HYBRID MUTUAL FUNDS: AN ANALYSIS

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Abstract

Mutual fund is a mechanism for pooling the resources by issuing units to the investors and investing funds in securities in accordance with objectives as disclosed in offer document. Investors need to know how risky individual assets are and what their contribution to the total risk of a portfolio would be. Plenty of Mutual Funds are available where the investors can put their money. Before investing they want to know which fund gives more return, which fund is performing well, which fund is more risky etc. All these can be found out using certain key statistics. With the help of these key statistics an investor can analyze different mutual funds and put his/her money in a fund which suits his/ her risk perception. Mutual fund returns can be compared using Arithmetic, mean & Compounded Annual Growth Rate. Risk can be analyzed by finding out Standard Deviation, Beta while performance analysis is based on Risk-Return adjustment. Key ratios like Sharpe ratio and Treynor ratio are used for Risk-Return analysis. Funds are compared with a benchmark, industry average, and analysis of volatility and return per unit to find out how well they are performing with respect to he market Value at Risk analysis can be done to find out the maximum possible losses in a month given the investor had made an investment in that month. Based on the quantitative study conducted company A fund is chosen as the best fund in the Balance fund growth schemes. Study shows that all the funds except one has outperformed the Benchmark in terms of compounded annualized growth rate.

***Keywords**: Financial Securities, Benchmark, Risk-Returns adjustments, Beta, Growth rate.*

Introduction:

Mutual Fund is an Investment Vehicle that pools together funds from investors to purchase stocks, bonds or other securities. An investor can participate in the mutual fund by buying the units of the fund. Each unit is backed by a diversified pool of assets, where the funds have been invested. A closed-end fund has a fixed number of units outstanding. It is open for a specific period. During that period investor can buy it. In the open- end schemes, units are sold and brought continuously. The price of unit is based on the net asset value of the particular. The industry broadly caters to all types of investors depending on their risk return preferences. A mutual fund is the ideal investment vehicle for today's complex and modern financial scenario. Mutual funds offer several advantages over investing in individual stocks, including diversification and professional management. A mutual fund may hold investments in dozens of stocks, thus reducing the risk associated with owning any particular stock.

Moreover, the transaction costs associated with buying individual stocks are spread around among all the mutual fund shareholders. Additionally, a mutual fund benefits from professional fund managers who can apply their expertise and dedicate time to research investment options. Thus funds play a significant role in financial intermediation development of capital markets and growth of the financial sector as a whole. Indian mutual fund industry has grown significantly in terms of financial assets under their management, range of products and number of investors. Million investors are reposing their confidence in the abilities of the fund managers in successfully managing their wealth.

Review of literature

a, Historical performance evaluation of mutual funds:-

Historical performance of mutual funds one of the major indicator of its likely performance in future. The study enables us to get insights into the various aspects of portfolio management affecting the performance of a common fund. However one of the risk factors mandatory to be included in the offer document in Indian context is the statement "the past performance may or may not be an indicator of future performance." Following studies support the hypothesis that historical performance is one of the major indicators of likely future performance.

Nancy (1985) has stated that study of the past performance is helpful in forecasting. Study of the past performance unveils some or all factors that influence the level of financial returns. The study of these factors may help in improving the ability and accuracy of forecasting future returns. This study is likely to be useful for investors and portfolio managers

According to Haslem (1988) the past performance is the most important aspect for the mutual fund because it is basis to estimate how well the fund would perform in future.

B. Performance in terms of rate of return :

Absolute Measure of Performance

Performance in terms of growth of Net Assets value (NAV) per unit is commonly applied measure of performance of mutual funds. According to Firth (1977), Unit Trust Performance in the UK has used returns as the sole yard stick of evaluation. According to Firth rate of return on equities held by the equity mutual fund have a direct bearing on the fund performance.

According to Gupta LC (1981) presented a detailed and well-based estimate of "Portfolio" rate of return on equities. This pioneering study in the Indian context has been a major contribution in this field and is regarded as the benchmark on the rate of return on equities for the specified time. He laid the basis of rate of return concept in performance evaluation.

