and characteristics might vary across different markets and countries. Examining this anomaly from a global perspective could help identify cultural, regulatory, or market-specific factors that contribute to its presence. The existence of the Day of the Week Effect raises important questions for investors and portfolio managers. Can this anomaly be consistently exploited to enhance investment strategies? If so, how can investors mitigate the risks associated with short-term trading strategies driven by day-of-the-week patterns?

The Day of the Week Effect, along with other stock market anomalies, challenges the assumptions of market efficiency. By studying the Day of the Week Effect in conjunction with other anomalies, researchers can contribute to the ongoing debate about the efficiency of financial markets. Addressing these dimensions of the Day of the Week Effect requires a thorough examination of empirical data, advanced statistical techniques, and a multidisciplinary approach that considers behavioral finance, market microstructure, and economic fundamentals. Understanding this anomaly not only contributes to academic knowledge but also has practical implications for investors seeking to navigate the complexities of financial markets.

OBJECTIVE OF THE STUDY

To identify the existence of the Day of the Week Effect in Muscat Securities Market MSX index and BSE SENSEX Index returns.

SCOPE OF THE STUDY

This study focuses exclusively on assessing stock market volatility between the Muscat and Bombay Stock Exchanges. Specifically, it measures daily stock volatility. The study's timeframe spans from January 2012 to December 2022.

RESEARCH METHODOLOGY

Data

The data utilized for this study is of a secondary nature and has been collected from the official web portals of the Bombay Stock Exchange (BSE) and the Oman Stock Exchange (OSE).

Period of Study

The study encompasses the timeframe from January 2012 to December 2022.

FRAMEWORK OF ANALYSIS

The collected data has undergone analysis through the application of descriptive statistics, encompassing metrics such as the mean, standard deviation, variance, skewness, kurtosis, as well as employing the Shapiro-Wilk test. Additionally, the study utilized Ordinary Least Square Regression (OLS) methodology for further examination

SIGNIFICANCE OF THE STUDY

The significance of studying share price volatility is multifaceted and important for various stakeholders in the financial markets. Here are some key points highlighting the significance of such research:

Share price volatility is a crucial component of risk assessment for investors. By understanding the historical volatility patterns of a particular stock or market, investors can make informed decisions regarding their investment portfolios. High volatility suggests a higher level of risk, while lower volatility may indicate a more stable investment. Therefore, studying share price volatility helps investors gauge the potential risks associated with their investments. For portfolio managers, analyzing share price volatility is vital for diversification and risk management. By considering the volatility of different stocks or assets, portfolio managers can construct portfolios that balance risk and potential returns. They can identify assets with low correlation or negatively correlated returns, which can help mitigate overall portfolio volatility. Studying share price volatility assists in the development of effective portfolio management strategies. Share price volatility plays a pivotal role in options pricing models, such as the Black-Scholes model. Volatility is one of the key inputs in these models, and it directly impacts the value of options. Higher volatility increases the value of options as it enhances the probability of larger price movements, offering potential for higher profits. Accurate estimation of share price volatility is crucial for pricing options accurately, making it essential for traders, investors, and financial institutions involved in options trading.

Studying share price volatility helps assess market efficiency and liquidity. If markets are efficient, share prices should reflect all available information and adjust rapidly to new information. Higher volatility can indicate periods of market inefficiency, where prices may not fully incorporate all available information. Additionally, high volatility can affect market liquidity, as excessive price swings may make it difficult to find

counterparties for trades. Monitoring share price volatility helps identify inefficiencies and liquidity concerns within the market. Share price volatility analysis is crucial for corporations, especially those listed on stock exchanges. Volatility affects a company's cost of capital, stock options for employees, and the feasibility of various strategic decisions. Understanding and managing share price volatility can help companies develop effective risk management strategies, hedge against adverse price movements, and make informed decisions regarding capital structure, investment projects, and executive compensation. Financial regulators closely monitor share price volatility to ensure fair and transparent markets. Excessive volatility, particularly in cases of market manipulation or fraud, can raise concerns about investor protection and market integrity. Regulatory bodies employ various mechanisms to control volatility, such as circuit breakers or position limits, to maintain market stability. Studying share price volatility aids regulators in assessing market behavior and implementing appropriate measures to safeguard the interests of investors.

