INTERNATIONAL JOURNAL OF ADVANCE RESEARCH, IDEAS AND INNOVATIONS IN TECHNOLOGY

ISSN: 2454-132X
Impact factor: 6.078
(Volume 6, Issue 1)
Available online at: www.ijariit.com

A study of seasonality-based investment strategy for Indian Mutual Funds

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ABSTRACT

Research issue: To determine the perfect day to invest and to redeem the mutual fund schemes. To evaluate the risk and return of the equity mutual funds (Regular-GROWTH). Objective: To study the day effect of the selected scrip's in the mutual fund industry from 2014 -2018. To find the performance of the scrips and to find out the exact day to invest in selected mutual funds companies. Research tools: Skewness, kurtosis, returns, risk, beta. Findings: This study enables market participants to develop a trading strategy that could fetch abnormal profits on the basis of the past pattern.it conducts the investigation of the day effect on the volatility of major stock market indexes for the period of 2014 to 2018. The highest return occurs on the 24th day of every month and thus it supports the day effect. Practical Implication: this study suggests the traders invest in scrip's on the basis of past patterns; this could earn them more profits.

Keywords— *Day Effect, Return, Volatility*

1. INTRODUCTION

The day effect is the phenomenon that constitutes a form of an anomaly of the efficient capital markets theory. According to this phenomenon, the average daily return of the market is not the same for all the days of the month, as we would expect on the basis of the efficient market theory. The study is conducted to find the perfect scrip for the traders to invest in equity mutual funds and the study also examines the performance of the selected scrip's. This study facilitates the traders to select the best scrip to invest in the share market. It also provides the best day to invest in a month which reduces the risk in investment. This also helps investors to understand the fluctuations in the market and its impact on the market.

2. RESEARCH METHODOLOGY

2.1 Research Design

Descriptive research also known as statistical research describes data and characteristics of the variables and it is also analytical study as it studies past and present prices of the various scrips

2.2 Data collection method

The data used is secondary data which has been sourced from web sources like NSE, AMFI and their respected websites. The analysis time period of the study is 5 years of data of the Net asset values from January 2014 to January 2019.

2.3 Tools for analysis

2.3.1 Sharpe Measure: Sharpe adjusts the scrip returns for total risk σ_s which includes both systematic risk and the diversifiable risk. Generally, if the scrips or other portfolios are well diversified, the Sharpe and Treynor measures will give them the same rankings. If the measures give different rankings, the scrip ranked higher by Treynor but lower by Sharpe may not be well diversified.

$$S_s = [ER_s\text{-}RF] / \sigma_s$$

Where,
ER_s = Expected market return on scrip's
RF = Risk Free rate
σ_s = Standard deviation (risk) of scrip

2.3.2 Treynor's Measure: It is based on the concept of characteristics line. It is interpreted as stating the reward (return -risk-free rate) in relation to the scrips beta risk. The equation for the Treynor's measure for the performance of scrip s, T_P equals

$$T_s = [ER_s\text{-}RF] / \beta_s$$

Where,
T_s = Treynor's scrip index

ER_s = Expected market return on scrip s
RF = Risk-Free rate
B_s = Beta factor of scrip s

2.3.3 Jensen Measure: A hazard balanced act measure suggests the normal profit for scrip well beyond anticipated by the capital asset pricing model (CAPM), given scrip's beta and standard market profit. This is the scrip's alpha. The theory represented as "Jensens alpha". Jensens Measure is considered as

$$\alpha_{p\,s}=ER_s - [RF + \beta_s (ER_m – RF)]$$

Where
ER_s = Expected market return on scrip s
RF = Risk-Free rate
β_s = Beta factor of scrip
ER_m = Expected Market return

BETA
Beta measures scrip's volatility related to that of a benchmark. It shows how much scrip's presentation would swing related to a benchmark. Scrip with a beta of 1, it will move as the benchmark. Scrip has a beta of 1.5, it demonstrates that each 10% upside or drawback, the scrip cost would be 15% in the separate bearing.

AVERAGE RETURN
The measure of the sequence of returns produced over time. An average profit is considered the same way; the amounts are added into an individual sum, and formerly the sum is distributed by the total numbers in the set.

