THE COMPARATIVE PERFORMANCE MEASURE OF SELECTED MUTUAL FUND: WITH REFERENCE TO JENSON, SHARPE AND TREYNOR RATIO MODEL

*[1]Amit Sharma, [2]Dr. Manish Dwivedi, [3]Dr. Leena Sharma

[1]Research Scholar, ISBM, Suresh Gyan Vihar University, Jaipur, Rajasthan, India.
[2]Dy. Director, Suresh Gyan Vihar University, Jaipur, Rajasthan, India.
[3]Head of Department, Assistant Professor, Department of Business Administration, St. Xavier's College, Jaipur.

*Corresponding Author: Amit Sharma

Research Scholar, ISBM, Suresh Gyan Vihar University, Jaipur, Rajasthan, India.

ABSTRACT

In the present times, mutual funds have remained the integral part of investment portfolios of retail and institutional investors; also this has remained a million dollar question that how can we assess the performance of a given mutual fund in a given market. As a matter of fact many of the probability based models are available but then again the results from the same are not much promising. In this present research the researcher will try to find out the best suited performance measure considering selected mutual fund schemes. The time period considered was 2015-2020 and mostly ratios were preferred. The tentative findings of the study will present the results of all the ratios and state the best suited method for the assessment of mutual fund performance. The performance of the selected funds will be assessed for both the markets i.e. NIFTY and SENSEX.

KEYWORDS: Performance Measures, Mutual funds, India, Ratios.

INTRODUCTION

In the present scenario, for every next individual investors is considering mutual funds as one of the major components of their investment portfolio. As a matter of fact these mutual funds are the integral part of all the small and big investors. Looking at the background of mutual funds we will find that the origin of mutual funds can be traced back in 1924 with the formation of Investors Trust in Massachusetts, this was the first investment portal where the investor can invest directly, also the agencies involved in the process were called as Mutual Fund companies, rather mutual funds are managed professional in the form of investment schemes so that the investors may find it convenient enough to lay his money in the same, it can also be said that it is one of the investment tools offered to the investors in the form of stocks, market instruments, related long and short term schemes, etc. from the origin of Mutual Funds back in 1924, presently there are more than 10, 000 different avenues where the investors can invest their money. The total value of such close ended companies is being approximately estimated to around USD 4 trillion. This value and the number of companies are increasing on a regular basis, this is the popularity of mutual funds i.e.

around 31% of the middle income groups use to own one or more than one mutual fund.

In the last few years the mutual fund industry has grown significantly and became the integral part of overall financial market, but the Indian financial market is still thriving for success roles as far as mutual funds are concerned, it can also be said that the Indian mutual fund market is in growing stage as compared to developed countries, rather a number of foreign Mutual Funds are operating in the country. Many of the developed economies are using debt and equity securities as compared to bank loans and related expansion of existing economies. The Indian financial market was benefitted most from the virtue of Industrial Policy, 1990 and further amendments in 1991 i.e. when the liberalisation, privatization and globalization of economy was allowed, this policy had broken the economic barriers and many of the international financial companies had entered the country; this has provided boost to the Indian financial system and investment opportunities for the people of country, mutual fund was one of them.

In a developing country like India, the success of mutual funds is greatly dependent on the policy framework laid down by the authorities and customized rules and

regulation to control the financial market, this was done to avoid any kind of insurgence and also to prevent the