Jain (1982) evaluated performance of unit trust of India (UTI) during 1964-65 to 1979-80, including the profitability aspects of unit scheme 1964, unit scheme 1971 and unit scheme 1976. He concluded that its real rate of return have been low indicating overall poor, performance of UTI Schemes. There has been so significant increase in the profitability over the years.

Arnaud (1985) has suggested that there are three basic measurements of the performance of investment trust company at three basic levels in terms of capital changes. As per the first approach, market value of investments is to be monitored duly adjusted for liabilities. In the second approach NAV per unit is measured and it is considered as more acceptable measure of mutual fund performance. Third level of measurement is to follow share price movements.

Stopp (1988) had evaluated mutual fund schemes (UK) in terms of rate of return generated for the investors for the period ended December 31, 1986. He also examined inter-group performance by re-grouping the sample into four broad categories. He suggested that choosing funds based on outstanding performance might be a recipe for disaster as the sectors, which tend to produce the most outstanding performance may also carry the greatest risk.

Grinblatt and Sheridan (1989) evaluated performance in terms of gross returns of mutual funds. They constructed eight portfolio benchmark based on firmsize, dividend yield and past returns. One month T-Bills were used as risk-free return. The period of study was December 31, 1974 to December 31, 1984. The findings revealed that abnormal performance of the funds based on gross returns is inversely related to the size. They pointed out that superior performance may exist for funds with smallest size of net assets value. But due to high expenses, the investors are unable to take advantage of their superior performance.

According to Fredman (1996) the combined effect of capital charges and income received contribute to the total return or overall rate of return generated by the fund. Total return considering both these factors is the most appropriate absolute measure of performance evaluation.

C.PERFORMANCE IN TERMS OF BENCHMARK COMPARISON

Benchmarks comparison is important performance measure as it indicates to what extent the fund managers were able to produce better performance of managed portfolio compared to the market or index portfolio.

According to Amaud (1985) benchmark comparison is 3rd level of performance which indicates how well or worse the managed portfolio has performed.

Haslem (1988) evaluated fund performance by comparing the fund return with the return on market portfolio with the comparable risk. The fund's systemic risk, beta co-efficient is used to compare portfolio risk relative to the market risk. 'Beta' is a measure of risk of the fund's portfolio relative to the risk of the market portfolio.

Radcliff (1994) had concluded in his work that to receive greater average yearly returns, the investors must accept greater variability in returns, they should have higher risk tolerance level.

Hudson (1997) 'Wherever performance evaluation is implemented, there will always be two key ingredients (a) a measure of return and (b) a measure of risk, over a given time horizon. Proper evaluation and comparison is possible only if the reporting standard is of high quality and there are well based standards for calculating NAVs.

D. Performance in terms of risk-adjusted rate of return

Portfolio performance without reckoning the risk exposure do not provide fail and true picture. Various studies in the past have not only examined performance in terms of rate of return but also evaluated portfolio performance in terms of risk-adjusted rate of return (Treynor and Sharpe's indices). Equity mutual funds assume higher risks compared to gifts, bonds or other government securities. Hence they are expected to produce returns not only higher than the returns offered by gilts, bonds or other government securities but also high enough to match the risk level of a given equity fund.

Treynor (1965) and Sharpe (1966) have provided the conceptual framework of relative measure of performance of equity mutual funds while Treynor used systematic risk. Sharpe used total risk to evaluate the mutual fund portfolio performance higher value of Treynor's index indicates better performance of portfolio and vice versa. The Treynor's measure of portfolio performance is relative measure that ranks the funds in terms of risk and return. The index is also termed as reward to volatility ratio.

Higher value of Sharpe's index indicates better performance of portfolio and vice versa. The Sharpe's measure of portfolio performance is also relative measure that ranks the funds in terms of risk and return. The ratio is also termed as reward to variability ratio.

Fama (1972) advocated yet another measure of portfolio performance Fama suggested that overall portfolio performance has two components first the performance due to stock selection ability of the fund manager and second the performance due to higher portfolio risk assumed by the fund manager.