SKEWNESS
Skewness is deliberate by the measure of the unevenness of distribution. On the off unplanned that the left end is more noticeable than the correct end, the capacity is said to have negative skewness. In the event that the contrary way is valid, it has positive skewness.
Skewness is fundamental to subsidizing and financing. Stock prices and resource returns have either positive or negative skew to stable ordinary circulation. Deliberating which way data is skewed, assess whether guaranteed (or future) data point will be near the mean.

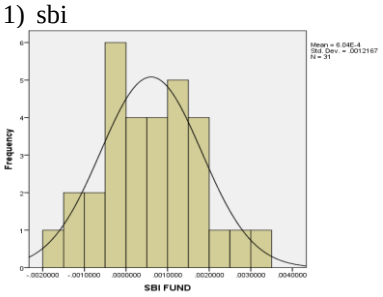
- If Skewness is <−1 or >+1, the circulation is exceptionally skewed.
- If Skewness is among −1 and – 0.5 or somewhere in the range of +0.5 and +1, the circulation is gently skewed.
- If Skewness is somewhere in the range of −0.5 and +0.5, the circulation is around symmetric.

KURTOSIS
A statistical tool used to define the distribution of observed data. Kurtosis is the point of peak rate of distribution. At times it is referred to as "volatility of volatility."

- If the peakness is <−2, the population likely to have negative surplus kurtosis. kurtosis having <3 is known as platykurtic.
- If the weakness is somewhere in the range of −2 and +2, we can't reach to any supposition about the kurtosis extra kurtosis may be sure, negative, or zero.
- If the peakness is > +2, the populace liable to have a positive surplus. kurtosis having >3 is known as leptokurtic

Histograms Skewness and Kurtosis
1) Mirae asset
2) IDBI bank
3) Kotak Mahindra

1) sbi



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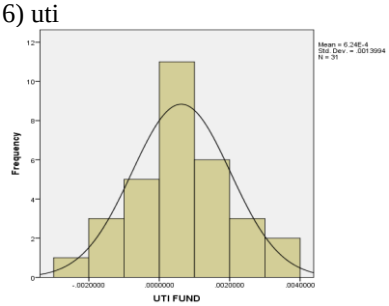
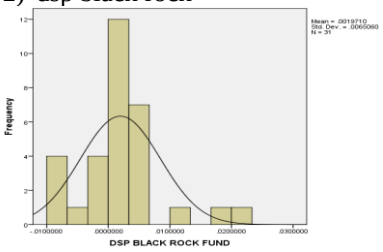
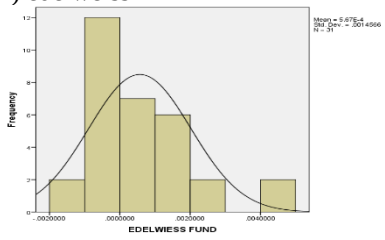