Overall, studying share price volatility provides valuable insights into market dynamics, risk assessment, portfolio management, option pricing, market efficiency, corporate decision-making, and regulatory compliance. It enables market participants to make informed investment decisions, manage risk, and maintain the stability and efficiency of financial markets.

LIMITATION

The study has concentrated on two well-known indexes, the Muscat Securities Market MSX Index and the BSE SENSEX Index, due to the continuous nature of the data. As a result, extreme caution has been taken to guarantee that generalising the study's findings is appropriate.

FINDINGS

Descriptive statistics of Muscat Securities Market MSX index

	Sunday	Monday	Tuesday	Wednesday	Thursday
N	540	548	544	547	533
Mean	-.0037	-.0527	-.0121	.0253	.0054
Std. Deviation	.68489	.58903	.58147	.54189	.59422
Variance	.469	.347	.338	.294	.353
Skewness	-1.824	-1.577	-.488	-.406	-.796
Kurtosis	28.134	21.195	7.086	5.212	10.798
Range	11.85	9.46	6.09	5.54	7.89

The returns, volatility, skewness, and kurtosis of a certain market index (Muscat Securities Market MSX) for various days of the week appear to be the subject of statistical data.

The highest mean return was observed on Wednesdays (0.0253) and The lowest mean return was observed on Tuesdays (-0.0527).

Volatility   - The highest volatility (measured by variance) was observed on Sundays (0.469). The lowest volatility was observed on Wednesdays (0.294).

Skewness - The skewness test revealed a negative value for all days' returns. This indicates that the distribution of returns is negatively skewed, implying that there might be more extreme negative returns than extreme positive returns.

Kurtosis - The kurtosis results indicated that the index returns were leptokurtic on all days of the week. Leptokurtic distributions have heavier tails and higher peakness compared to a normal distribution. - Since the kurtosis values are greater than 3, it's inferred that the level of risk associated with all days' returns of the MSX index was high. This suggests that investors could experience both higher profits and higher losses, potentially due to the increased frequency of extreme returns.

In conclusion, the MSX index returns show greater mean returns on Wednesdays and lower mean returns on Tuesdays, according to the statistical study. The most volatile days are Sundays and Wednesdays, which means that returns will fluctuate more. The leptokurtic character of the returns implies a higher possibility of extreme values, adding to the increased risk associated with these returns. The negative skewness means that negative returns are more frequent than positive ones.

Remember that while these statistical findings shed light on past trends, investment choices should also take a variety of other aspects into account, such as current market conditions, broader economic indicators, and individual risk tolerance.

Reason

The "day of the week effect" refers to the phenomenon where stock returns exhibit certain patterns based on the days of the

trading week. In the case of the MSX (Muscat Securities Market) and the observed pattern of share prices being traded low on Tuesday and high on Wednesday, there can be various factors at play. Investor behavior can contribute to the observed pattern. It's possible that investors start the week cautiously, resulting in lower trading activity and lower prices on Tuesday. As the week progresses, they may become more active and optimistic, leading to higher trading activity and prices on Wednesday. Tuesday might be a day when significant economic or corporate news is released. Negative news could lead to lower prices on that day. By Wednesday, the market may have absorbed and reacted to the news, leading to a positive response and higher prices.

Behavioral biases and psychological factors can influence trading decisions. The market sentiment on Tuesday might be influenced by any negative news from the beginning of the week. By Wednesday, investors might have adjusted their outlook, leading to more positive sentiment and higher prices. Technical analysis and trading patterns could contribute to the observed effect. Traders might initiate selling positions on Tuesday based on technical indicators, leading to lower prices. By Wednesday, these positions might be covered or reversed, contributing to the upward movement.

The opening of the trading week on Sunday or Monday might witness a rush of selling, which can continue into Tuesday. As the week progresses, the initial selling pressure might ease, contributing to higher prices on Wednesday. Market liquidity can vary throughout the week. Higher liquidity on Wednesdays might lead to smoother price movements and potentially higher prices. Investor sentiment can play a crucial role. Positive or negative sentiment generated on Monday might continue into Tuesday. As investor sentiment changes and adjusts throughout the week, it can influence price movements. Companies often release earnings reports on specific days. If a significant number of earnings reports are released on Tuesday, this could influence the market's direction. Global market trends and events can impact local markets. Positive developments in international markets that occur early in the week might influence positive sentiment on Wednesday.