people from getting plunged into fallacious schemes of mutual funds.
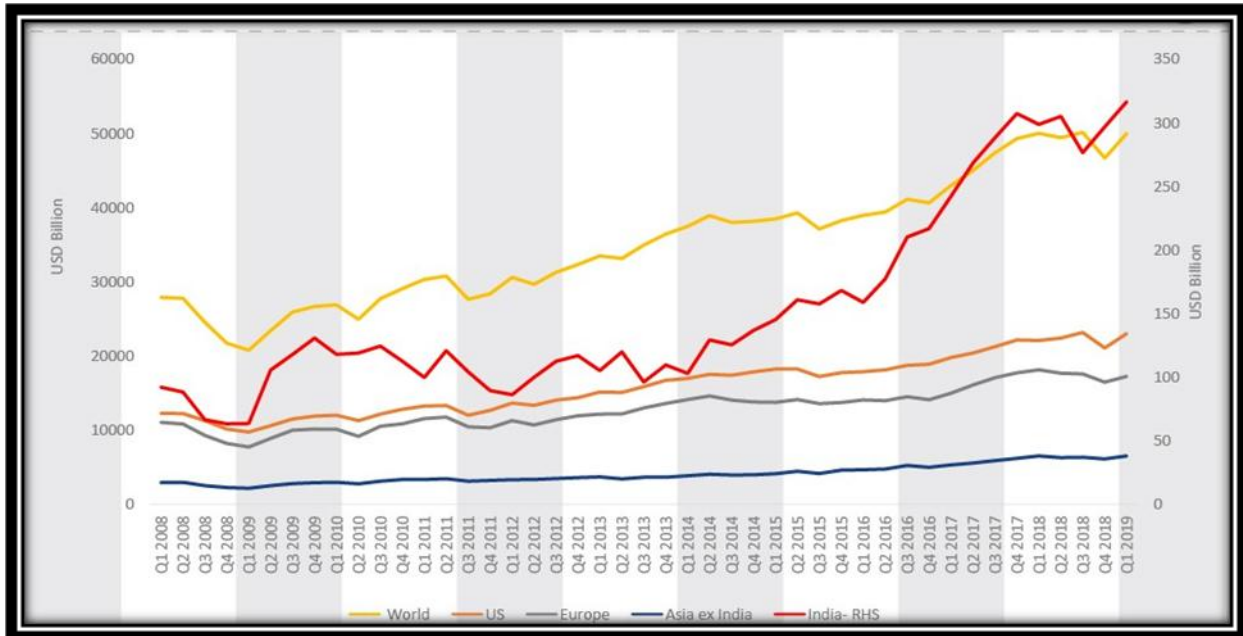
Figure 1: Growth of Indian Mutual Fund Assets.

But then again in 21st century the mutual funds are gaining popularity as because the limits of investment are within the hold of individual investors and there is no cap on minimum amount of investment, this has provided boost to the investors i.e. they are now willing to invest in more than one mutual fund scheme at a time. It can be said that the performance of mutual funds is dependent on the stringent regulations on one end and the performance of mutual funds on the other.

This present study will evaluate the performance of mutual funds using various tools and techniques, many of the tools are taken from the previous studies and some relevant measures were used as per the level of their authenticity and applicability.

LITERATURE REVIEW

Harlow et al (2015) stated that there is some amount of uncertainty for a given investor and every other investor tries to minimize this risk at all ends. He also stated that proper portfolio management can reduce the risk and even the uncertainty can be reduced, nevertheless this is the task of portfolio managers and if a person is not well versed in terms of financial collaborations then he or she should take the help of portfolio managers to manage the same. They also stated that most of the times online tutorials and platforms are not providing complete information hence the investors get bit confused in the process, to avoid this difficulty help of third party can be taken to handle the same.

Joseph et al (2017) performance of the mutual fund is based on a number of factors i.e. market conditions, economic turmoil, fluctuation in currency rates, news and views published on different forums, etc. also the experts use to assess the performance on the basis of a number of tools and techniques (generally of statistical nature) and suggest people to get indulged with a selected set of mutual funds. The researchers also stated that market conditions and past performance of the mutual funds are the most preferred source of information about the investment decision regarding mutual funds.

Elton et al (2019) stated that it is a difficult task for the investors to choose a best suited mutual fund then on the other hand it is also a million dollar question that till what time a particular investor should retain a mutual fund or what is the right time to sell the same. All this is dependent on the performance of the mutual fund in a given period of time, now the investor is required to assess the performance of mutual fund and take the decision to hold or sell a certain mutual fund. The researchers also stated that the performance of the given mutual fund can be assessed on the basis of previous performance of the fund, rather the third party decisions are best suited for the decisions.