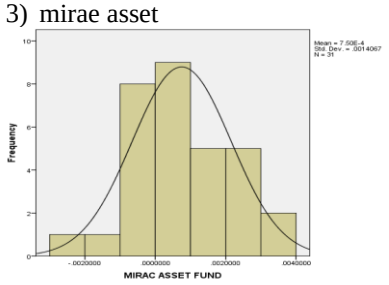
2) dsp black rock



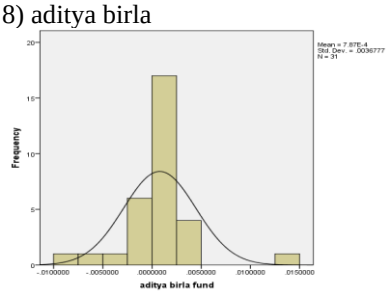
7) edelweiss



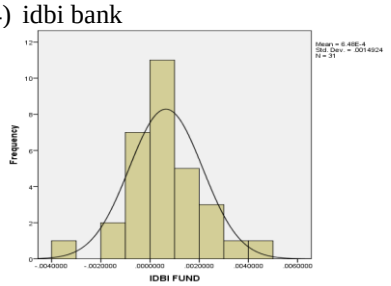
3) mirae asset



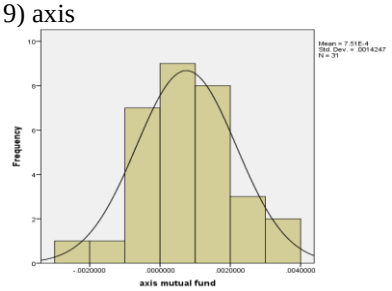
8) aditya birla



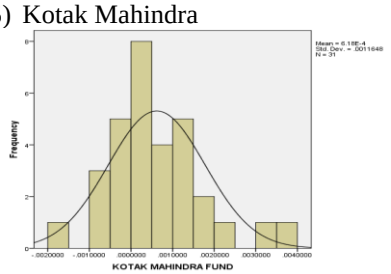
4) idbi bank



9) axis



5) Kotak Mahindra



10) mothilal oswal

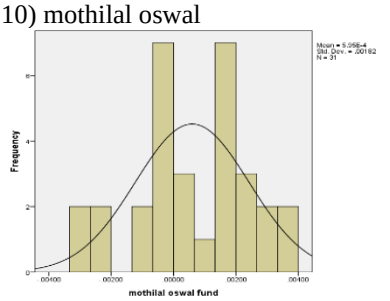


Table 1: Table Showing the Skewness & Kurtosis of Equity Mutual Funds (Regular Growth)

Scrip's name Equity Mutual Fund- (Regular growth)	Skewness	Kurtosis
SBI	-0.403	0.229
DSP BLACK ROCK	-0.216	-0.306
MIRAE ASSET	0.065	0.138
IDBI	-0.679	-0.142
KOTAK MAHINDRA	-0.286	-0.780
UTI	0.018	0.140
EDELWEISS	-0.213	-0.641
ADITYA BIRLA	-0.159	-0.793
AXIS	-0.268	-0.236
MOTHILAL OSWAL	0.18	-1.154