Henriksson (1984) evaluated performance in terms of market timing abilities with sample of 116 open ended investment schemes during the period, February 1968, June 1980. The empirical results obtained indicated unsatisfactory timing skills of the fund managers. Arnand (1985) had suggested that absolute return generated by the fund is one measure of performance. The question before fund managers is whether the find can perform better by selecting and holding different set of stocks or not. This can be judged by comparing the fund performance with some benchmark portfolio or index portfolio.

Holthausen (1992) have developed a model based on 60 financial ratios that predicts return over 12 months period. The strategy used in the study is to go long position in the companies predicted to have positive excess return and go short position in companies predicted to have negative return. The study was found particularly useful predictor of stock prices and can be useful in fundamental analysis while taking equity investment decisions.

Cochran (1993) have examined 'predictability' of stock returns. They suggested that stock returns are predictable. The degree of predictability increases as the time horizon lengthens. The author has examined the predictability of stock returns using international stock market data from 18 countries. Their results show that dividend yield can predict stock returns and the level of predictability increase as the return horizon increase from one month to 48 months.

Fredman (1996) suggested that the risk is measured in terms of the variation or volatility of the fund's net Asset value. The more extreme are the fluctuations in aggregate value of the assets of the fund over a period, the greater is the volatility or risk. The author has described standard deviation as the most insightful and dependable barometer of measuring volatility or risk.

Daniel (1997) has concluded that the 'persistence in mutual funds performance' is due to the use of simple momentum strategies by the fund managers rather than due to certain fund managers having 'hot hand' that allow them to pick winning stocks. Results show that particularly aggressive growth funds exhibit some "selectivity" ability but no "timing ability.”

Barua and Uerma (1991) Provided empirical evidence of equity mutual fund performance in India. They studied the investment performance of India's first 7 year close-end equity mutual fund, Mastershare. They concluded that the fund performance satisfactory for large investor in term of rate of return.

Vaid (1994) looked at the performance in terms of the ability of the mutual fund to attract more investors and higher fund mobilization. It shows the popularity of the mutual fund as it is perceived to pay supervisor returns to the investors. She concludes that even for equity - Oriented funds, investment is more in fixed income securities rather than in equities, which is a distortion.

Sarkar and Mazumdar (1995) evaluated financial performance of five close ended growth funds for the period February 1991 to August 1993. Concluded that the performance was below average in terms of alpha values all negative and statistically not significant and fund possessed high risk. No reference was provided about the timing parameters in their study.

Jaydev (1996) evaluated performance of two schemes during the period June 1992 to March 1994 in terms of return/benchmark comparison diversification was unsatisfactory. The performance did not show any signs of selectivity and timing skills of the fund managers.
Sahadevan and Raju (1996) focused on data presentation on Expenses and other related aspects, which are generally covered in annual reports of the mutual funds without going into the details of financial performance evaluation of the funds.
Gupta and Sehgal (1997) evaluated mutual fund performance over a four year period, 1992-96. The sample consisted of 80 mutual fund schemes. They concluded that mutual fund industry performed well during the period of study. The performance was evaluated in terms of benchmark comparison, performance from one period to the next and their risk return characteristics. **Mishra (2001)** evaluated performance over a period, April 1992 to December 1996. The sample size was 24 public sector sponsored mutual funds. The performance was evaluated in terms of rate of return, Treynor, Sharpe and Jensen's measure of performance. The study also addressed beta's instability issues. The study concluded dismal performance of PSU mutual funds in India, in general, during the period 1992-96. **Singh and Meera (2001)** in their book presented a framework for conducting critical appraisal of mutual fund performance in the Indian context reviewed the performance of unit Trust of India (UTI), Private and money market mutual funds. **Sadhak (2003)** in his book suggested several improvements in the strategic and operational practices of mutual funds are suggested keeping in mind the mechanisms used by fund managers in developed economies. **Sondhi (2004)** studied the financial performance evaluation of equity oriented mutual funds on the basis of type size and ownership of mutual funds using the measure of absolute rate of return, comparison with benchmark (BSE 100) and the return on 364 days T-Bills and risk adjusted performance measure (Sharpe, Treynor, Jensen's Alpha and Fama)

