A STUDY ON PERFORMANCE EVALUATION OF MUTUAL FUND WITH REFERENCE TO HDFC MUTUAL FUND

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Abstract: *An investment is a commitment of funds made with the expectation of some return in the form of capital appreciation. Different investment avenues are available to the investors such as fixed deposits, insurance, post office savings/ national savings certificate, gold/e-gold, bonds, public provident fund (PPF), real estate, shares, commodities, etc. Mutual fund is one of the important investment vehicle that offer good investment prospects to the investors. Mutual fund is a trust that pools the savings of various individuals by issuing units to them and then invests it in various securities such as shares, debentures and bonds as per the stated objectives of the scheme. Further, this investment avenue offers several benefits to the investors as diversification, professional fund management, liquidity, transparency etc. Today a wide variety of mutual fund schemes are available for the investors such as Open-ended, Close -ended, Interval, Growth, Income, Balanced, Equity Linked Saving Schemes (ELSS) and Exchange Traded Funds (ETF), etc. These schemes are catering to the investors' needs, risk and return tolerance. The main aim of this paper is to evaluate the performance of mutual fund schemes. The scheme selected for the study is HDFC Mutual Fund schemes*

Key Words: *Mutual Fund, Investors, Schemes, Return, Savings.*

1. INTRODUCTION:

Mutual fund is the pool of the money, based on the trust who invests the savings of a number of investors who shares a common financial goal, like the capital appreciation and dividend earning. The money thus collect is then invested in capital market instruments such as shares, debenture, and foreign market. Investors invest money and get the units as per the unit value which we called as NAV (Net Assets Value). Mutual fund is the most suitable investment for the common man as it offers an opportunity to invest in diversified portfolio management, good research team, professionally managed Indian stock as well as the foreign market, the main aim of the fund manager is to taking the scrip that have under value and future will rising, then fund manager sell out the stock. Fund manager concentration on risk – return trade off, where minimize the risk and maximize the return through diversification of the portfolio. The most common features of the mutual fund unit are low cost.

A mutual fund is a professionally managed investment fund that pools money from many investors to purchase securities. While there is no legal definition of the term "mutual fund", it is most commonly applied to so-called open-end investment companies, which are collective investment vehicles that are regulated and sold to the general public on a daily basis. There are many investment avenues available in the financial market for an investor. Investors can invest in bank deposits, corporate debentures and bonds, post office saving schemes etc. where, there is low risk together with low return. They may invest in stock of companies where the risk is high and sometimes the returns are also proportionately high. For retail investors, who do not have the time and expertise to analyse and invest in stock, Mutual Funds is a viable investment alternative. This is because Mutual Funds provide the benefit of cheap access to expensive stocks.

2. STATEMENT OF THE PROBLEM:

A study on analysis of the performance of mutual fund with reference to HDFC mutual fund industry. The Indian mutual funds industry is going through a phase of transformation. Institutional investors dominate the mutual fund industry. They hold about 57 percent the total net assets whereas, retail investors account for about 37 percent. Thus the present study is an endeavour to study the growth and performance of HDFC mutual funds in the mutual fund industry. The study also attempts to find out the performance of select mutual funds schemes of HDFC mutual funds in today's scenario.

3. SCOPE OF THE STUDY:

Mutual funds are an extension of the idea for institutionalizing savings, dissolving the gloom, enveloping the investors and convincing them that their funds are safe which assured returns. In this project the scope is limited to five mutual funds of HDFC in the mutual fund industry. This project has been done under the motive to analyze the funds depending on their debt income scheme. But there is so many other schemes in mutual fund industry like equity, investment, interest, rates, bonds, etc. But the study is mainly concentrated on debt income schemes, their returns, and risks (systematic and unsystematic) involved.

4. OBJECTIVES:

The main reasons behind study of this topic are:

• To measure and evaluate the performance of mutual funds in terms of returns (Net Asset value).
• To know the potential risk involved in each mutual fund scheme.
• To find out the best mutual fund scheme among the selected schemes in terms of risk and return.

5. RESEARCH METHODOLGY:

Area of study

The study is based on HDFC mutual fund and its schemes.

Sample design

In sample design, open ended scheme is one that is available for subscription and repurchase on a continuous basis. These schemes do not have a fixed maturity period. Investors can continuously buy and sell unit at Net Asset Value (NAV) related price which are declared on daily basis.

Selected schemes

1. HDFC income fund (growth)
2. HDFC floating rate income fund – long term growth
3. HDFC cash management treasury advantage –wholesale plan option
4. HDFC high interest fund – growth
5. HDFC gilt fund –growth.

Source of data collection

The study is an empirical work based on the secondary data collected from various sources. The study is based on the website like
www.mutualfundsindia.com
www.amfiindia.com
www.bse.com
www.hdfcmutualfund.com

Tools for Analysis

The tools used for the present study.