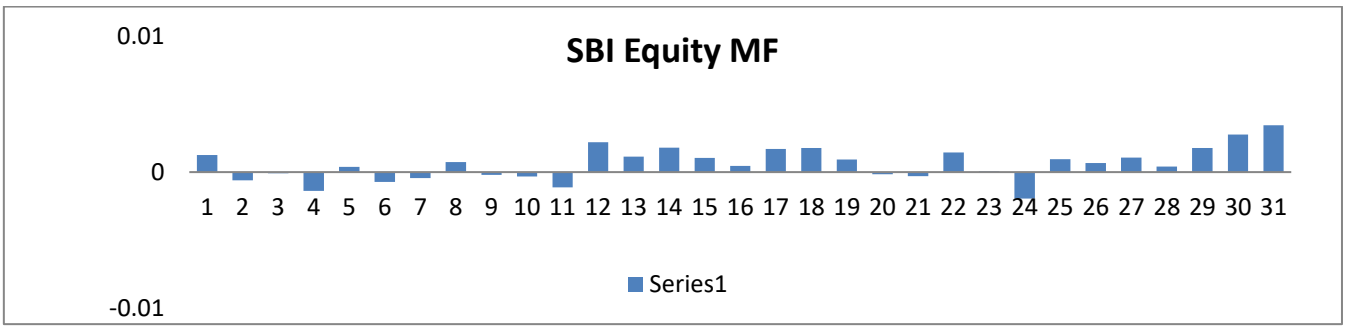


Fig. 1: Fig. Showing the Date wise returns of SBI Equity Mutual Fund

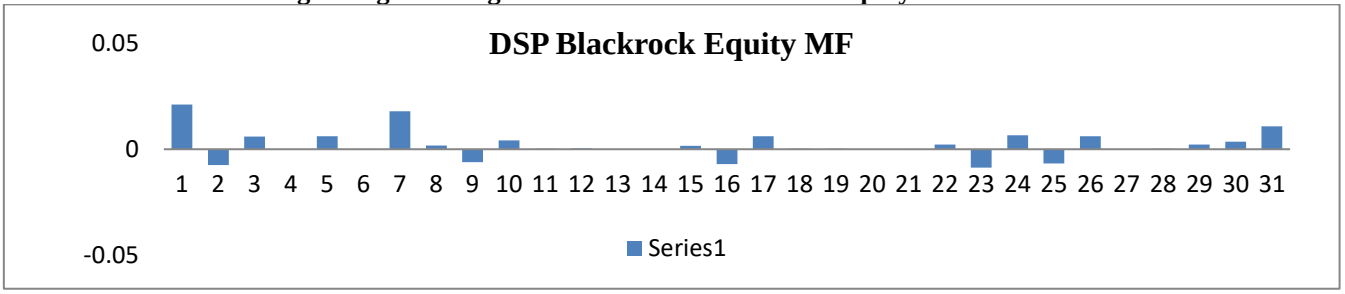


Fig. 2: Fig. Showing the Date wise returns of DSP Blackrock Equity Mutual Fund

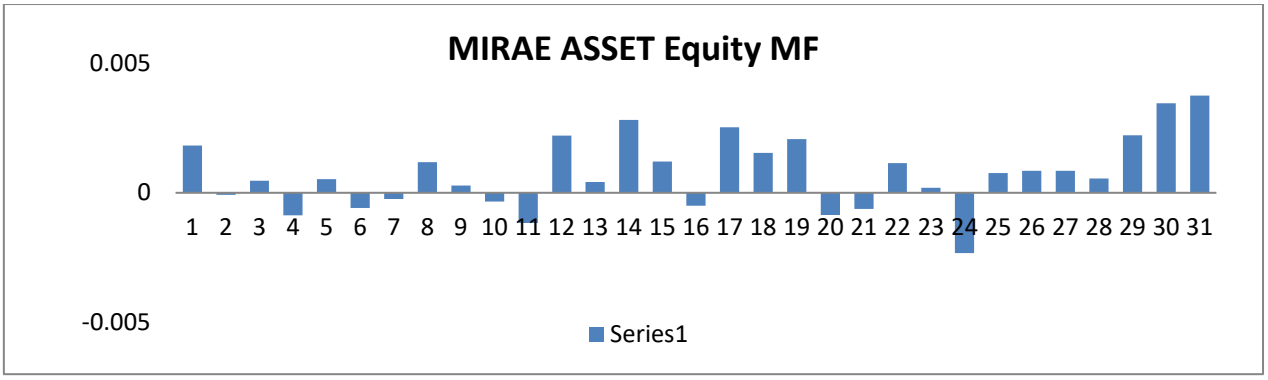


Fig. 3: Showing the Date wise returns of Mirae Asset Equity Mutual Fund

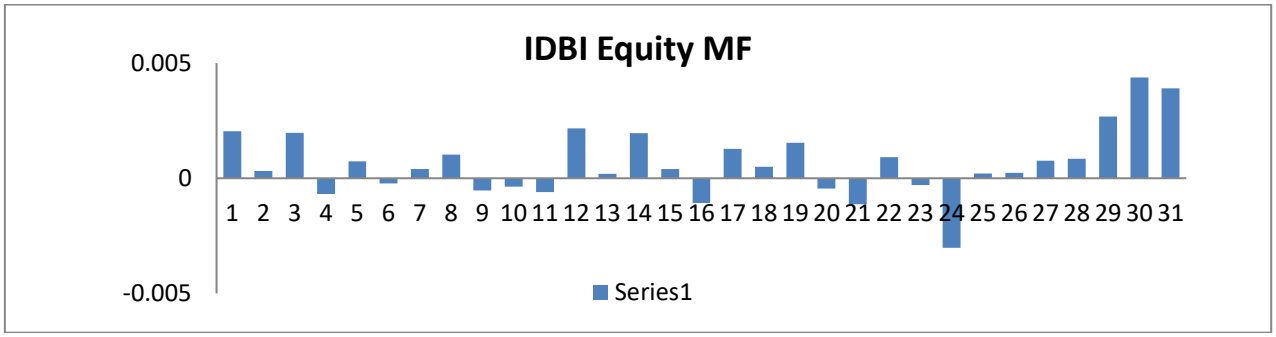


Fig. 4: Showing the Date wise returns of IDBI Equity Mutual Fund

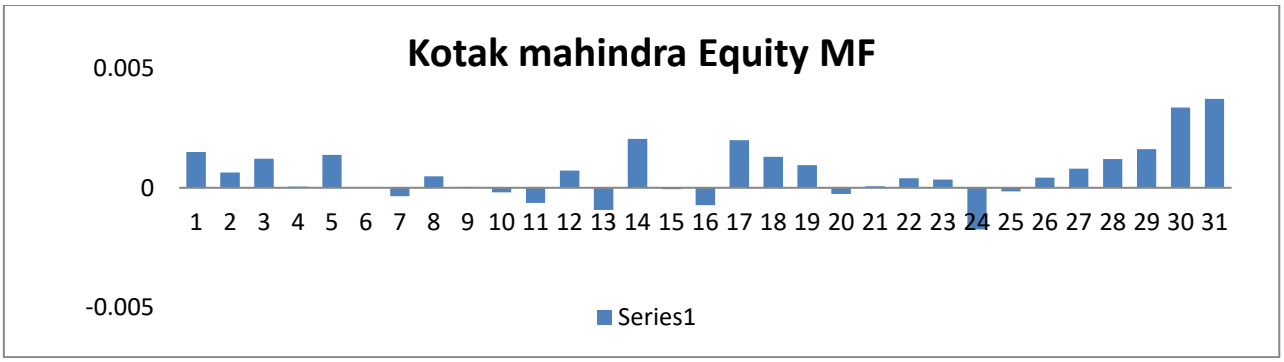


Fig. 5: Showing the Date wise returns of Kotak Mahindra Equity Mutual Fund

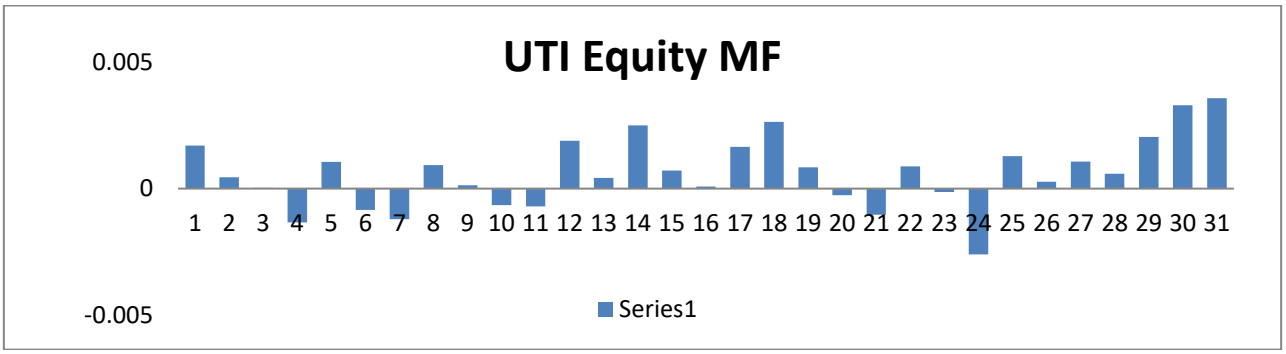


Fig. 6: Showing the Date wise returns of UTI Equity Mutual Fund

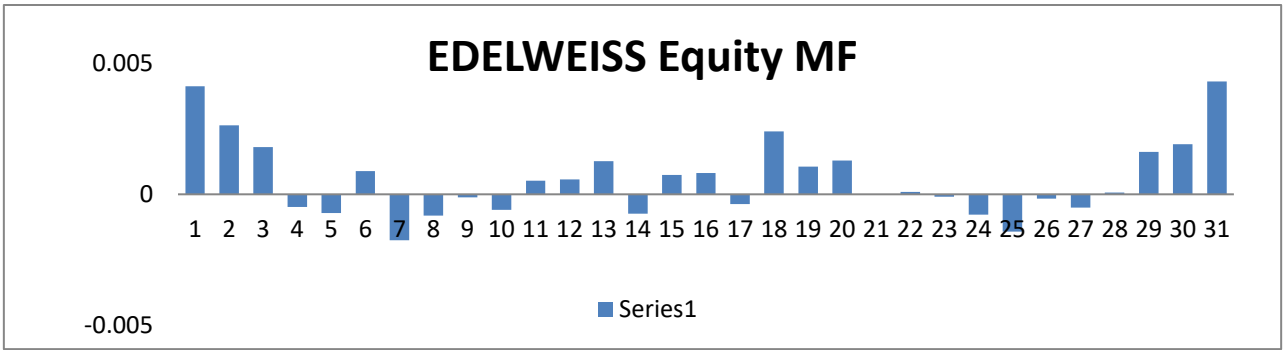


Fig. 7: Showing the Date wise returns of Edelweiss Equity Mutual Fund

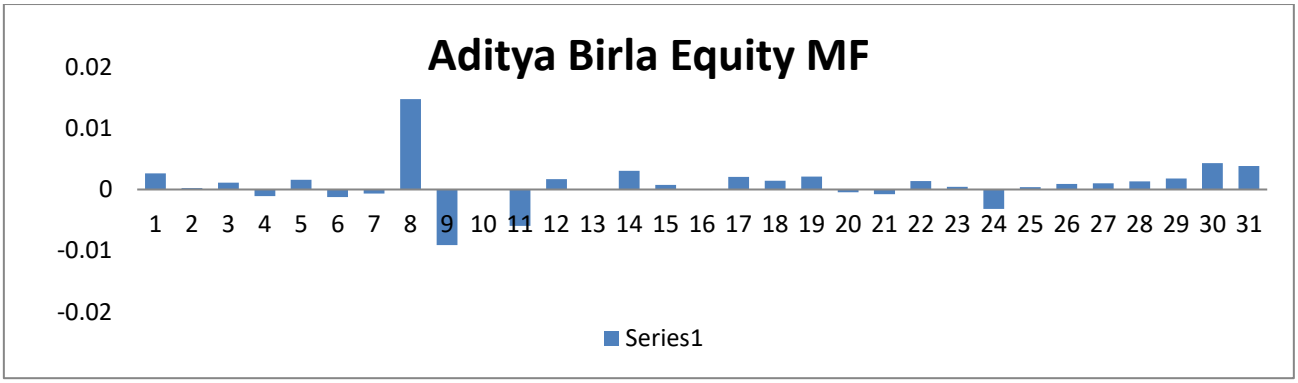


Fig. 8: Showing the Date wise returns of Aditya Brila Equity Mutual Fund

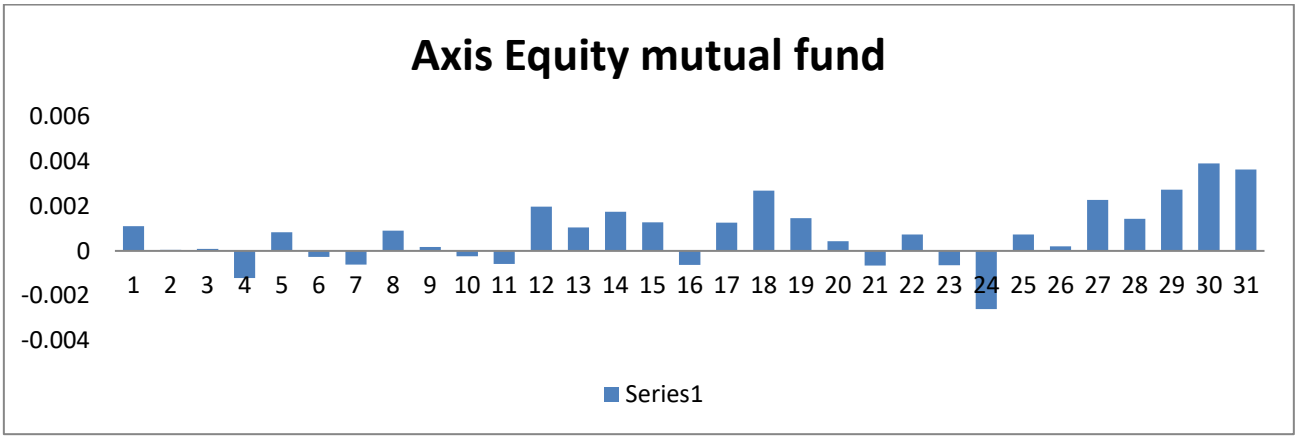