Odean et al (2019) the researcher conducted a study on the performance evaluation of mutual funds and stated that the best way of evaluating mutual fund is comparison of the same with other securities and investment instruments. They also stated that ratio

analysis and Sharpe model are the best suited methods of evaluating the performance of mutual funds but the results from these instrument should be compared to the results of other investment avenues and the same should be communicated to the public at large.

Hijab et al (2020) the study was conducted in Pakistan and the findings of the study stated that survivorship bias controlled sample of funds are ought to give better results, rather than a random sample of the same. They also stated that the financial turmoil in the country need more precise results on return and investment, hence the method used for evaluation of the same should be capable enough to give good and applicable results. Rather in Pakistan, mostly people are interested in making investments in Islamic funds but then again the performance of the same needs to be justified.

Objective
The main objective of this present study is to evaluate the performance of selected mutual funds, the sample was taken from the national and international funds.

Research Methodology
Considering the third party investment avenues, in most of the cases there are fund managers from various asset management companies use to judge the market and advise the investors of hold, sell or to scrip the fund. This assessment of the fund managers is based on the trail of research done in the past and even evaluation of present conditions of the market. The respective tools used are continuous analysis, analysis based on fundamental information, technical analysis based on statistical data, etc. the responsibility of such asset managers increases after the financial crisis of any kind i.e. when the risk in investment is increased.

Sample of the study
The researcher had considered 10 mutual funds for the sake of study and this includes both the national and

international funds. The names of the funds are as follows"
1. Escorts
2. Templeton India Cash Management
3. Birla Sun life Equity Fund Plan B
4. DSP Blackrock Equity Fund Reg.
5. HDFC Equity Fund
6. Reliance Equity Fund
7. JP Morgan Active Bond Debt Fund
8. Axis Equity Fund
9. SBI
10. Kotak Balanced Fund

Data Collection
The researcher had considered all the asset management companies as population of this present study and chosen the sample out of the same. Then on the other hand researcher had tried to include debt fund, liquid fund, equity and balanced fund in the study. In the process of sample selection it was found that all the above mentioned schemes are having different ratings. The time period of data collection was 2015 t0 2020. 2021 and 2022 were not considered due to pandemic of COVID-19 i.e. the fluctuations may affect the results negatively.

The researcher had considered www.amfindia.com and www.mutualfundindia.com for the data related to NAV (Net Asset Value) and Market values of selected funds. After the careful assessment of data, relative performance Index was prepared and the same was analysed accordingly using SPSS Ver. 22.0.

Tools used
The researcher had used the following tools for the analysis and performance evaluation of selected funds:
a. Relative Performance Index
b. Sharpe Model
c. Treynor Model
d. Jensen Model

Data Analysis and Interpretation
Regression Analysis of Selected Funds

Schemes	Standard Deviation (Risk)	Variance	BetaSensex	R^2Sensex	BetaNifty	R^2Nifty
Escorts	0.5217	0.291	0.190	0.039	0.181	0.042
TempletonIndiaCashManagement	0.0394	0.010	-0.098	0.021	-0.112	0.021
Birla Sun Life Equity Fund Plan B	0.937	2.993	0.815	0.792	0.892	0.901
DSPBlack Rock EquityFund Reg.	0.893	2.106	0.901	0.788	0.818	0.802
HDFCEquityFund	.944	3.140	0.921	0.831	0.901	0.822
RelianceEquityFund	1.318	3.172	0.912	0.693	0.901	0.801
JP Morgan Active Bond Debt Fund	0.206	0.029	-0.104	0.021	-0.082	0.016
AxisEquityFund	1.442	1.916	0.873	0.811	0.902	0.903
SBIBlueChipFund	1.669	2.973	0.892	0.897	0.932	0.893
KotakBalancedFund	1.014	1.318	0.902	0.693	0.901	0.702

Interpretation
Escorts
- The results show that the identified variance is low as compare to other selected funds this shows that

the measurement of risk is low.
- In case of NIFTY the value of R^2 i s 0.042 this states that there is low relationship between the growth of the fund and growth of the market.Then

in case of SENSEX the value of R^2 is 0.039, this is an indication that again the growth of the fund is not directly related to the growth of market.