Need of the Study

The literature review revealed that performance measures of mutual funds include rate of return, benchmark comparison risk adjusted returns (Treynor and Sharpe's indices) 'Stock Selectivity' abilities and market timing skills of the fund managers.
The past studies on performance of Indian Mutual funds analysed the effect of factors such as type (open-ended or close ended) size, (small, medium and large) and the ownership pattern (private or public mutual funds) on their financial performance, Excepts (d) study of Gupta and Sehgal (1997) who have analyzed the performance of open-ended and closed funds.
Though many empricial studies linking investment styles and performance of mutual funds were conducted in USA and other developed countries, but till date such an empiricial study in the context of Indian mutual funds are yet to be undertaken. Hence, the study is an attempt in this direction to unearth the nature of relationship that exists between investment styles and performance of Indian mutual funds.

Objectives of the study

The objective of the present study to evaluate the performance of selected balanced fund growth scheme in comparison to their benchmark, the volatility, return per unit, the fund sensitivity to the market function in terms of beta.

Research Methodology

Data Collection

This study is based on primary as well as secondary data. The relevant sources of Secondary Data are books, journals, magazines, newspapers, brochures and websites of selected mutual funds. All the relevant data is being collected from mutualfundindia.com as on 31st April,

2010. The present study compares 15 open ended selected balanced funds Growth Schemes launched by public sector, private sector, and foreign mutual fund players in India. The schemes have been selected using deliberate sampling method. The scheme selection criteria are as under :-

a) Corpus size >250 crores
b) Returns of 5 years
c) Top 15 schemes ranked on the basis of 5 years compounded annualized returns.

Tools and techniques

For the purpose of analysis, appropriate statistical and financial tools, i.e., arithmetic mean, standard deviation, correlation, Beta, Treynor ratio, Sharpe ratio, Fama, Alpha have been applied.

Results & findings

Part-1 Analysis of performance of the selected Balance Fund Growth schemes in comparison to industry average

This part analysis the performance of the selected Balance Fund Growth schemes in comparison to the Industry average performance of selected similar category Funds.

TABLE 1.1

PERFORMANCE OF SELECTED BALANCED FUND IN COMPARISON TO THE INDUSTRY AVERAGE OF SELECTED SIMILAR CATEGORY FUND

Sr.	Scheme Name	6mth	1yrs	3yrs	5yrs	SI
1	HDFC Prudence Fund - Growth	17.76	79.61	17.73	25.32	19.90
2	Canara Robeco Balance - Growth	17.28	57.05	15.14	24.23	10.83
3	DSP BlackrockBalanced Fund – Growth	13.28	57.76	16.19	23.19	18.03
4	Birla Sun Life 95 - Growth	13.78	60.65	16.07	22.78	24.58
5	SBI Magnum Balanced Fund – Growth	12.32	51.88	11.25	21.68	21.68
6	Tata Balanced Fund - Growth	13.1	66.2	14.36	21.38	15.54
7	HDFC Balanced Fund - Growth	17.52	63.93	16.25	19.76	17.75
8	FT India Balanced Fund - Growth	11.78	40.58	10.79	19.68	15.71
9	Kotak Balance	11.25	45.42	10.68	19.61	14.65
10	Escorts Balanced Fund - Growth	16.45	63.07	9.4	19.30	22.32
11	Sundaram BNP Paribas Balanced Fund – Growth	9.45	55.91	10.3	17.58	16.22
12	UTI Balanced Fund - Growth	13.83	53.99	11.28	16.68	14.79
13	ICICI Prudential Balanced - Growth	12.56	44.1	6.03	16.58	14.52
14	PRINCIPAL Balanced Fund – Growth	10.69	49.98	11.42	16.54	11.34
15	ING Balanced Fund - Growth	9.68	42.97	8.25	15.88	9.02
Average performance of similar category Funds		**13.38**	**55.54**	**12.34**	**20.01**	