Fig. 9: Showing the Date wise returns of Axis Equity Mutual Fund

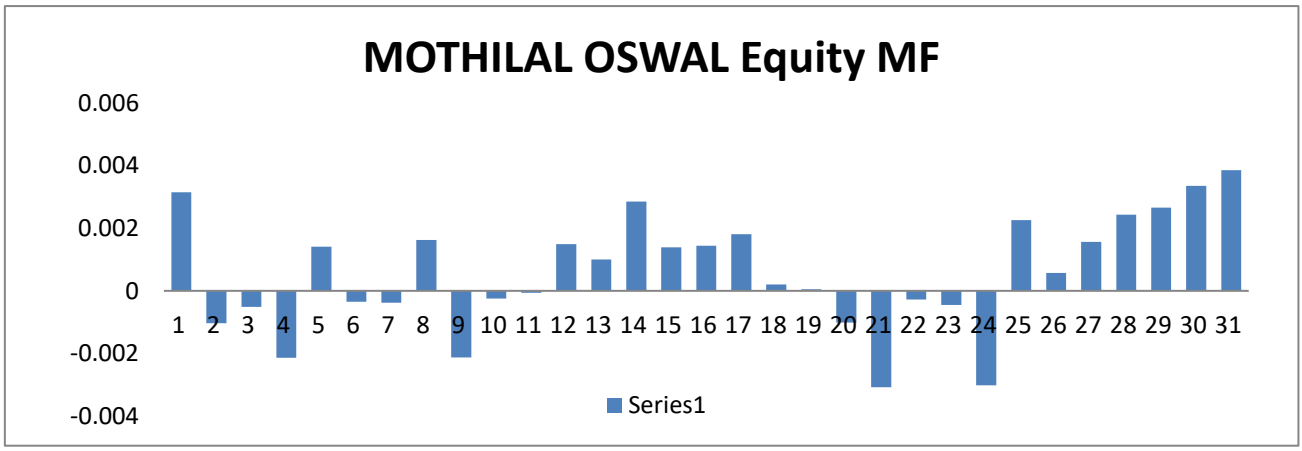


Fig. 10: Showing the Date wise returns of Mothilal Oswal Equity Mutual Fund

Table 2: Table Showing the risk and return of mutual funds of Equity Mutual Funds (Regular Growth)

Company name	Sharpe Ratio	Ranks	Treynors Ratio	Ranks	Jensen's Ratio	Ranks
SBI	0.5141	**7**	8.1195	**7**	2.2282	**6**
DSP BLACK ROCK	0.5403	**6**	8.3153	**6**	1.6036	**7**
MIRAC ASSET	0.8000	**3**	12.3298	**3**	4.7319	**4**
IDBI	2.8487	**1**	14.4197	**1**	6.7407	**1**
KOTAK MAHINDRA	0.2397	**10**	4.738	**9**	1.5119	**8**
UTI	0.6127	**5**	8.3296	**5**	2.3296	**5**
EDELWEISS	0.4173	**8**	6.5208	**8**	0.5313	**10**
ADITYA BIRLA	0.7669	**4**	12.01	**4**	6.02	**3**
AXIS	0.8464	**2**	12.9166	**2**	6.2083	**2**
MOTHILAL OSWAL	0.2645	**9**	4.4352	**10**	0.7352	**9**

Suggestion