It's important to note that the day of the week effect can vary across different markets and time periods. Additionally, market conditions, economic indicators, news events, and investor behavior all contribute to these patterns. While these patterns have been observed historically, they should not be the sole

basis for trading decisions. A comprehensive analysis of multiple factors is crucial for understanding and predicting market movements.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Sunday	.145	533	.000	.724	533	.000
Monday	.108	533	.000	.847	533	.000
Tuesday	.075	533	.000	.906	533	.000
Wednesday	.081	533	.000	.928	533	.000
Thursday	.108	533	.000	.879	533	.000

Both the Kolmogorov-Smirnov and Shapiro-Wilk tests are employed to determine if a particular dataset has a normal distribution. For each day of the week, both the Shapiro-Wilk test and the Kolmogorov-Smirnov test indicate that the calculated p-values are less than 0.01, which implies that the data is not normally distributed. The low p-values (p < 0.01) suggest that there is a significant departure from normality in the distribution of returns for all days of the week. In conclusion, based on the results of these tests, it appears that the MSX index returns data does not follow a normal distribution. This means that the returns data exhibit characteristics that deviate from what would be expected in a typical Gaussian (normal) distribution. This lack of normality could indicate the presence of anomalies, extreme events, or other non-standard behaviors in the returns data of the Muscat Securities Market MSX index. It's important to consider the implications of this non-normality when analyzing the data and making investment decisions, as assumptions of normality are often made in traditional statistical methods. Non-normality might warrant the use of alternative statistical techniques or the consideration of more robust methods when analyzing and interpreting the data.

To measure day of the week effect, OLS is employed. Thursday return is introduced as dependent variable and the rest of the day, namely Sunday, Monday, Tuesday, and Wednesday are considered as independent variables. The following table illustrates the determinants of Day of the week effect of Muscat Securities Market MSX Index.

Model 1: OLS, using observations 1-533
Dependent variable: Thursday
Heteroskedasticity-robust standard errors, variant HC1

	Coefficient	Std. Error	t-ratio	p-value
const	0.000696027	0.0257652	0.02701	0.9785
Sunday	0.0192502	0.0439833	0.4377	0.6618
Monday	−0.0169279	0.0421389	−0.4017	0.6881
Tuesday	−0.140031	0.0916023	−1.529	0.1269
Wednesday	0.0791298	0.0534779	1.480	0.1396

Mean dependent var	0.005421	S.D. dependent var	0.594216
Sum squared resid	183.2919	S.E. of regression	0.589189
R-squared	0.024241	Adjusted R-squared	0.016849
F(4, 528)	1.311440	P-value(F)	0.264526
Log-likelihood	−471.8211	Akaike criterion	953.6422
Schwarz criterion	975.0348	Hannan-Quinn	962.0135

The output you've provided appears to be the results of an Ordinary Least Squares (OLS) regression analysis to measure the day of the week effect on the Thursday returns of the Muscat Securities Market MSX Index. Here's an interpretation of the key parts of the output:

Coefficients - The constant (intercept) is 0.000696027.   - The coefficient for Sunday is 0.0192502.   - The coefficient for Monday is -0.0169279.   - The coefficient for Tuesday is -0.140031. - The coefficient for Wednesday is 0.0791298.

Statistical Significance - The p-values associated with each coefficient measure the statistical significance of the estimated coefficients. P-values tell us whether the coefficients are statistically different from zero. In this case, none of the coefficients are statistically significant at the conventional significance level of 0.05. This means that there isn't strong evidence to conclude that any specific day of the week has a significant effect on Thursday returns.

Model Fit - The R-squared value (0.024241) indicates that the independent variables (Sunday, Monday, Tuesday, Wednesday) collectively explain about 2.42% of the variation in Thursday returns.

Model Assessment - The F-statistic (1.311440) is used to test the overall significance of the regression model. The associated p-value (0.264526) suggests that the model as a whole is not statistically significant at the 0.05 level.

Adjusted R-squared   - The adjusted R-squared (0.016849) considers the number of independent variables in the model and provides a more accurate measure of the model's explanatory power.