- Sharpe ratio
- Treynor ratio
- Sortino ratio

6. DATA ANALYSIS:

6.1 RETURN

The return on assets ratio, often called the return on total assets, is a profitability ratio that measures the net income produced by total assets during a period by comparing net income to the average total assets. In other words, the return on assets ratio or ROA measures how efficiently a compa**ny** can manage its assets to produce profits during a period. The return on assets ratio formula is calculated by dividing net income by average total assets.

$$\textit{Return on Assets Ratio} = \frac{\textit{Net Income}}{\textit{Average Total Assets}}$$

Table1. Average return characteristics of the selected schemes

Scheme Name	Avg of pf return	Skew	Kutosis
HDFC gilt fund long term Growth	0.69	-0.19	0.09
HDFC floating rate income fund-long term Growth	0.76	0.25	1.70
HDFC income fund Growth	0.66	-0.29	-0.25
HDFC high interest fund-Dynamic plan Growth	1.70	0.81	2.89
HDFC cash management fund treasury advantage - wholesale plan Growth	0.72	0.41	1.49

The highest average return for this scheme is 1.70 in the scheme HDFC high interest fund- Dynamic plan Growth and the lowest return is 0.66 in the scheme HDFC income fund Growth. The highest value of skewness is 0.81 in the scheme HDFC high interest fund-Dynamic plan Growth and the lowest value of the skewness is -0.29 in the scheme HDFC income fund Growth. The highest value of the kutosis is 2.89 in the scheme is HDFC high interest fund- Dynamic plan Growth and the lowest value of the scheme is HDFC income fund Growth.

6.2 RISK

Market risk or non-diversifiable risk, systematic risk is the fluctuation of returns caused by the macroeconomic factors that affect all risky assets. Unsystematic risk is the risk that something with go wrong on the company or industry level, such as mismanagement, production of undesirable products, etc.

Systematic risk + Unsystematic risk = Total risk

Table2. Average risk characteristic of selected scheme

Scheme Name	Unsystematic risk	Systematic risk
HDFC gilt fund long term Growth	0.98	0.07
HDFC floating rate income fund-long term Growth	1.17	0.05
HDFC income fund Growth	7.65	-0.09
HDFC high interest fund-Dynamic plan Growth	1.28	0.08
HDFC cash management fund treasury advantage - wholesale plan Growth	0.14	0.01

The highest average unsystematic risk is 7.65 in the scheme of HDFC income fund growth and the lowest unsystematic risk is 0.14 in the scheme HDFC cash management fund treasury advantage-wholesale plan Growth. The highest average systematic risk is 0.08 in the scheme HDFC high interest fund-Dynamic plan Growth and the lowest systematic risk is -0.09 in the scheme HDFC income fund Growth.

6.3 SHARPE RATIO

The Sharpe ratio is an investment measurement that is used to calculate the average return beyond the risk free rate of volatility per unit. In other words, it's a calculation that measures the actual return of an investment adjusted for the riskiness of the investment. The Sharpe Ratio formula is calculated by dividing the difference of the best available risk free rate of return and the average rate of return by the standard deviation of the portfolio's return.

$$\boldsymbol{Sharpe\ Ratio} = \frac{\boldsymbol{rx - Rf}}{\mathbf{stdDev(x)}}$$

Table3. Average of sharpe ratio and the benchmark of the selected schemes

Scheme Name	Avg of pf return	Sharpe	Benchmark
HDFC gilt fund long term Growth	0.693	0.071	0.037
HDFC floating rate income fund-long term Growth	0.765	0.311	0.037
HDFC income fund Growth	0.658	0.035	0.037
HDFC high interest fund-Dynamic plan Growth	1.697	0.151	0.037
HDFC cash management fund treasury advantage - wholesale plan Growth	0.719	0.507	0.037

The highest average of portfolio return is 1.697 in the scheme HDFC high interest fund- Dynamic plan Growth and the lowest average return is 0.658 in the scheme is HDFC income fund Growth. The highest value of sharpe ratio is 0.311 in the scheme is HDFC floating rate income fund-long term Growth and lowest value of sharpe ratio is 0.035 in the scheme is HDFC income fund Growth. The average value of all the schemes benchmark is 0.037.

6.4 TREYNOR RATIO

The Treynor ratio relates excess return over the risk-free rate to the additional risk taken, however, systematic risk is used instead of total risk. The Treynor ratio formula is calculated by dividing the difference between the average portfolio return and the average return of the risk-free rate by the beta of the portfolio.

$$\boldsymbol{Treynor\ Ratio} = \frac{\boldsymbol{Average\ Portfolio\ Return - Average\ Risk\ Free\ Rate}}{\boldsymbol{Beta\ of\ the\ Portfolio}}$$

Table4. Average of Treynor ratio and the benchmark of selected schemes

Scheme Name	Avg of pf return	Treynor	Benchmark
HDFC gilt fund long term Growth	0.69	4.29	0.17
HDFC floating rate income fund-long term Growth	0.76	-11.94	0.17
HDFC income fund Growth	0.66	4.01	0.17
HDFC high interest fund-Dynamic plan Growth	1.70	1.30	0.17
HDFC cash management fund treasury advantage - wholesale plan Growth	0.72	35.89	0.17

The highest average of portfolio return is 1.70 in the scheme HDFC high interest fund- Dynamic plan Growth and the lowest average return is 0.66 in the scheme is HDFC income fund Growth. The highest value of treynor ratio is 35.89 in the scheme is HDFC cash management fund treasury advantage-wholesale plan Growth and lowest value of treynor ratio is -11.94 in the scheme is HDFC floating rate income fund-long term Growth. The average value of all the schemes benchmark is 0.17.