Source : *Compiled from mutualfundindia.com*

The analysis of table 1.1 clearly reveals that compounded annualized percentage return since inception ranges between 9.02 percent and 24.58 percent. The highest since inception return of 24.58 is depicted by Birla Sun Life 95 - Growth. It is followed by Escorts Balanced Fund-Growth, SBI Magnum Balanced Fund-Growth, HDFC Prudence Fund-Growth with 22.32 percent, 21.68 percent and 19.90 percent return respectively. ING Balanced Fund – Growth has given the minimum compounded annualized percentage return of 9.02 percent. It is observed that compounded annualized percentage return over the period of last 5 years ranges between 25.32 percent and 15.88 percent. The Highest return of 25.32 percent is registered by HDFC Prudence Fund-Growth. It is followed by Canara Robeco Balance - Growth, DSP blackrock Balance Fund - Growth and Birla Sun Life 95 - Growth with 24.23 percent, 23.19 percent, 22.78 percent returns respectively. ING Balanced Fund - Growth has given minimum compounded annualized percentage returns of 15.88 percent. The compounded annualized return over the period of last three years ranges between 17.73 percent and 8.25 percent. The Highest return of 17.73 percent is shown by HDFC Prudence Fund - Growth. It is followed by HDFC Balanced Fund - Growth, DSP blackrock Balanced Fund Growth and Birla Sun Life 95 - Growth with 16.25 percent, 16.19 percent and 16.07 percent returns respectively. ING Balanced Fund - Growth has given the minimum compounded annualized percentage return of 25.78 percent. The table 1.1 also depicts that the compounded annualized percentage return over the period of last one years ranges between 79.61 percent and 40.58 percent. The Highest returns of 79.61 percent is given by HDFC Prudence Fund - Growth. It is followed by HDFC Balanced Fund-Growth, Escorts Balanced Fund - Growth and Birla Sun Life 95 - Growth with 63.93 percent, 63.07 percent and 60.65 percent respectively. FT India Balanced Fund - Growth has given the minimum compounded annualized percentage returns of 40.58 percent. Analysis of 6 months returns in the Balance Funds ranges between 17.76 percent and 9.45 percent. The highest returns of 17.76 percentage is given by HDFC Prudence Fund - Growth. It is followed by HDFC Balance Fund - Growth, Canara Robeco Balance - Growth and Escorts Balanced Fund - Growth with 17.52 percent 17.28 percent and 16.45 percent respectively. Sundaram BNP Paribas Balanced Fund - Growth has given the minimum returns of 9.45 percent.

All the selected schemes underperformed the Industry Index over the period of 5 years, only 6 schemes i.e. HDFC Prudence Fund-Growth, Canara Robeco Balance - Growth, DSP Blackrock Balance Fund - Growth, Birla Sun Life 95 - Growth, SBI Magnum Balanced Fund - Growth, Tata Balanced Fund - Growth have over performed the Industry Index over the last 5 years rest other schemes have underperformed the Industry Index over the last 5 years. Out of 15 schemes, 6 schemes i.e. HDFC Prudence Fund - Growth, Canara Robeco Balanced - Growth, DSP Blackrock Balanced Fund - Growth, Birla Sun Life 95 - Growth, Tata Balanced Fund - Growth, HDFC Balanced Fund - Growth have over performed the Industry index over the last three years. Out of 15 schemes 7 schemes i.e. HDFC Prudence Fund-Growth, DSP blackrock Balanced Fund - Growth, Birla Sun Life 95 - Growth, Tata Balanced Fund-Growth, HDFC Balanced Fund – Growth, Escorts Balanced Fund Growth, Sundaram BNP Parihas Balanced Fund - Growth have outperformed the Industry average over the last 1 year. Out of the 15 schemes, only 6 schemes i.e. HDFC Prudence Fund Growth, Canara Robeco Balance Growth, Birla Sun Life 95 -growth, HDFC Balanced Fund Growth, Escorts Balanced Fund - Growth, Sundaram BNP Paribas Balanced Fund - Growth have over performed the Industry index over the last six month.