- According to the above given analysis it clear that the returns on this fund are based on the performance and not related to the overall market growth. This model is insignificant

TempletonIndiaCashManagementFund

- In case of Templeton India, analysis states that the variance is low and the effect of the same can be seen on standard deviation i.e. it is not considerable in terms of creating variation in fund's performance, the respective variance is low and again the risk is also low.
- Then in case of NIFTY the value of R2 being 0.021 and this is an indication that this fund is not much related to the performance of the overall market. For SENSEX again the value of R2 is -0.098 which is not significant as well.
- On the basis of analysis it can be stated that the performance of the fund is not as per the change in market.

Birla Sun Equity Fund

- In case of above funds it can be stated that the level of relationship is moderate i.e. the variance is moderate and even the standard deviation is not significant. It can be stated that the associated risk is also moderate.
- For NIFTY the value of R2 is 0.901 which shows that the growth of this fund is highly correlated to the growth of market. Then in case of SENSEX R2 is 0.792 which is highly correlated to the growth of market.
- The returns of this fund is basically dependent on the functioning of market and move along the same.

DSPBlack Rock EquityFund

- As can be seen from the regression analysis, the variance is low and accordingly the standard deviation is also moderate, this shows that the associated risk is also low.
- In case of NIFTY the value of R^2 i s 0.802 and this shows that the scheme is directly correlated to the performance of market, then in case of SENSEX the value of R^2 i s being 0.902 this value is significant and shows that the performance of the fund is highly dependent on the performance of the market.

HDFCEquityFund

- The results state that the variance is comparatively low and accordingly the standard deviation is also low, so it can be stated that the associated risk to the fund is also low.
- For NIFTY the value of R^2 is 0.822 and for SENSEX the value of R^2 is 0.832 this shows that the scheme is highly related to the performance of the market.

RelianceEquityFund

- In case of Reliance it is clear that the variance and standard deviation are moderate henceforth the

associated risk of the fund is also moderate i.e. it is neither too high nor low.

- Then in case of NIFTY the value of R^2 being 0.801 and the value of SENSEX R^2 is 0.693 i.e. the values are moderate and not much significantly related to the performance of the market.

JPMorganActiveBond

- As cane be seen from the given analysis that the variance between the values is low and in comparison the standard deviation is also low; it can be stated that the associated risk of the fund is low.
- In case of NIFTY the value of R^2 being 0.016 and the value of R^2 for SENSEX is 0.021, both the values are low so it can be stated that the performance of the fund is not directly related to the performance of the market.

AxisEquityFund

- From the above given analysis it is clear that the variance and standard deviation is low hence the associated risk of the fund is also low.
- In case of NIFTY the value of R^2 is 0.903 and the value of R^2 for SENSEX is 0.811 which shows that the performance of the fund is highly related to the performance of the market.

SBIFund

- Analysis shows that the variance and standard deviation is moderate and this shows that the linkage of the same to the performance of the market. This can be said that the associated risk is also moderate.
- In case of NIFTY the value of R2 is being 0.893 and the case of SENSEX the value of R2 is 0.897 these values state that the performance of the fund is associated highly to the performance of the market.

KotakBalancedFund

- As per the analysis, it is clear that the level of variance and standard deviation is high so it can be interpreted that the level of risk is also high.
- For NIFTY the value of R^2 is 0.702 and for SENSEX the value of R^2 is 0.693 this shows that the performance of the fund is moderately correlated to the performance of the market.

