

Performance Analysis of Mutual Funds-A Study on Selected Mid Cap and Small Cap Funds

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ABSTRACT: *Mutual fund is vehicle that pools the investment from the investors with a common financial ambition. Investors who are not aware about capital markets do not consider it as investment avenue. Thus Mutual Fund is a boon for those investors. The investment collected from these investors is invested in different types of capital market instruments like equity, debentures, bonds etc. Compared to stock market the investors get limited returns as the risk is also less. Their investment is in the form of units. The returns from the investments by the mutual fund companies are shared in proportion to their investment in funds. However mutual funds provide an opportunity to investment in different portfolios with diversified permutations and combinations of the instruments in the stock markets. Mutual funds are versatile in nature and suits to the needs of different investors. Mutual funds gained popularity over decade as it diversifies the risk and pools the investment and run by investment professionals. In this research paper an attempt is made to compare the performance of balanced mutual fund schemes between mid cap and small cap fund on the basis of return and risk evaluation. The analysis was achieved by assessing various financial tests like Average Return, Sharpe Ratio, Treynor Ratio, Jensen's Ratio, Standard Deviation, Beta and Alpha. The analysis has reported diversified and varied results.*

KEYWORDS: *Balanced Funds, Jenson Ratio, Mid Cap and Small Cap Funds, Mutual Funds, Sharpe, Treynor.*

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I. INTRODUCTION:

The SEBI (Mutual Funds) Regulations 1993 define a mutual fund (MF) as a fund established in the form of a trust by a sponsor to raise monies by the Trustees through the sale of units to the public under one or more schemes for investing in securities in accordance with these regulations.

According to Association of Mutual Funds in India (AMFI),

“A mutual fund is a trust that pools the savings of a number of investors who share common financial goal. Anybody with an investible surplus of as little as a few thousand rupees can invest in mutual funds. This investor buys units of a particular mutual fund scheme that has a defined investment objective and strategy.”

Mutual fund is a financial instrument which provides a platform where a common man could fruitfully convert a pittance into great rupee by wisely investing into the right scheme according to his risk taking abilities. There are a number of investment opportunities available to the investors in the present era. They are free to investment in any part of the world. Investors have quick and immediate access to the information about their investment. Mutual fund is an innovative financial instrument which rose from different permutations and combinations of the secondary securities based on investment objective. This called for growth of different types of mutual fund schemes and funds based on structure like open ended and close ended, based in investment like growth scheme, balance scheme, income scheme, money market scheme and other funds like tax savings scheme, index funds, sector funds etc. There are even more innovative instruments called Derivative Mutual Funds.

Mutual Funds emerged as successful source of investment with the power of knowledge of fund managers who can track the market movements, offering innovative funds according to the investment objective of the investor, diversification of risk, less costly, high liquidity, transparency in its operations, affordability of small investors, regulated under by the SEBI etc. However higher tax rates, fluctuating returns, over diversification are to be considered as the some of the limitations of mutual funds.

II. OBJECTIVES OF THE STUDY:

- 1) To study the current status of mutual funds in India.
- 2) To measure the risk- return relationship and market volatility of the selected mutual funds.
- 3) To examine the performance of selected schemes by using portfolio performance evaluation models namely Sharpe, Treynor and Jensen Ratio

III. MUTUAL FUND INDUSTRY:

At the outset Mutual Fund Industry originated in India in 1963 with establishment of Unit Trust of India (UTI) with the initiative of Government of India and RBI.

The history of mutual funds can be traced in 5 phases:

- a) Mutual fund establishment and growth (19467-87)
- b) Entry of Public Sector fund(1987-93)
- c) Emergence of Private Sector fund(1993-96)
- d) Growth and SEBI regulation (1996-2004)
- e) Growth and Consolidation(2004 onwards)

Unit Trust of India (UTI) was established in 1963 by an Act of Parliament. It was set up by the Reserve Bank of India and it continued to operate under the regulatory control of the RBI until the two were delinked in 1978 and the entire control was transferred in the hands of Industrial Development Bank of India. (IDBI).The Indian Mutual Fund industry witnessed a number of public sector players entering the market in the year 1987. The Government of India further granted permission to Insurance corporations in the public sector to float Mutual Funds. The permission was given to the private sector funds including foreign funds management companies to enter the Mutual Fund industry in 1993. With the entry of private sector funds in 1993, a new era started in Indian Mutual Fund industry, giving the Indian investors a wider choice of fund and therefore giving rise to more competition in the industry. The Mutual Fund industry witnessed robust growth and strict regulations from SEBI after 1996. Various investor awareness programmers were launched during this phase both by SEBI and Association of Mutual Fund in India (AMFI). The industry witnessed several mergers and acquisition from 2004 onwards.