Log-likelihood and Information Criteria - The log-likelihood, Akaike criterion, Schwarz criterion, and Hannan-Quinn are information criteria used to compare the relative goodness-of-fit of different models. Lower values indicate better-fitting models.

The day of the week (Sunday, Monday, Tuesday, or Wednesday) does not appear to have a statistically significant impact on Thursday returns in the Muscat Securities Market MSX Index, according to the analysis's findings. The independent variables together only account for a small percentage of the variance in Thursday returns, indicating a low explanatory power for the model. Remember that this study makes the assumption that the connection is linear and that there may be other variables that aren't taken into account in this model but might affect the returns.

DAY OF THE WEEK EFFECT BSE SENSEX

	Monday	Tuesday	Wednesday	Thursday	Friday
N	544	546	545	545	535
Mean	-.0602	.1346	.0536	.0305	.0650
Std. Deviation	1.35125	1.00633	.90555	1.05796	1.03258
Variance	1.826	1.013	.820	1.119	1.066
Skewness	-3.598	.815	.132	-1.199	.231
Kurtosis	32.835	8.559	8.646	10.829	3.415
Range	19.91	11.81	12.45	13.62	9.58

The BSE SENSEX index's returns, volatility, skewness, and kurtosis appear to be statistical data that you are offering for various days of the week.

Returns on Different Days - The highest mean return was observed on Tuesdays (0.1346). The lowest mean return was observed on Mondays (-0.0602).

Volatility - The highest volatility (measured by variance) was observed on Mondays (1.826). The lowest volatility was observed on Wednesdays (0.820).

Skewness - Positive skewness values were noticed on Tuesday's, Wednesday's, and Friday's returns, suggesting that returns on these days were generally higher than the average returns.- Negative skewness values were noticed on Monday's and Thursday's returns, indicating that returns on these days were generally lower than the average returns.

Kurtosis - The kurtosis results indicate that the index returns were leptokurtic on all days of the week. Leptokurtic distributions have heavier tails and higher peakness compared to a normal distribution. Since the kurtosis values are greater than 3, it's inferred that the level of risk associated with all days' returns of the BSE SENSEX index was high. This suggests that investors could experience both higher profits and higher losses, potentially due to the increased frequency of extreme returns.

In conclusion, the BSE SENSEX index returns show greater mean returns on Tuesdays and lower mean returns on Mondays based on the statistical analysis. The most volatile days are Mondays and Wednesdays, which means that returns will fluctuate more on those days. Skewness values reveal information about the returns' distribution by showing which days often have returns that are greater or lower than the norm. The higher risk attached to these returns is a result of their leptokurtic character, which predicts a greater possibility of extreme values.

Investors should take these insights into account together with other pertinent considerations when making investment decisions. Interpreting these numbers, as usual, necessitates comprehending the market situation.

Reason

The "day of the week effect" refers to the phenomenon where stock returns exhibit certain patterns based on the days of the trading week. In the case of the BSE Sensex and the observed pattern of share prices being traded low on Monday and high on Tuesday, there can be several contributing factors: One of the prominent explanations is the "weekend effect." Over the weekend, there is a pause in trading activity, allowing investors to absorb news and developments that occurred during the break. Negative news, if accumulated over the weekend, might lead to lower prices on Monday.

Market participants may take time to process news and information over the weekend. If negative news is released on Friday or during the weekend, its full impact might not be felt

until Monday, leading to lower prices. After a break over the weekend, investors might approach Monday with caution. This cautious sentiment could lead to lower trading activity and a slight dip in prices. The start of the trading week on Monday could witness an initial rush to sell positions. This pressure to sell can lead to lower prices as investors react to any news or developments that occurred during the weekend.

Technical analysis and trading patterns might play a role. Traders who initiate selling positions based on technical indicators might contribute to lower prices on Monday. Global market trends and events that unfold over the weekend could influence sentiment at the start of the trading week. Negative global developments might lead to a cautious approach on Monday. Investors who have seen positive gains in the previous week might decide to book profits on Monday, leading to a temporary drop in prices. Market liquidity might be lower on Mondays as participants return from the weekend. Lower liquidity can lead to greater price volatility.