Results on RATIO'S

Schemes	Sharpe's Ratio	Treynor's Ratio (Sensex)	Treynor's Ratio (Nifty)	Jensen's Ratio (Sensex)	Jensen's Ratio (Nifty)
Escorts	139.53	298.20	526.66	91.23	90.42
TempletonIndia CashManagement	359.44	-1091.62	-1593.36	169.22	182.30
BirlaSunLifeEquityFundPlanB	20.41	32.52	30.53	37.81	29.47
DSPBlackRock EquityFundReg.	72.94	176.39	152.89	164.38	153.31
HDFCEquityFund	91.33	186.73	167.31	169.82	148.36
Reliance EquityFund	1.96	3.82	3.98	11.35	1.37
JpMorganActive BondDebtFund	-358.84	546.23	786.36	-80.32	-69.65
Axis EquityFund	15.93	31.51	31.42	39.82	27.09
SBI BlueChipFund	-24.85	-41.29	-38.20	-23.72	-42.52
KotakBalancedFund	-6.22	-6.02	-6.59	1.93	-7.82

Interpretation
(Sharpe) *Standard Value for Sensex is -5.29255 and for NIFTY is 1.393194*

Best Performers (SENSEX)
- TempletonIndiaCashManagementFund(BestPerformer)
- EscortsLiquidFund
- HDFCEquity Fund

Average Performers (SENSEX)
- DSPBlackrockEquityFund
- RelianceEquityFund
- BirlaSunLifeTop100 Fund
- AxisEquityFund
- BirlaSun LifeEquityFund
- KotakBalancedFund(JustAboveUnderperformer)

Poor Performance (SENSEX)
- JP MorganDebt Fund

Best Performance (NIFTY)
- TempletonIndiaCashManagement(BestPerformer)
- HDFCEquity Fund
- DSPBlackrockequityFund

Average Performer
- BirlaSunLife
- AxisEquityFund
- KotakBalancedFund(JustAboveUnderperformer)

Poor Performer
- JP MorganDebt Fund
- SBI
- HDFC BalancedFund(LowestPerformer)

ACCORDINGTOTREYNOR'SRATIO, Standard for SENSEX =-9.95, NIFTY= 2.66

Best Performers (SENSEX)
- JP MorganDebt Fund
- EscortsLiquidFund

Average Performers
- HDFCEquity Fund
- DSPBlackrockEquityFund
- BirlaSunLifeEquityFund
- RelianceEquityFund
- AxisEquityFund
- KotakBalancedFund(JustAbove Average)

Poor Performers:
- Templeton IndiaCashManagementFund
- SBI

Best Performers (SENSEX)
- JP MorganDebt Fund
- EscortsLiquidFund
- HDFCEquityFund
- DSPBlackrockEquityFun

Average Performers
- BirlaSunLifeEquityFund
- AxisEquityFund
- RelianceEquityFund

Poor Performers
- Templeton IndiaCashManagementFund
- HDFCBalancedFund
- SBI
- KotakBalancedFund

According To Jensen Ratio,
NegativeReturn (Sensex)
- JP MorganDebt Fund
- SBI
- HDFCBalancedFund

PositiveReturn (Sensex)
- Templeton IndiaCashManagement
- DSPBlackrockDebtFund
- EscortsLiquidFund

NegativeReturn (Nifty)
- JP MorganDebt Fund
- SBI

- KotakBalancedFund
- HDFCBalancedFund

Positive Return (Nifty)
- Templeton IndiaCashManagementFund
- DSPBlackrockDebtFund
- HDFCcEquity Fund
- EscortsLiquidFund

CONCLUSION

This present study was based on the performance evaluation of selected funds and the assessment was done for both the SENSEX and NIFTY market. The duration for this assessment was 2015 to 2020. The findings of the study stated that AXIS or UTI has shown highest return in the stated period and HDFC has shown negative performance for first three years of the study period in the next two years the returns became positive and rate of growth also increased. Then compared on the basis of quarterly growth, most consistent performance was shown by Templeton India and the same was regular for the given period of time. Then on the other hand a number of schemes i.e. AXIS Equity fund, SBI Blue Chip fund and DSP Black rock have shown a constant growth and the same were moving positively with the growth of market.