IV. CURRENT STATUS OF MUTUAL FUNDS IN INDIA

Average Assets Under Management (AAUM) of Indian Mutual Fund Industry for the month of May 2018 stood at Rs23.43 lakh crore. Assets Under Management (AUM) as on May 31, 2018 stood at Rs 22.60 lakh crore.The AUM of the Indian MF Industry has grown from Rs 5.05 trillion as on 31st March 2008 to Rs 22.60 trillion as on 31st May, 2018, about four and half fold increase in a span of 10 years. The MF Industry's AUM has grown from Rs 7.01 trillion as on 31st March, 2013 to Rs 22.60 trillion as on 31st May 2018, more than threefold increase in a span of 5 years. The Industry's AUM had crossed the milestone of Rs 10 Trillion for the first time in May 2014 and in a short span of about three years, the AUM size had increased more than two folds and crossed Rs 20 trillion for the first time in August 2017. The Industry AUM stood at Rs 22.60 Trillion (Rs 22.60 Lakh Crore) as on 31st May, 2018.The total number of accounts (or folios as per mutual fund parlance) as on May 31, 2018 stood at 7.35 crore, while the number of folios under Equity, ELSS and Balanced schemes, wherein the maximum investment is from retail segment stood at 6.13 crore.

V. PERFORMANCE MEASURES OF MUTUAL FUNDS:

Mutual Fund industry today, with about 30 players and more than six hundred schemes, is one of the most preferred investment avenues in India. However, with a plethora of schemes to choose from, the retail investor faces problems in selecting funds. Factors such as investment strategy and management style are qualitative, but the funds record is an important indicator too. Though past performance alone cannot be indicative of future performance, it is, frankly, the only quantitative way to judge how good a fund is at present., there is a need to correctly assess the past performance of different Mutual Funds.

Worldwide, good Mutual Fund companies over are known by their AMCs and this fame is directly linked to their superior stock selection skills. For Mutual Funds to grow, AMCs must be held accountable for their selection of stocks. In other words, there must be some performance indicator that will reveal the quality of stock selection of various AMCs.

Return alone should not be considered as the basis of measurement of the performance of a Mutual Fund scheme, it should also include the risk taken by the fund manager because different funds will have different levels of risk attached to them. Risk associated with a fund, in a general, can be defined as variability or fluctuations in the returns generated by it. The higher the fluctuations in the returns of a fund during a given period, higher will be the risk associated with it.

These fluctuations in the returns generated by a fund are resultant of two guiding forces. First, general market fluctuations, which affect all the securities, present in the market, called market risk or systematic risk and second, fluctuations due to specific securities present in the portfolio of the fund, called unsystematic risk

Systematic risk, on the other hand, is measured in terms of Beta, which represents fluctuations in the NAV of the fund vis-à-vis market. The more responsive the NAV of a Mutual Fund is to the changes in the market; higher will be its beta. Beta is calculated by relating the returns on a Mutual Fund with the returns in the market. While unsystematic risk can be diversified through investments in a number of instruments, systematic risk cannot. By using the risk return relationship, we try to assess the competitive strength of the Mutual Funds vis-à-vis one another in a better way. In order to determine the risk-adjusted returns of investment portfolios, several eminent authors have worked to develop composite performance indices to evaluate a portfolio by comparing alternative portfolios within a particular risk class. The most important and widely used measures of performance are:

VI. MEASURES OF PERFORMANCE

A Portfolio can be measured through the following ratios:

- A. The Sharpe Measure
- B. The Treynor Measure
- C. Jensen Model

6.1 The Sharpe Measure

In this model, performance of a fund is evaluated on the basis of Sharpe Ratio, which is a ratio of returns generated by the fund over and above risk free rate of return and the total risk associated with it. According to Sharpe, it is the total risk of the fund that the investors are concerned about. So, the model evaluates funds on the basis of reward per unit of total risk. Symbolically, it can be written as:

$$\text{Sharpe Index (Si)} = (\mathbf{Ri} - \mathbf{Rf})/\mathbf{Si}$$

Where, Si is standard deviation of the fund.