As for the observed pattern of higher prices on Tuesday

Positive news, announcements, or market trends that develop at the start of the week could lead to increased optimism and positive momentum, resulting in higher prices on Tuesday. If negative news or developments occurred on Monday, the market might react positively on Tuesday as the initial shock wears off and investors adjust their positions.

As investors gain a clearer perspective on market conditions after the cautious approach on Monday, they might feel more confident in buying, contributing to upward price movements on Tuesday. Traders who initiate buying positions based on technical analysis might contribute to higher prices on Tuesday. Positive global developments over the weekend could influence global sentiment and contribute to higher prices on Tuesday. Mutual funds and institutional investors often adjust their portfolios at the start of the week, leading to higher prices as they acquire shares.

It's important to recognize that while these patterns have been historically observed, they might not hold true in all market conditions. Additionally, market dynamics can change over time due to technological advancements, changes in investor behavior, and macroeconomic factors. Traders and investors should approach these patterns with caution and conduct comprehensive analyses that consider various factors before making trading decisions.

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Monday	.112	535	.000	.782	535	.000
Tuesday	.067	535	.000	.932	535	.000
Wednesday	.061	535	.000	.929	535	.000
Thursday	.068	535	.000	.917	535	.000
Friday	.060	535	.000	.961	535	.000

Both the Kolmogorov-Smirnov and Shapiro-Wilk tests are employed to determine if a particular dataset has a normal distribution. For each day of the week (Monday, Tuesday, Wednesday, Thursday, Friday), both the Shapiro-Wilk test and the Kolmogorov-Smirnov test indicate that the calculated p-values are less than 0.01, which implies that the data is not normally distributed. The low p-values ($p < 0.01$) suggest that there is a significant departure from normality in the distribution of returns for all days of the week. In essence, the results of these tests suggest that the returns of the BSE SENSEX index do not follow a normal distribution. The presence of anomalies could indicate unusual or non-standard behaviors in the index returns data. This departure from normality should be taken into consideration when analyzing and interpreting the data, as it might impact the applicability of certain statistical methods and assumptions that assume normality.

Investors and analysts should be cautious when making conclusions or predictions based on these returns, especially if their analysis relies on assumptions of normality.

To measure day of the week effect, OLS is employed. Friday return is introduced as dependent variable and the rest of the day, namely Monday, Tuesday, Wednesday and Thursday are considered as independent variables. The following table illustrates the determinants of Day of the week effect of BSE SENSEX Index.

Model 1: OLS, using observations 1-535
Dependent variable: Friday
Heteroskedasticity-robust standard errors, variant HC1

	Coefficient	Std. Error	t-ratio	p-value
const	0.0699883	0.0446753	1.567	0.1178
Monday	−0.00225872	0.0352083	−0.06415	0.9489

Tuesday	−0.0258162	0.0459602	−0.5617	0.5746	
Wednesday	0.0243583	0.0449888	0.5414	0.5884	
Thursday	−0.0937447	0.0502326	−1.866	0.0426	*

Mean dependent var	0.065014	S.D. dependent var	1.032583
Sum squared resid	563.1205	S.E. of regression	1.030772
R-squared	0.010969	Adjusted R-squared	0.003504
F(4, 530)	1.170875	P-value(F)	0.322670
Log-likelihood	−772.8353	Akaike criterion	1555.671
Schwarz criterion	1577.082	Hannan-Quinn	1564.048

The output you've provided appears to be the results of an Ordinary Least Squares (OLS) regression analysis to measure the day of the week effect on Friday returns of the BSE SENSEX index. Here's an interpretation of the key parts of the output:

Statistical Significance - The p-value associated with Thursday's coefficient is 0.0426, indicated by the asterisk (*). This suggests that the Thursday return has a statistically significant effect on Friday returns at the 5% significance level.

Model Fit - The R-squared value (0.010969) indicates that the independent variables (Monday, Tuesday, Wednesday, Thursday) collectively explain about 1.096% of the variation in Friday returns.

Model Assessment- The F-statistic (1.170875) is used to test the overall significance of the regression model. The associated p-value (0.322670) suggests that the model as a whole is not statistically significant at the 0.05 level.

Adjusted R-squared - The adjusted R-squared (0.003504) considers the number of independent variables in the model and provides a more accurate measure of the model's explanatory power.

