

RISK RETURN ANALYSIS OF EQUITY FUNDS - A STUDY OF SELECTED EQUITY FUNDS OF HDFC MUTUAL FUNDS

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Abstract

The examination of the risk, return, and volatility of the HDFC equities mutual funds assists investors who are looking to invest specifically in the schemes of HDFC equity funds to choose the proper schemes that meet their risk appetite. Mutual funds are one of the greatest investment vehicles for investors. In order to evaluate if HDFC equities mutual funds outperform the market in the short, medium, and long terms, as well as to provide investors and the company with pertinent advice, the study compared the risk and return of several HDFC equity funds available in the market. The study aimed to determine significant difference of annual returns of growth and dividend of HDFC equity funds. The study was carried out with the sample of ten equity mutual funds schemes of HDFC for the period of ten years that is from 2012 to 2021 and focused on net asset value and share prices. The outcome of the study revealed that there is a significant difference in the annual returns of the HDFC growth and dividend equity funds.

Keywords: Risk, Return, Standard deviation, HDFC equity funds, Time tenures.

INTRODUCTION

The investors must first decide the level of expected risk and return, which determines the number of investments in various potential marketable securities. Mutual funds are the purest form of financial intermediaries because they directly assist the investors in the process of asset allocation. In the current market, mutual funds are a better investment option than any other because they offer a higher return with a professionally managed portfolio by a research team that continuously monitors performance on the Indian stock exchange as well as the international capital market, as well as to understand the growth and the life cycle of an industry as well as the fundamental analysis of a specific company. Investments in mutual funds are therefore preferred by investors because they offer greater returns than direct stock investments.

The Securities Exchange Board of India (SEBI) Regulations 1993 termed mutual funds as "A fund that is established by the sponsor in the form of a trust with the intention of generating revenue for the trustee through the sale of units to the general public under one or more regulated investment schemes. Consequently, mutual funds are among the effective investment vehicles that pool investor capital and invest it in assets such as stocks, bonds, debentures, and other types of securities. The act of investing money in a portfolio, which may contain hundreds of different securities types and seeks to generate

income or capital gains for mutual fund investors, is carried out in accordance with the fund manager's investment criteria. Portfolios of these asset allocation funds are well-structured and maintained to match the investment objectives stated in the prospectus”.

There are four distinct periods in this asset allocation fund's history. In the initial phase (1964–1987) of UTI's growth, which was governed mostly by the Reserve Bank of India, UTI was created in 1963 by an Act of Parliament (RBI). In the second phase (1987-1993) the creation of private funds, mutual funds of the public sector began entry into the market, which was pursued by the life insurance corporation, a general insurance company and public sector banks. SBI Mutual Funds were the first to start non-UTI mutual funds India. This was followed by Punjab National Bank, Can Bank, Bank of India and Bank of India etching the third phase (1993-2003) Emergence of unified and large industries, first regulation of mutual funds more comprehensive regulation of the Stock Exchange was introduced in 1996 Council of India. Many foreign mutual funds were established, in January 2003 there were 33 mutual funds total assets worth ₹ 1,21,805 crores. In the fourth phase (from 2003) there was an era of consolidation and growth, UTI was divided into two entities, it was a specified enterprise of UTI and UTI Mutual Funds. Over the last 56 years, the mutual fund sector has come a long way and seen many structural one's changes, post deregulation to take advantage of economies of scale many Indian and foreign companies entered into a joint venture in 2009 contributing a total of 42% of the shares to assets under management. It has consistently shown an upward trend by contributing three trillion to the asset base and will continue to do so perform at the same pace if supported by steady increase in SIP flows even in a volatile market.

The investor must first decide the range of expected risk and return, which determines the amount of investment in various potential tradable assets. These mutual funds are the purest form of intermediaries in finance because they directly assist investors in the asset allocation process. The funds' asset allocation also gives medium-sized and small investors a chance to manage portfolios of stocks and securities to which they would not otherwise have access. Shareholders of the funds share equally in both the funds' losses and gains.

The majority of mutual fund plans in the Indian mutual fund industry have had poor performance. The situation is substantially better when looked at within their category of Growth, Income, and Balanced, though, and around 50% of the schemes in each of the 211 categories have been successfully operating. A load charge and expense ratio have been identified as the main factors contributing to an asset-based mutual fund's inefficiency. There are a number of competing realistic schemes with precise weights for all slack plans, and by understanding them; these schemes may achieve a certain level of efficiency. Target values or useful inputs are thus available for regulating the efficiency level for the entire collection of inefficient systems. These target rates indicate that in order to achieve efficiency, the expenditure ratio and load fee should be reduced.