While a high and positive Sharpe Ratio shows a superior risk-adjusted performance of a fund, a low and negative Sharpe Ratio is an indication of unfavorable performance.

6.2 The Treynor Measure

Developed by Jack Treynor, this performance measure evaluates funds on the basis of Treynor's Index. This Index is a ratio of return generated by the fund over and above risk free rate of return (generally taken to be the return on securities backed by the government, as there is no credit risk associated), during a given period and systematic risk associated with it (beta). Symbolically, it can be represented as:

$$\text{Treynor's Index (Ti)} = (\mathbf{Ri} - \mathbf{Rf})/\mathbf{Bi}$$

Where, Ri represents return on fund, Rf is risk free rate of return and Bi is beta of the fund. All risk-averse investors would like to maximize this value. While a high and positive Treynor's Index shows a superior risk-adjusted performance of a fund, a low and negative Treynor's Index is an indication of unfavorable performance.

6.3 Comparison of Sharpe and Treynor

Sharpe and Treynor measures are similar in a way, since they both divide the risk premium by a numerical risk measure. The total risk is appropriate when we are evaluating the risk return relationship for well-diversified portfolios. On the other hand, the systematic risk is the relevant measure of risk when we are evaluating less than fully diversified portfolios or individual stocks. For a well-diversified portfolio the total risk is equal to systematic risk. Rankings based on total risk (Sharpe measure) and systematic risk (Treynor measure) should be identical for a well-diversified portfolio, as the total risk is reduced to systematic risk. Therefore, a poorly diversified fund that ranks higher on Treynor measure, compared with another fund that is highly diversified, will rank lower on Sharpe Measure

6.4 Jensen Model

Jenson's model proposes another risk adjusted performance measure. This measure was developed by Michael Jensen and is sometimes referred to as the differential Return Method. This measure involves evaluation of the returns that the fund has generated vs. the returns actually expected out of the fund given the level of its systematic risk. The surplus between the two returns is called Alpha, which measures the performance of a fund compared with the actual returns over the period. Required return of a fund at a given level of risk (Bi) can be calculated as:

$$\mathbf{Ri} = \mathbf{Rf} + \mathbf{Bi} (\mathbf{Rm} - \mathbf{Rf})$$

Where, R_m is average market return during the given period. After calculating it, alpha can be obtained by subtracting required return from the actual return of the fund. Higher alpha represents superior performance of the fund and vice versa. Limitation of this model is that it considers only systematic risk not the entire risk associated with the fund and an ordinary investor cannot mitigate unsystematic risk, as his knowledge of market is primitive.

VII. RESEARCH METHODOLOGY:

7.1 SCOPE OF THE STUDY

The study is limited to analysis of open-ended balanced funds of Reliance, HSBC, Sundaram, as Small cap funds and UTI, Axis, Kotak as Mid cap funds. 'Small Cap' Refers to stocks with a relatively small market capitalization. 'Mid-Cap Fund' is type of stock fund that invests in mid-sized companies

7.2 DATA COLLECTION

The data of the selected mid cap and small cap funds has been collected from secondary data published from Karvy stock broking ltd, Hyderabad

7.3 SAMPLE DURATION

The duration of these mutual funds of Small cap and Mid cap were taken throughout the financial year i.e from March 31st 2106 to April 1st 2017, in all these six selected companies.

7.5 STATISTICAL TOOLS

Risk, Returns, Sharpe's Ratio, Treynor's Ratio, Jensen's Ratio β (Beta) co-efficient.