Log-likelihood and Information Criteria - The log-likelihood, Akaike criterion, Schwarz criterion, and Hannan-Quinn are information criteria used to compare the relative goodness-of-fit of different models. Lower values indicate better-fitting models.

In conclusion, based on the findings of this investigation, the model does not significantly support the day of the week influence on Friday returns of the BSE SENSEX index. Thursday is the sole important day of the week, which has an adverse effect on Friday returns. This shows that higher Thursday returns are correlated with lower Friday returns. The

chosen independent variables (days of the week) do not adequately account for most of the variation in Friday returns, as shown by the model's poor overall explanatory power.

When making investment decisions, analysts and investors should take these results into account in addition to other pertinent variables because returns may be influenced by variables not taken into account in this model.

SUGGESTIONS FOR INVESTORS

➢ Consider diversifying your investment portfolio given the documented variances in mean returns throughout different days of the week. By distributing investments over a range of assets and industries, diversification can assist to lower risk.

➢ Even if the day of the week influence might offer some useful information, it's crucial to concentrate on long-term investing plans. It might be dangerous and unpredictable to rely choices only on transient trends.

➢ Recognise that economic data, geopolitical events, and news releases are only a few of the factors that might cause market volatility. To preserve your money, put effective risk management tactics into practise.

➢ Refrain from basing all of your financial choices on the weekday impact. Think about a thorough analysis that takes into account macroeconomic trends, technical indications, and fundamental analysis.

➢ Speak with investment experts or financial advisers who can offer individualised advice catered to your financial objectives and risk tolerance.

➢ Regularly check to see if your investing portfolio is in line with your long-term objectives. If necessary, rebalance your portfolio to keep the ideal asset proportions.

➢ Keep up with market trends, investing fundamentals, and behavioural finance. Making more informed judgements is possible with self-education.

➢ Refrain from acting rashly in response to transient market trends. Poor decisions might be caused by emotions. Maintain your investing plan.

➢ Think of past trends as a component of the jigsaw. Numerous variables affect the market, and patterns can shift over time.

➢ Keep abreast with pertinent news, economic data, and geopolitical developments that can affect a particular day's market behaviour.

➢ Keep in mind that market liquidity might change from day to day. Consider the possible effect of liquidity on execution prices if you are trading.

➢ In investing, patience is essential. Overreacting to transient trends might result in lost chances or needless losses.

➢ Keep in mind that investing carries inherent risks, and there is no surefire way to benefit regularly from market trends. The weekday impact is simply one of several variables that might affect how markets behave. Individual investing selections should, in the end, be well-informed, in line with your financial objectives, and take your risk tolerance into consideration.

SUGGESTION FOR STOCK BROKERS

➢ Provide customers with informational materials and courses to aid in their understanding of market dynamics, including concepts like the day of the week impact. Clients who are well-informed are more likely to make wise financial decisions.

➢ Develop investment plans with customers in accordance with their objectives, level of risk tolerance, and investment horizons. Make recommendations that are specific to their need.

➢ Prompt customers to take a long-term viewpoint. Help them realise that a variety of short-term swings, including those depending on the day of the week, may not always have an effect on the results of their investments over the long run.

➢ Make it clear what dangers come with trading based on short-term trends. Make sure your clients are aware that past success may not be a guarantee for the future.

➢ thorough guidance that goes beyond regular routines. Think about market trends, fundamental and technical analysis, and stock performance.

➢ Encourage customers not to rely all of their trading choices exclusively on transient patterns. Emotions may influence illogical decisions.

➢ Stress the value of diversification in reducing risk. Assist customers in building portfolios that are diverse and resilient to market turbulence.

➢ To evaluate client holdings and make sure their assets are in line with their evolving financial situation, schedule routine portfolio reviews.

➢ Inform clients of the possible effects of liquidity on trading execution. Describe how to negotiate marketplaces with varied levels of liquidity.

➢ Update customers on market news, releases of economic data, and geopolitical developments that may affect market behaviour. Give the movements' daily background.

➢ Assure open dialogue on charges, commissions, and any conflicts of interest. In order to maintain long-term client connections, trust must be built.

➢ Encourage your staff to keep abreast of latest research, behavioural finance, and market trends. Your counsel will be of higher quality as a result of this understanding.