ANALYSIS OF PERFORMANCE IN COMPARISON TO BENCHMARK

Benchmark comparison is important performance measure as it indicates to what extent the fund managers were able to produce better performance of managed portfolio compared to the market or Index portfolios.

Table 1.2:
PERFORMANCE OF SELECTED BALANCED FUND IN COMPARISON TO BENCHMARK

Sr.	Scheme Name	6mth	1yrs	3yrs	5yrs	SI
1	HDFC Prudence Fund - Growth	17.76	79.61	17.73	25.32	19.90
2	Canara Robeco Balance - Growth	17.28	57.05	15.14	24.23	10.83
3	DSP BlackrockBalanced Fund – Growth	13.28	57.76	16.19	23.19	18.03
4	Birla Sun Life 95 - Growth	13.78	60.65	16.07	22.78	24.58
5	SBI Magnum Balanced Fund – Growth	12.32	51.88	11.25	21.68	21.68
6	Tata Balanced Fund - Growth	13.1	66.2	14.36	21.38	15.54
7	HDFC Balanced Fund - Growth	17.52	63.93	16.25	19.76	17.75
8	FT India Balanced Fund - Growth	11.78	40.58	10.79	19.68	15.71
9	Kotak Balance	11.25	45.42	10.68	19.61	14.65
10	Escorts Balanced Fund - Growth	16.45	63.07	9.4	19.30	22.32
11	Sundaram BNP Paribas Balanced Fund – Growth	9.45	55.91	10.3	17.58	16.22
12	UTI Balanced Fund - Growth	13.83	53.99	11.28	16.68	14.79
13	ICICI Prudential Balanced – Growth	12.56	44.1	6.03	16.58	14.52
14	PRINCIPAL Balanced Fund – Growth	10.69	49.98	11.42	16.54	11.34
15	ING Balanced Fund - Growth	9.68	42.97	8.25	15.88	9.02
	Crisil Balance Fund Index	**44.03**	**25.75**	**11.70**	**16.60**	

Source : *Compiled from mutualfundindia.com*

Table 1.2 depicts the performance of selected Balanced Fund schemes for the period for the 6 month, 1 year, 3 years, 5 years and since inception. It also depicts the average Industry return and average performance in comparison to the benchmark.

The analysis of table 1.2 clearly reveals that compounded annualized percentage return since inception ranges between 9.02 percent and 24.58 percent. The highest since inception return of 24.58 is depicted by Birla Sun Life 95 - Growth. It is followed by Escorts Balance Fund-Growth, SBI Magnum Balanced Fund-Growth, HDFC Prudence Fund-Growth with 22.32 percent, 21.68 percent and 19.90 percent return respectively. ING Balanced Fund–Growth has given the minimum compounded annualized percentage return of 9.02 percent.

It is observed that compounded annualized percentage return over the period of last 5 years ranges between 25.32 percent and 15.88 percent. The Highest return of 25.32 percent is registered by HDFC Prudence Fund-Growth. It is followed by Canara Robeco Balance-growth, DSP Blackrock Balance Fund - Growth and Birla Sun Life 95 - Growth with 24.23 percent, 23.19 percent, 22.78 percent returns respectively. ING Balanced Fund - Growth has given minimum compounded annualized percentage returns of 15.88 percent. The compounded annualized returns over the period of last three years range between 17.73