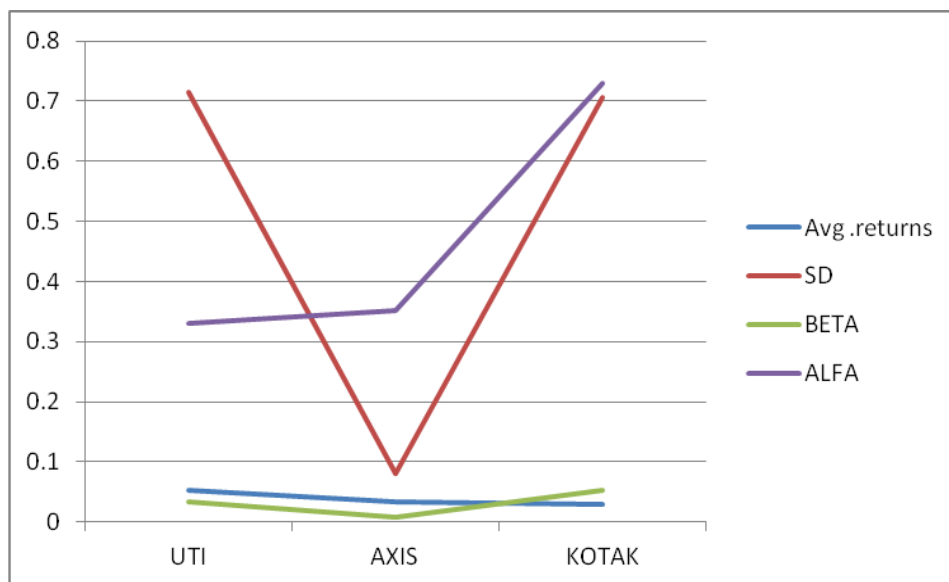
VIII. DATA ANALYSIS AND INTERPRETATION

8.1 RESULTS OF RISK INDICATORS OF SELECTED MID CAP FUNDS

TABLE 1: RISK INDICATORS OF SELECTED MID CAP FUND

MID CAP FUND	AVG .RETURNS	SD	BETA	ALFA
UTI	0.05204976	0.714802891	0.033225	0.329518805
AXIS	0.03344060	0.081371102	0.008699	0.351268
KOTAK	0.02933579	0.707341936	0.05369	0.728952185

Source: Computed from the Secondary Data collected from Karvy Stock Broking ltd, Hyd



Source : TABLE 1 Risk indicators of selected mid cap fund

GRAPH 1: RISK INDICATORS OF SELECTED MID CAP FUND

Table 1 explains the risk indicators of selected mid cap mutual fund. It is clear from the above table that annual average returns value range from 0.05204976 to 0.02933579 that highest returns is from UTI Balance i.e 0.05204976. Axis balanced return is 0.033440601, Kotak Balanced fund return is 0.02933579. The standard deviation measure the volatility of the fund the least standard deviation is identified with Axis balanced fund with 0.081371102. Beta is the coefficient of mutual funds volatility. The schemes of beta range from

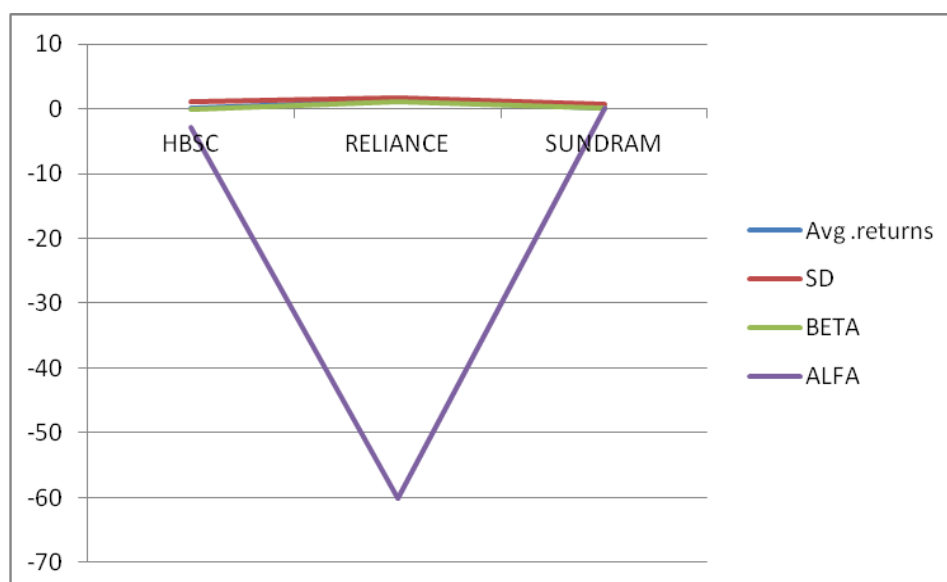
0.05369 to 0.008699 which is more than one however Kotak balanced is the highly risky fund. The fund's Alpha range from 0.728952185 to 0.329518805.