Then on the other hand, results from various ratios were also considered like in case of Sharpe's ratio model high performers were proved as underperformers when checked with Treynor's Ratio Model and vice versa case. Like Templeton proved to be better performer in both the markets together when assessed on the basis of Sharpe but out to be underperformer in case of Treynor ratio. Then J.P. Morgan proved to be good performer on the basis of Treynor model and proved to be an underperformer in case of Treynor model. As stated in the above given matter, that all the used mode of ratios are having their own benefits and limitations, this is the reason that the results are deviated for both the given markets. It can also be stated that it was a difficult task to select any one of the used model to state as best measure of mutual fund performance. Since the 3 Ratios have different limitations and advantages, the results from all the threeratios for the best performing fund are slightly deviated. Hence a proper measure for the calculation of bestperformancefundcouldnotbefound. Rather it can be stated that if only one of the ratios is used then it can give positive results.

REFERENCES

1. Ajte, R, and Jovanovic, B, "Stock Markets and Development", European Economic Review", 1993; 37: 632-40.
2. Allen, Franklin and Douglas Gale, Comparing Financial System, Cambridge, MA; MIT Press, 2000.
3. Boyd, John and Edward Prescott "Financial Intermediary Coalitions," Journal of Economic Theory, 1986; 38, 211- 232.
4. Cho "Financial Development and Economic Growth: Views and Agenda", Journal of Economic Literature, 1986; 35: 691.
5. Demtriade, Panicos O and Khalied, A Hussain, "Does Financial Development Cause Economic Growth," Journal of Development Economics, 1996; 51: 387-441.
6. Fozia "Emerging Market Of Mutual Funds In India", PhD. Dissertation (Unpublished), Alighar Muslim University, Alighar, 2011.
7. Goldsmith, Raymond, W, Financial Structure and Development, New Haven Conn. Yale University Press, 1969.
8. Gurley, J.G. and E.S. Shaw "Financial Aspects of Economic Development" The American Economic Review, 1955; 515-538.
9. Gurley, John G, and Edward S Shaw, "Financial Aspects of Economic Development", American Economic Review, 1995; 45: 515-38.
10. Hicks Indian Financial System, Bharti V. Patnaik, Pearson Education (P) Ltd., Singapore, 1969; 28.
11. Ito, Hiro, Chinn, and Menzie David, (2005) "What Matters for Financial Development? Capital Controls, Institutions, and Interactions," Department of Economics, UC Santa Cruz
12. King R G and R Levine, "Finance and Growth. Schumpeter might be Right", Quarterly Journal of Economics, 1993; 108: 717- 37.
13. Kumar and Tsetseko. Indian Financial System" BharatiV.Patnaik Pearson Education, Singapore (P) Ltd., 1992; 2003.
14. Levine, Ross. "Stock Markets Banks and Economic Growth" The World Bank Policy Research Working Paper, 2000; 1690.
15. McKinnon, Ronald I. "Money and Capital in Economic Development", Brookings Institution, Washington DC, 1973.
16. P.K. Mishra, "A Garch Model Approach to Capital Market Volatility; The Case of India"' Indian Journal of Economics and Business, 2010; 9(3): 631-641.
17. Shaw, G.S. Financial Deepening in Economic Development, New York, Oxford University Press, 1973.
18. Singh, Ajit, "Financial Liberalization Stock Markets and Economic Development". The Economic Journal, 1997; 107: 771-82.
19. Stiglitz, Joseph. Credit Markets and the Control of Capital, Journal of Money, Credit and Banking, 1985; 17(2): 133-52.