The age, asset ratio, and prior performance of mutual fund schemes are only a few of the factors that affect how efficiently they work. In the market, older schemes and schemes with large asset ratios perform poorly. Mutual funds that have performed well in the past,

however, are more likely to do so in the future. Mutual fund investor participation and funding levels are moderate. Mutual funds are viewed by investors as a high-risk, low-return investment option. Although its liquidity is thought to be substantial, tax benefits and procedural understanding are not. Due to their ease of financing and higher returns than other traditional asset classes like fixed deposits, saving bank deposits, or investing in the capital markets, mutual funds have recently become a popular investment avenue for investors. They are a viable financing strategy due to the portfolio diversification techniques and the availability of STP, SIP, and SWP options.

REVIEW OF LITERATURE

Bhagyashree and Kishori (2021) assessed the performance of 30 randomly selected mutual fund programmes by recording five years' worth of closing NAVs. The study found that the Tata Equity Opportunity funds provided the highest returns, while Reliance Growth funds had the lowest returns. Only 14 out of 30 schemes had risk that was lower than market risk; all other schemes all had risk that was higher than market. Eight schemes are considered high risk since their beta values are larger than one. All of the funds under study had positive Sharpe ratio values, and 14 of them had Sharpe ratios that were higher than the benchmark portfolio. Tata Equity Opportunities Funds, HDFC Large Cap Fund, and Franklin India Flexi Cap Fund ranked as the top three funds in terms of Sharpe ratio.

Vengapandu (2020) Analyzed the average rate of return, standard deviation, risk/return, Sharpe, Treynor, and Jensen ratios to assess the performance of particular mutual funds, and an ANOVA analysis was used to test the validity of the hypothesis. The sample size comprised of 340 mutual funds from the money market, debt, equity, and balanced categories, further divided into public and private funds. It was found from the study that there is no discernible difference in performance between private and public mutual funds.

Abey (2020) highlighted about the factors influencing investment choice in mutual fund plans and was discovered that the investing inclination is unaffected by age or instructional capacity. The study demonstrated that making short-term investments is preferable to waiting for great yield at the expense of significant risk. It supported investing in mutual funds for further improvement and found that the investors prefer retirement compensation plans based on their assignment or pay grade. It revealed that by providing pertinent financial data, the professional management framework also influences mutual fund investment decisions as well as investment portfolios.

Sharma (2018) investigated the risk and return component of mutual funds with the help of standard deviation, Sharpe, and Jensen's ratio. The study evaluated the performance of chosen debt mutual fund schemes and found that, with the exception of two funds, all the funds had done well during the very erratic market movement. In addition to NAV and total return, investors should take into account statistical criteria when investing in mutual funds to ensure mutual funds perform consistently.

Shriprakashsoni, et.al., (2015) opined about the comparison of the mutual fund plans offered by Kotak Mutual Fund V/s HDFC Mutual Fund. The study evidenced that both company's mutual fund schemes are very well managed in the debt market, Kotak Mutual Fund schemes are more destructive in Large Cap Equity schemes and HDFC Mutual Fund schemes are more destructive in Mid Cap Equity schemes. It also found that the finest HDFC large cap equity programmer is Kotak Select Focus.

Statement of the Problem

In finance, the theory of risk and return is an analysis of the probability of challenges involved in investing while measuring the returns from the same investment. Risk and return in investing are the utmost vital factors considered by investors while choosing an investment option. Individuals, who invest on a large scale, analyze the risks involved in a particular investment and the returns it can yield. Any investor's primary objective is to maximize returns while limiting the risk. Many types of risk are involved in investments namely market-specific risk, speculative risk, industrial risk, volatility risk, inflation risk, etc. However, studying the market thoroughly can help investors make the right decisions and can analyze the trends and forecast the situation. In this background, the study compares and analyses the performance of HDFC's equity mutual fund schemes in terms of risk, return, and volatility and on the other hand aids investors in choosing the best investment strategy and allocating their assets to the best possible option.