8.2 RESULTS OF RISK INDICATORS OF SELECTED SMALL CAP FUNDS

TABLE 2: RISK INDICATORS OF SELECTED SMALL CAP FUND

MUTUAL FUNDS	AVG RETURNS	SD	BETA	ALPHA
HBSC	0.107622208	1.109378242	-0.02528	-2.919194879
RELIANCE	1.333129639	1.75203782	1.124035	-60.0278412
SUNDRAM	0.048028618	0.765020317	0.040805	0.142133608

Source: Computed from the Secondary Data collected from Karvy Stock Broking ltd, Hyd



Source :TABLE 1 Risk indicators of selected small cap fund

GRAPH 2: RISK INDICATORS OF SELECTED SMALL CAP FUND

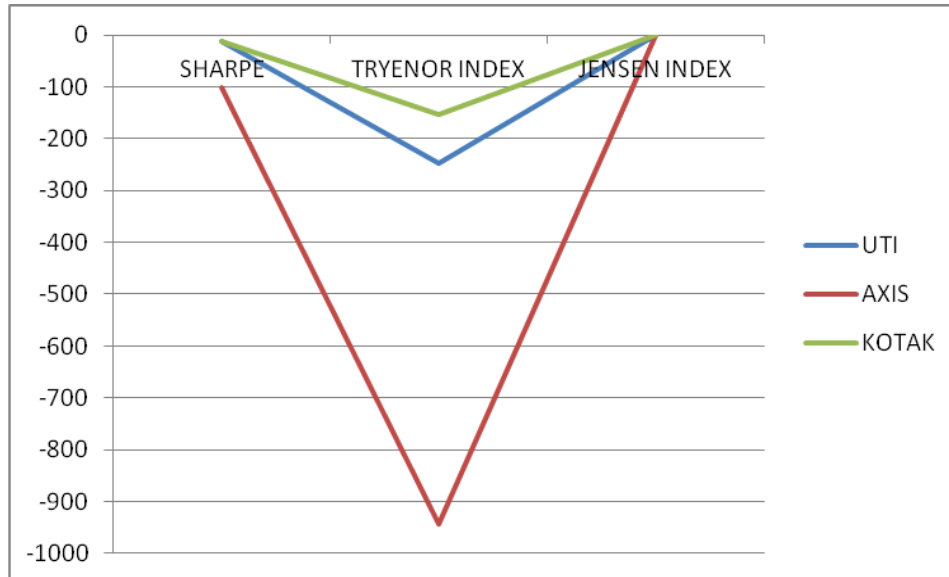
Table 2 explains the risk indicators of selected small cap fund, from the table it is clear the annual average returns value range from 1.333129639 to 0.048028618 the highest return of the Small cap fund is contributed by Reliance balanced scheme The standard deviation of the fund ranges from 1.75203782 to 0.765020317. Beta is the coefficient of mutual funds volatility. The fund's beta ranges from 1.124035 to -0.02528 which is more than one, however the fund's highly risky fund is HBSC balanced. The schemes Alpha range from 0.142133608 to -60.0278412 the schemes is outperformed by Sundaram balanced scheme.

8.3 RESULTS OF PERFORMANCE MEASURES OF SELECTED MID CAP MUTUAL FUND

TABLE 3 : PERFORMANCE MEASURES OF SELECTED MID CAP MUTUAL FUND

MID CAP FUND	SHARPE	TRYENOR INDEX	JENSEN INDEX
UTI	-11.4688	-246.743	-0.22029
AXIS	-100.927	-944.076	-0.05768
KOTAK	-11.6219	-153.112	-0.35598

Source: Computed from the Secondary Data collected from Karvy Stock Broking ltd, Hyd