The research shows the performance of the top 10 high returns company in various days of a month. From the study, it is analyses that the majority of the companies are showing the highest negative rate of return on 24th, 25th and 11th day of every month and these suggest that 23rd and 24th are the best days to invest when compared to the other days of the month. The majority of the companies showing 31st and 30th that s the end of every month is a suitable day to SELL/REDEEM the shares and as a researcher suggests redeeming on these days of the month which will raise your return on investment.

Name of the scrip's	Best day to invest	Best Days to Redeem
SBI	24th, 11th, 4th	31st, 30th, 12th
DSP Black rock	25th, 23rd, 16th	31st, 7th, 1st
Mirae Asset	24th, 11th, 4th	31st, 30th, 14th
IDBI	24th, 21st, 16th	31st, 30th, 29th
Kotak Mahindra	24th, 16th, 13th	31st, 30th, 14th
UTI	24th, 21st, 7th	31st, 30th, 18th
Edelweiss	25th, 8th, 7th	31st, 2nd, 1st
Aditya Birla	24th, 11th, 9th	31st, 30th, 8th
Axis	24th, 11th, 4th	31st, 30th, 18th
Mothilal Oswal	24th, 21st, 9th	31st, 30th, 1st

3. CONCLUSION

In the research, I have studied the stability of the day result in mean and in a conditional variance of returns of the scrip's. It is evident that the day effect is present in the scrips. Our findings show that 31st and 30th day is significant to redeem, seasonality does exist. As we have shown, a majority of substantial positive returns are on 31st and 30th while major negative returns are on 24th, 23rd, and 11th of every month. From the performance analysis, it shows IDBI and AXIS performance is good and can be included in the portfolio. IDBI has more impressive value, expected return. The Sharpe measure for IDBI is 2.8487, higher the Sharpe better the risk-adjusted return. So it is better to add IDBI in your portfolio. The Sharpe measure for AXIS is 0.8464, higher the Sharpe better the risk-adjusted return. So it is better to add axis in your portfolio.