Objectives of the study: The study has been carried out to fulfill the following objectives:

- 1) To compare the risk and return of various HDFC equity funds available in the market.
- 2) To determine significant difference of annual returns of growth and dividend of HDFC equity funds.

Hypothesis: The following hypothesis was developed to analyze the set objectives.

H₀: There is no significant difference between the annual returns of growth and dividend of HDFC equity funds.

H₁: There is significant difference between the annual returns of growth and dividend of HDFC equity funds.

RESEARCH METHODOLOGY

Data Collection

The source of data used for study comprises secondary data namely AMFI report, RBI bulletins and information was gathered from fund factsheets about the Net Asset Value, Average Return, and Share Price of ten Consecutive Years from websites such as Investing.com, nseindia.com, Amfiindia.com, and Company's Websites. Factsheets, newspapers, periodicals, journals, and websites were also used to generate an overview of the current performance patterns of diverse mutual funds.

Sample Design

The study focused on net asset value and share prices related to ten equity mutual funds schemes of HDFC. The study was carried out for 10 years that is from 2012 to 2021, to study selected mutual fund schemes. The HDFC AMC consist of multiple mutual fund schemes and evaluating the risk and return of all the funds is a complex task, hence, the data is selected based on top performing funds of HDFC Equity-Growth and Dividend mutual fund category which consists of 5 Equity-Growth Funds and 5 Equity-Dividend Funds. The ten schemes selected for the study are HDFC Equity Fund-Growth, HDFC Equity Fund-Dividend, HDFC Core and Satellite Fund-Growth, HDFC Core and Satellite Fund-Dividend, HDFC Capital Builder Fund-Growth Plan, HDFC Capital Builder Fund-Dividend Plan, HDFC Top 200 Fund – Growth Plan, HDFC Top 200 Fund – Dividend Plan, HDFC Infrastructure Fund-Growth and HDFC Infrastructure Fund-Dividend.

Tools and techniques: The following measurement tools to measure the risk and return of equity funds of HDFC were used for the study:

- Beta, Alpha, Standard deviation, Sharpe, Treynor, Jensen, R squared and M squared.
- NAV (Net asset value of the schemes) = (Assets - Liabilities) / Total number of outstanding shares.
- R_m = Overall stock market returns.
- R_f = Risk free rate of an investment.

Table 1: HDFC Equity Mutual Fund Schemes-The Net Asset Value for Ten Years:

SCHEME / YEAR	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
HDFC EQUITY FUND-GROWTH	132.9500	238.330	282.6610	263.2920	272.4270	332.2760	474.4400	417.0480	550.4890	595.0209
HDFC EQUITY FUND-DIVIDEND	26.6930	43.8010	47.7500	40.4288	37.7720	41.8770	54.2350	43.0490	51.6860	50.2420
HDFC CORE AND SATALITE FUND-GROWTH	19.3860	36.186.	40.6820	37.0330	35.3640	41.6230	58.3420	55.2970	71.6360	79.3580
HDFC CORE AND SATALITE FUND-DIVIDEND	13.3490	20.5720	21.0550	17.2120	14.5660	14.4650	19.7370	16.4340	19.1690	19.04060
HDFC CAPITAL BUILDER FUND – GROWTH PLAN	46.8720	98.4120	111.4210	105.4970	113,4590	139.3930	202.1520	193.8630	251.3020	28.0060
HDFC CAPITAL BUILDER FUND – DIVIDEND PLAN	12.5210	23.8390	24.2830	20.4480	19.5360	21.2750	27.8970	23.6200	27.4050	29.6330
HDFC TPO 200FUND - GROWTH PLAN	93.5410	184.9230	214.8360	202.4550	211.5460	254.0630	346.2240	309.4260	405.4290	431.8490
HDFC TPO 200FUND – DIVIDEND PLAN	21.1880	43.7110	46.5160	39.7370	37.7240	41.1280	51.2240	42.1000	50.4490	47.7430
HDFC INFRASTRUCTUER FUND- GROWTH	5.2510	11.2970	11.8750	10.4470	9.5400	10.5270	17.0170	14.0000	17.9510	18.8860
HDFC INFRASTRUCTUER FUND- DIVIDEND	5.25.10	11.2970	11.8750	10.4470	9.5400	10.5270	15.5630	11.7570	13.5400	12.5070

(Source: Money control website)