Source: Table 3 Performance measures of selected mid cap mutual fund

GRAPH 3: PERFORMACE MEASURES OF SELECTED MID CAP MUTUAL FUND

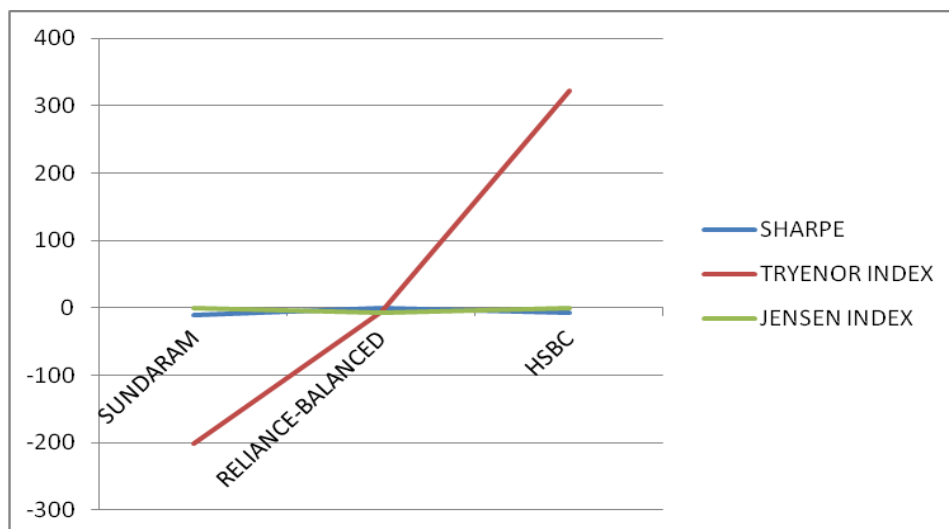
Table 3 explains the performance measure of the selected mid cap fund. The annual Sharpe ratio for schemes is the excess return over risk free return (R_f) per unit of risk i.e. per unit standard deviation. Axis balanced scheme's negative values with -100.92 indicates it terrible performance. Treynor ratio measures the excess returns earned over risk free returns per unit of systematic risk. In this Axis balanced scheme (-944.076) the performance is insignificant. Jensen ratio values from 3 selected mid cap fund schemes is the regression of excess return of three schemes (dependent variables) with excess returns of the market (independent variable). Higher value indicates better performance it should be observed that all the schemes in the funds are performed negatively.

8.4: RESULTS OF PERFORMACE MEASURES OF SELECTED SMALL CAP MUTUAL FUND

TABLE 4: PERFORMACE MEASURES OF SELECTED SMALL CAP MUTUAL FUND

MUTUAL FUND	SMALL CAP	SHARPE	TRYENOR INDEX	JENSEN INDEX
SUNDARAM		-10.7212	-201.005	-0.27054
RELIANCE-BALANCED		-0.35019	-6.15361	-7.45257
HSBC		-7.33959	322.1242	0.167592

Source: Computed from the Secondary Data collected from Karvy Stock Broking Ltd, Hyd



Source: Figure 4 Performance measures of selected small cap mutual fund

GRAPH 4: PERFORMACE MEASURES OF SELECTED SMALL CAP MUTUAL FUND

Table 4 explains the performance measure of the mid cap fund. The annual Sharpe ratio for schemes is excess return over risk free return (Rf) per unit of risk i.e. per unit standard deviation. Sundaram balanced scheme indicates high negative value i.e -10.7212. Treynor ratio measures the excess returns earned over risk free returns per unit of systematic risk. Sundaram balanced scheme (-201.005) is the ill performer of the fund .

Jensen ratio values from mid cap fund scheme is the regression of excess return of three schemes (dependent variables) with excess returns of the market (independent variable) higher Alpha value indicates worst performance. Jensen alpha measure calculates the excess return that a portfolio generates over its expected return. The higher the alpha, the more a portfolio has earned above the level predicted. According to which HSBC performs high with 0.167592

IX. CONCLUSION

The present paper investigates the performance of mid cap and Small cap schemes of three balanced funds each for the period from March 31st 2106 to April 1st 2017. Daily closing NAV of the schemes have been used to calculate the returns from the fund schemes. The performance of the selected schemes were evaluated on the basis of Sharpe, Treynor, and Jensen's measure whose results will be useful for investors for taking better investment decisions. Results of the study have showed that out of the two scheme of both mid cap and small cap funds have evidences of outperforming the benchmark return. Not all the funds have represented positive values. In Mid cap fund the performance Axis balanced fund is very insignificant where as in the small cap fund the performance HSBC Balanced is considered desirable. However from the above study it can be said that the schemes have diversified results.

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