percent and 8.25 percent. The Highest return of 17.73 percent is shown by HDFC Prudence Fund - Growth. It is followed by HDFC Balance Fund - Growth, DSP Blackrock Balanced Fund Growth and Birla Sun Life 95 - Growth with 16.25 percent, 16.19 percent and 16.07 percent returns respectively. ING Balanced Fund Growth has given the minimum compounded annualized percentage return of 25.78 percent. The table 1.2 also depicts that the compounded annualized percentage return over the period of last one years ranges between 79.61 percent and 40.58 percent. The Highest returns of 79.61 percent given by HDFC Prudence Fund- Growth. It is followed by HDFC Balanced Fund-Growth, Escorts Balanced Fund - Growth and Birla Sun Life 95 - Growth with 63.93 percent, 63.07 percent and 60.65 percent respectively. FT India Balanced Fund - Growth has given the minimum compounded annualized percentage returns of 40.58 percent. The analysis of 6 months returns in the Balance Fund ranges between 17.76 percent and 9.45 percent. The highest returns of 17.76 percent are given by HDFC Prudence Fund - Growth. It is followed by HDFC Balance Fund -Growth, Canara Robeco Balanced - Growth and Escorts Balanced Fund - Growth with 17.52 percent 17.28 percent and 16.45 percent respectively. Sundaram BNP Paribas Balanced Fund Growth has given the minimum returns of 9.45 percent.
All the selected schemes have out performed the Crisil Balance Fund Index over the period of last 5 years. Only 3 schemes i.e. ICICI Prudential Balanced - Growth, PRINCIPAL Balanced Fund - Growth and ING Balanced Fund - Growth have underperformed the benchmark indices over the last five years. Out of 15 schemes, 6 schemes, i.e. FT India Balanced Fund-Growth, Kotak Balance, Escorts Balanced Fund - Growth, Sundaram BNP Paribas Balanced Fund-Growth, ICICI Prudential Balanced - Growth, ING Balanced Fund - Growth have underperformed the benchmark Indices over the last three years. All the 15 schemes have out performed the Crisil Balance Fund Index over the last 1 years. All the 15 schemes have underperformed the Crisil Balanced Fund index over the last 6 months.

Analysis of Volatility and return per unit of risk

Portfolio performance without reckoning the risk exposure do not provide fair and true picture. Various studies in the past have not only Examined performance in terms of rate of return but also evaluated portfolio performance in terms of risk adjusted rate of return (Treynor and Sharpe's Indices).

Standard deviation

Standard deviation is used to measure the variation in individual from the average expected return over a certain period. Standard deviation is used in the concept of risk of portfolio of investments. SD is the deviation of the reading from the mean of the reading, higher SD indicates higher volatility and higher volatility and higher risk of the schemes

Table 1.3
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON STANDARD DEVIATION

Sr.	Scheme Name	Standard Deviation
1	HDFC Prudence Fund - Growth	3.80
2	Canara Robeco Balance - Growth	4.20
3	DSP Blackrock Balanced Fund - Growth	2.92
4	Birla Sun Life 95 - Growth	3.54
5	SBI Magnum Balanced Fund - Growth	4.08
6	Tata Balanced Fund - Growth	3.73
7	HDFC Balanced Fund - Growth	3.68
8	FT India Balanced Fund - Growth	3.74
9	Kotak Balance	3.45
10	Escorts Balanced Fund - Growth	2.90
11	Sundaram BNP Paribas Balanced Fund - Growth	4.05
12	UTI Balanced Fund - Growth	3.61
13	ICICI Prudential Balanced - Growth	4.01
14	PRINCIPAL Balanced Fund - Growth	4.09
15	ING Balanced Fund - Growth	4.10

Source : *Compiled from mutualfundindia.com*

Analysis of table 1.3 clearly reveals that Canara Robeco Balanced-Growth scheme has clearly outperformed all the schemes with 4.20 standard deviation. It indicates the relatively high volatility of the scheme and the high return per unit of risk. Escorts Balanced Fund Growth has clearly under performed with 2.90 standard deviation. It indicates the relatively low volatility of the Scheme and the low Return per unit of risk.

Sharpe

Sharpe index measures risk premium of a portfolio, relative to the total amount of risk in the portfolio. Sharpe index summarizes the risk and return of a portfolio in a single measure that categorizes the performance of Funds on the risk-adjusted basis. The large the Sharpe Index, the portfolio over performance the market and vice versa. Analysis of table 1.4 clearly reveals that Canara Robeco Balanced -Growth scheme has clearly out performed all the schemes with -0.08 Sharpe. It indicates the relatively high returns per unit risk are more efficiently and effectively managed schemes. Canara Robeco Balanced - Growth have out performed the market. Escort Balanced Fund Growth has clearly underperformed all the schemes with -0.26 Sharpe ratio. It indicates the relatively less Return per unit risk are less efficiently and effectively managed schemes.