Table 2: The Risk and Return Analysis of the HDFC Equity Based Mutual Funds

FUNDS	Standard Deviation	Beta	Alpha	R Squared
HDFC EQUITY FUND- GROWTH	6.2181	1.066	0.360	0.8623
HDFC EQUITY FUND- DIVIDEND	6.1553	0.984	0.492	0.7489
HDFC CORE AND SATALITE FUND- GROWTH	5.2498	0.914	0.513	0.8849
HDFC CORE AND SATALITE FUND- DIVIDEND	5.835	1.021	0.270	0.8989
HDFC CAPITAL BUILDER FUND – GROWTH PLAN	7.9851	1.188	-0.333	0.7247
HDFC CAPITAL BUILDER FUND –DIVIDEND PLAN	11.306	0.281	0.619	0.0181
HDFC TPO 200FUND - GROWTH PLAN	7.4127	1.076	-0.562	0.6175
HDFC TPO 200FUND – DIVIDEND PLAN	6.4116	0.938	-0.343	0.6278
HDFC INFRASTRUCTUER FUND- GROWTH	8.0625	0.113	0.122	0.0058
HDFC INFRASTRUCTUER FUND- DIVIDEND	7.9761	1.167	-0.512	0.6325

(Source: Money control website)

Interpretation

The above table depicts the results of various statistical tools used for analysis of the risk and returns the standard deviation of the funds shows that the HDFC equity funds shows 11.306 deviation from the expected returns over a decade and the HDFC capital builder fund-growth plan is the least deviated in the fund list. The beta values of the fund shows that there are five fund which whose beta value is greater than one indicating more volatility and investors who are ready to bare the fluctuation in risk and return can choose such funds for investment, The HDFC Infrastructure fund – growth indicated greater volatility and the HDFC Top 200 fund- dividend plan indicated least volatility with 0.113 as its beta.

The R squared value indicates the correlation between the funds and the benchmark index the table depicts that all the funds are correlated and eight out of ten mutual funds schemes shows correlation which is greater than 0.5,The HDFC top 200-growth plan showed a correlation of 0.8989 which was higher than the other funds and the HDFC top 200 fund-dividend plan indicated the least correlation.

The alpha values depict that six out of ten mutual funds were able to generate excess returns and four out of ten showed negative returns indicating underperformance of the funds. The HDFC equity fund dividend with 0.619 indicates it has outperformed the benchmark by 0.619, and the HDFC core and satellite fund has unperformed in the market with the negative alpha values of -0.562.

Table 3: The Risk and Return Analysis of the HDFC Equity Based Mutual Funds

FUNDS	Sharpe Ratio	Trynor Ratio	Jensenalpha	M Squared
HDFC EQUITY FUND- GROWTH	0.2536	1.4785	0.3601	1.5061
HDFC EQUITY FUND- DIVIDEND	0.1355	3.7920	0.6197	0.8669
HDFC CORE AND SATALITE FUND- GROWTH	0.2624	1.6418	0.4924	1.5538
HDFC CORE AND SATALITE FUND- DIVIDEND	0.0898	0.6184	-0.5623	0.690
HDFC CAPITAL BUILDER FUND – GROWTH PLAN	0.2958	1.4056	0.5129	1.7347
HDFC CAPITAL BUILDER FUND –DIVIDEND PLAN	0.1134	0.7747	-0.3438	0.7469
HDFC TPO 200FUND - GROWTH PLAN	0.2461	1.4056	0.5129	1.7347
HDFC TPO 200FUND – DIVIDEND PLAN	0.1144	6.3220	0.1221	0.6163
HDFC INFRASTRUCTUER FUND- GROWTH	0.1376	0.8752	-0.3338	0.8782
HDFC INFRASTRUCTUER FUND- DIVIDEND	0.1032	0.7024	-0.5127	0.6903

(Source: Money control website)

Interpretation

The higher the Sharpe ratio, better is the risk adjusted returns, therefore the HDFC Capital builder fund – growth plan generated high Sharpe ratio of about 0.2958 and the HDFC core and satellite fund- dividend plan contributed to low Sharpe ration of 0.0898 which indicates the level of return generated after considering all kinds of risk, and helps us to estimate how more can be earned which is greater than the risk-free instruments.