SUGGESTION FOR POLICY MAKERS

➢ Preserve a strong regulatory structure that guarantees the integrity, fairness, and openness of the financial markets. Review and update laws often to reflect new issues and tendencies.

➢ Put safeguards in place to shield small-scale investors from dangers related to market trends like the weekday effect. Assure proper information is available to investors and that they are aware of the dangers associated with trading.

➢ Start educational efforts to improve the general public's comprehension of market dynamics and trends. By giving investors the tools they need, you can prevent them from basing all of their judgements simply on transient trends.

➢ Work along with behavioural economics specialists to create regulations that take psychological biases into account when determining investor behaviour. When creating rules and educational initiatives, take into account these prejudices.

➢ Require brokerage companies to disclose all relevant information, including trading procedures, costs, and any conflicts of interest. This enables investors to make wise decisions.

➢ Install sophisticated monitoring tools that can spot odd trading behaviour or possible manipulation. Quick action in the face of market abnormalities can support long-term market stability.

➢ Create programmes to encourage early investment education and financial literacy. These initiatives can enable people to make wise financial decisions.

➢ Establish a regulatory framework that promotes experimentation and innovation while protecting consumers. New trading techniques and technology may be encouraged as a result.

➢ Have regular conversations with market participants, stock exchanges, brokerages, and other industry stakeholders. Effective policy solutions that strike a balance between

innovation and risk management may result from this partnership.

➢ Analyse and apply the most effective regulatory strategies used in other nations to address market tendencies. Cooperation across borders can improve the success of regulatory activities.

➢ To prevent and punish market manipulation and unethical trading practises, strengthen market monitoring and enforcement measures.

➢ Allocate funds to support study on trends in market behaviour, their root causes, and potential repercussions. Effective regulations depend on policymaking that is informed by evidence.

➢ Remember that market efficiency, investor protection, and innovation goals should all be considered when making policy decisions. Strive for a well-rounded strategy that supports a sound and open financial ecosystem, taking into account any unexpected repercussions of proposed regulatory changes.

CONCLUSION

As a result, this study has examined the complex stock market dynamics, concentrating on the Day-of-the-Week Effect, which examines how stock returns and behaviours fluctuate across various trading days. The Muscat Securities Market (MSX) Index and the Bombay Stock Exchange (BSE) Sensex Index were the focus of the investigation, which offered insights into their behaviour over a significant time span from January 2012 to December 2022.

The inquiry turned up some interesting trends and anomalies that provided some light on the intricacy of the industry. Notably, significant differences in skewness, kurtosis, volatility, and mean returns have been seen across different trading days. For instance, Tuesdays frequently have the greatest mean returns, whereas Mondays typically produce lower returns.

The returns data for both indexes do not follow a normal distribution, according to the statistical methods used to determine normality, the Kolmogorov-Smirnov and Shapiro-Wilk tests. This deviation from the norm raises the possibility of abnormalities and highlights the need for additional analytical methods.

Additionally, the investigation of the Day-of-the-Week Effect using Ordinary Least Squares (OLS) regression has revealed information on how various trading days affect Friday returns.

The comprehension of potential systematic patterns connected to the day of the week impact is aided by these discoveries.

These insights provide important information for traders, investors, and policymakers in a larger context. Even though the Day-of-the-Week Effect makes for fascinating observations, it's important to understand these trends in the context of a challenging and dynamic market environment. This study emphasises the value of thorough analysis, risk management, and the understanding that past behaviour may not always predict future behaviour.

An integrated strategy that takes into account both historical patterns and a deep grasp of market fundamentals is crucial for investors and analysts navigating the complex world of financial markets. In the end, our research helps us understand market behaviour better and lays the groundwork for plans and decisions that are more informed.

SCOPE FOR FURTHER RESEARCH

The exploration of the Day-of-the-Week Effect on stock returns and volatility, as evidenced by the Muscat Securities Market (MSX) Index and BSE Sensex Index, opens avenues for deeper investigations in several directions: Extend the research to encompass additional global stock exchanges, allowing for comparative analysis of the Day-of-the-Week Effect across different financial markets and economies. Investigate whether the Day-of-the-Week Effect is consistent across various sectors within the stock market, potentially revealing sector-specific behavioral patterns. Incorporate macroeconomic variables, such as GDP growth, inflation rates, and interest rates, to determine how these factors interact with the Day-of-the-Week Effect. Explore the intraday patterns within trading days to understand if the Day-of-the-Week Effect is more pronounced during certain hours or trading sessions.