6.5 SORTINO RATIO

This ratio is used to measure the level of risk in a portfolio. The higher the Sortino ratio, the better a portfolio has performed relative to the risk taken. It is often used to compare the risk taken between different portfolios to achieve a certain return. It is necessary to ground the Sortino ratio into context by comparing a fund's Sortino ratio with that of another fund, index, or category to determine whether a Sortino ratio is high or low.

$$\textit{Sortino Ratio} = \frac{Rp - Rf}{\sigma d}$$

Table5. Average return of sortino ratio and the downside risk of the selected schemes

Scheme Name	Avg of pf return	Downside risk	Sortino
HDFC gilt fund long term Growth	0.69	0.87	0.66
HDFC floating rate income fund-long term Growth	0.76	0.61	0.13
HDFC income fund Growth	0.66	0.81	0.30
HDFC high interest fund-Dynamic plan Growth	1.70	3.78	0.52
HDFC cash management fund treasury advantage - wholesale plan Growth	0.72	0.08	3.97

The highest average return of portfolio is 1.70 in the scheme is HDFC high interest Fund -Dynamic plan growth and the lowest average return of portfolio is 0.66 in the scheme 72 is HDFC income fund Growth. The highest value of downside risk is 3.78 in the scheme is HDFC high interest fund-Dynamic plan growth and the lowest value of downside risk is 0.08 in the scheme is HDFC cash management fund treasury advantage-wholesale plan growth. The highest value of sortino ratio is 3.97 in the scheme is HDFC cash management fund treasury advantage-wholesale plan growth and thhe lowest value of the sortino ratio is 0.13 in the scheme is HDFC floating rate income fund-long term Growth.

6.6 ANOVA

Analysis of variance (**ANOVA**) is a collection of statistical models used to analyze the differences among group means and their associated procedures (such as "variation" among and between groups), developed by statistician and evolutionary biologist Ronald Fisher. ANOVA is applied to test the significant difference in the average return earned by the selected schemes and it is tested at 5% level of significance.

Hypothesis: “There exists no significant difference in the average return earned by the selected schemes”

Table6. ANOVA- Average return

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.936	4	.984	1.053	.405
Within Groups	18.684	20	.934		
Total	22.620	24			

From the above table it is clear that with the significant value of .405 there exists no significant difference in the average return earned by the selected schemes at 5% level of significance. Hence the hypothesis is accepted.

Hypothesis: "There exists no significant difference in the Unsystematic risk in selected schemes"

Table7. ANOVA- Unsystemmatic risk

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	186.624	4	46.656	.986	.437
Within Groups	945.970	20	47.298		
Total	1132.594	24			

From the above table it is clear that with the significant value of .437 there exists no significant difference in the Unsystematic risk in selected schemes at 5% level of significance. Hence the hypothesis is accepted.

Hypothesis: "There exists no significant difference in the Systematic risk in selected schemes"

Table8. ANOVA- Systemmatic risk

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.099	4	.025	.858	.506
Within Groups	.574	20	.029		
Total	.673	24			

From the above table it is clear that with the significant value of .506 there exists no significant difference in the Systematic risk in selected schemes at 5% level of significance. Hence the hypothesis is accepted.

7. SUGGESTION:

- The mutual fund industry is still in a nascent stage in India. Presently it focus on urban areas, the rural area is still untapped.
- Government should do various efforts and take various steps to promote the mutual funds in India. In nutshell there is a need to create the awareness among the people regarding the importance of mutual funds.
- The HDFC Company has to concentrate more for the floating rate income fund- long term growth scheme because this scheme has no any highest value from the year 2010 to 2015.
- HDFC has to concentrate on those funds which are performing less than their benchmark returns and take action and analyse the market condition and take correct step.

8. CONCLUSION:

"Mutual fund is booming sector in present days and it has lot of scope to generate income and provide returns to the investor. The present study was aimed at testing the investment strategies and performance of HDFC mutual funds. It has been a great opportunity to get to summarise the results that indicates that majority of schemes which have made high percentage of investment in equity has generated higher returns. The analysis also 78 shows that schemes of HDFC Mutual Fund have performed better and have large funds to manage. The result shows that majority of selected schemes are superior to the relevant benchmark portfolio. Risk appetite of an investor plays an important role in the selection of mutual fund. Fund managers have been successful in outperforming the relevant benchmark during the study period. Schemes of HDFC Mutual Fund have performed much better. Thus from the above analysis we can concluded that the period for 2011 to 2015 shows that higher the risk higher the return. The returns of the schemes have positive correlation with size of the fund. Investors can invest in a mutual fund that matches their investment objective and analyze the fund based on various criteria such as risk prevailing in the market, variations on the return and deviations occur in the returns etc.

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