The Treynor ratio measure the returns from the mutual funds with a considerable amount of risk which is also called the systematic risk, therefore the HDFC TOP 200 fund – dividend plan has earned high rank with a ratio of 6.3220, and the HDFC infrastructure fund has least Treynor ratio of 0.8752 indicating the risk to volatility ratio is very low. The HDFC equity fund dividend has the highest ratio of 0.6197, and the HDFC Core and satellite fund - dividend plans have the least and a negative Jensen alpha of -0.5623. The Jensen Alpha measures the expected excess return that is greater than the theoretical returns which are suggested as per the CAPM model.

The M square contains the risk adjusted returns of the portfolios which consists of different investment in relation to the benchmark index, and indicates the same volatility as that of the market. The HDFC Capital builder fund- growth plan has the highest M Squared ratio of 1.7347 and the HDFC top 200 funds- dividend plan has the lowest M squared ratio of 0.6163.

Table 4: Annual Returns of Growth and Dividend Equity Funds of HDFC

t- test paired two Sample for Means foe annual returns		
	Growth funds	Dividend funds
Mean	15.8381	6.92048
Variance	10.38594533	5.785536502
Observation	5	5
Person correlation	-0.405904729	
Hypothesized Mean Difference	0	
Df	4	
T Stat	4.207140277	
P(T<=t) one -tail	0.006808708	
T Critical one –tail	3.746947388	
P(T<=t) two-tail	0.016174417	
T Critical two-tail	4.604094871	

(Source: Money control website)

Interpretation

The null hypothesis H_0 is rejected since the computed value of $P(T=t)$ two tail, 0.013617417, is less than 0.05 and even the t-stat value is less than t critical two tail value. As a result, there is a significant difference in the annual returns of the HDFC growth and dividend equity funds.

Key Findings

- The Net Asset Value of most of the HDFC Equity growth funds showed similar trend with high rise in 2013, 2018 and 2020.
- The probability of 0.013617417 less than 0.05, the annual returns t-test revealed a significant difference between the risk-adjusted returns of growth and dividend funds.
- The HDFC equity funds shows 11.306 deviation from the expected returns over a decade.
- The HDFC Top 200 fund dividend plan indicated least volatility with 0.113 as its beta. Fund has also earned high rank with a ratio of 6.3220.
- The HDFC equity fund- dividend with 0.619 indicates it has outperformed the benchmark index and the fund also showed the highest ratio while evaluating Jensen measure.
- The HDFC top 200-growth plan showed a correlation of 0.8989 between the portfolio and the market return.
- HDFC Capital builder fund – growth plan generated high Sharpe ratio of about 0.2958 and a higher M square ratio of 1.7347.
- There is a significant difference in the annual returns of the HDFC growth and dividend equity funds.

CONCLUSION

HDFC is one of the top asset management's, right from the beginning has fund plan to meet all kinds of financial goal of all type of investors, it has a good track record with positive fund performance, Optimal management of portfolios return and risk is their core strength, it has also has the highest asset under management of ₹4 trillion. The study of the risk return analysis of the fund comparison of the dividend and growth-based equity funds of HDFC, facilitated in knowing which funds were highly volatile to the market risks like change in commodity or equity prices, interest rate fluctuations and also the foreign exchange fluctuations etc. The analysis of the annual returns of both dividend and growth scheme revealed that there was significant difference between them which is because of the difference in the method of regular payouts and compounded payouts. The outcome of the study revealed that there is a significant difference in the annual returns of the HDFC growth and dividend equity funds.

Implications

The HDFC capital builder growth fund is ranked the highest during the evaluation of the Sharpe, therefore on the basis of total risk the HDFC capital builder funds have performed really good when compared to the other fund class. The HDFC capital builder growth fund is ranked the highest during the evaluation of M-squared which shows assuming same level of risk; the fund is able to generate good returns for the investors. It is good to invest in those fund schemes which gives consistent returns and those funds with high standard deviation should be avoided.

Limitation of the Study and Scope for Future Research

The study is conducted purely based on secondary data, which throw very few insights into measuring the risk and return of selected equity funds of HDFC mutual funds. In addition, the study is based on the historical returns of selected equity funds which may not necessarily repeat in the future. The research mainly focused on the dividend and growth plans of HDFC mutual funds, therefore there is a broader scope to analyze the significant difference between different fund categories of the HDFC. There is also ample data available to compare the funds of different category of different asset management companies.

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