Analyze the evolution of the Day-of-the-Week Effect over longer timeframes to ascertain if the anomaly's characteristics are stable or subject to change. Investigate the role of investor sentiment, cognitive biases, and behavioral factors in contributing to the observed patterns. Examine the potential for developing trading strategies that capitalize on the Day-of-the-Week Effect, while considering transaction costs and risk management. Explore how major global events, such as financial crises or geopolitical developments, might influence the Day-of-the-Week Effect. Assess whether changes in trading regulations or market structure impact the presence and strength of the Day-of-the-Week Effect. Utilize advanced machine learning

algorithms to uncover complex relationships between the Day-of-the-Week Effect and other market variables. Collaborate with experts in behavioral finance to gain a deeper understanding of the psychological and cognitive factors driving the Day-of-the-Week Effect. Investigate how the Day-of-the-Week Effect manifests in options and derivatives markets, and its implications for derivative pricing and hedging strategies.

By expanding research in these directions, scholars can contribute to a comprehensive understanding of the Day-of-the-Week Effect's nuances, its underlying causes, and its implications for market participants, regulators, and policymakers. This further exploration can lead to valuable insights that enhance our understanding of market anomalies and behavior.

REFERENCES

1. Enaizeh & Al Kilani. Day of the Week Effect on Stocks' Returns: Evidence from Amman Stock Exchange (Jordan), Journal of Southwest Jiaotong University, Vol. 57 No. 3 June 2022
2. Harman arora and dr.parminder Bajaj, (2017) in their study entitled "calendar anomalies: an empirical study on the day of the week effect in Indian banking sector".
3. J. Sudarvel et_al, (2016) in their study entitled "Day of The Week Effect in Indian Stock Market".
4. Katherina Jessica Clorinda and A. Jatmiko Wibowo, (2017) in their study entitle "the day of the week effect in the companies within LQ45 stock index from 2008-2016".
5. Krunal Soni and Dr. Sanjay Joshi, (2018) in their study entitled "Day of the Week Effect in Indian Stock Market: An Empirical Study from National Stock exchange".
6. Liu, Juan, "Day of the week effect in returns and volatility of the S&P 500 sector indices" (2015). Masters Theses. 7436. https://scholarsmine.mst.edu/masters_theses/7436
7. MahammadrafiqueMeman and Purnima M. Chouhan, (2018) in their study entitled "A study on day of the week effect on stock return and volatility: evidence from Indian stock market".
8. Neha bankoti, (2021) in her study entitled "The Existence of Day of the Week Effect in Indian Stock Market"
9. Neha Bankoti, The Existence of Day of the Week Effect in Indian Stock Market, Academy of Marketing Studies Journal, 021 Vol: 25 Issue: 1
10. Nikhil Kaushik, (2017) in his study entitled "Anomalies in Indian Stock Market: Day-of-the-Week Effect".
11. Noor ahmadenaizeh and qais a.al kilani, (2022) in their study entitled "day of the week effect on stocks returns: evidence from amman stock exchange (Jordan)".
12. Paital, R.R. and Panda, A.K. (2018) Day of the Week and Weekend Effects in the Indian Stock Market. Theoretical Economics Letters, 8, 2559- 2568.

13. Pramod Kumar Patjoshi and Girija Nandini, (2020) in their study entitled "Stock Market Anomaly: Day of the Week Effect in Bombay Stock Exchange with the Application of GARCH Model".

14. RizkyLuxiantoet_al, (2020) in their study entitled "Day-of-the-Week Effect and Investors' Psychological Mood Testing in a Highly Mispriced Capital Market".

15. Savasgayakeret_al, (2019) in their study entitled "the day of the week effect and interest rates".

16. Thushara, S.C & Perera, Prabath. (2012). Day of the Week Effect of Stock Returns: Empirical Evidence from Colombo Stock Exchange. Kelaniya Journal of Management. 1. 16-27. 10.4038/kjm.v1i2.6451.

17. ZeelMangukiya and Dr. Vijay Gondaliya, (2021) in their study entitled "A Study on Stock Market Performance of Major Indices of BSE".