TABLE 1.4
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON SHARPE

Sr.	Scheme Name	Sharpe
1	HDFC Prudence Fund – Growth	-0.11
2	Canara Robeco Balance – Growth	-0.08
3	DSP Blackrock Balanced Fund - Growth	-0.15
4	Birla Sun Life 95 – Growth	-0.09
5	SBI Magnum Balanced Fund - Growth	-0.11
6	Tata Balanced Fund – Growth	-0.13
7	HDFC Balanced Fund – Growth	-0.10
8	FT India Balanced Fund – Growth	-0.09
9	Kotak Balance	-0.14
10	Escorts Balanced Fund – Growth	-0.26
11	Sundaram BNP Paribas Balanced Fund - Growth	-0.13
12	UTI Balanced Fund – Growth	-0.12
13	ICICI Prudential Balanced – Growth	-0.11
14	PRINCIPAL Balanced Fund – Growth	-0.11
15	ING Balanced Fund – Growth	-0.12

Source : *Compiled from mutualfundindia.com*

Beta

Beta measures the systematic risk and shows how prices of securities respond to the market forces. Beta is used in the capital asset pricing model (CAPM) a model that calculates the expected return of an asset based on its beta and expected market returns. Systematic risk is measured in term of beta which indicates the sensitivity of a schemes return in relation to market return. If a schemes beta is less than 1, it is considered to be defensive if the schemes beta is more than 1 it is consider to be aggressive. The table 1.5 reveals that Canara Robeco Balanced - Growth has the highest Beta with 1.06. It indicates the sensitivity of a schemes return in relation to market return, here the beta is more than 1, it is considered to be aggressive but Escorts Balanced Fund - Growth has the lowest Beta with 0.47, here the beta is less than 1, it is considered to be defensive.

Table 1.5
ANALYSIS OF VOLATILITY AND RETURN
PER UNIT OF RISK BASED ON BETA

Sr.	Scheme Name	Beta
1	HDFC Prudence Fund – Growth	0.94
2	Canara Robeco Balance – Growth	1.06
3	DSP Blackrock Balanced Fund - Growth	0.72
4	Birla Sun Life 95 – Growth	0.83
5	SBI Magnum Balanced Fund – Growth	1.05
6	Tata Balanced Fund – Growth	0.94
7	HDFC Balanced Fund – Growth	0.91
8	FT India Balanced Fund – Growth	0.93
9	Kotak Balance	0.86
10	Escorts Balanced Fund – Growth	0.47
11	Sundaram BNP Paribas Balanced Fund - Growth	1.03
12	UTI Balanced Fund – Growth	0.91
13	ICICI Prudential Balanced – Growth	0.96
14	PRINCIPAL Balanced Fund – Growth	1.02
15	ING Balanced Fund – Growth	1.04

Source : *Compiled from mutualfundindia.com*

Treynor

Treynor have provided the conceptual framework of relative measure of performanced of mutual Funds. While Treynor used systematic risk, Sharpe used total risk to evaluate the mutual fund portfolio performance highest value of Trenor's index indicates better performance of portfolio and vice versa. The treynor's measure of portfolio measure that ranks the Funds in terms of risk and return. The index is also termed as reward to volatility ratio.

TABLE 1.6
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON TRENYOR

Sr.	Scheme Name	Treynor
1	HDFC MIP - LTP – Growth	0.02
2	HDFC Multiple Yield Fund - Plan 2005 - Growth	-0.10
3	HDFC Multiple Yield Fund – Growth	-0.10
4	HSBC MIP - Savings Plan – Growth	-0.05
5	Reliance MIP – Growth	0.28
6	UTI - MIS - Advantage Fund – Growth	-0.03
7	Canara Robeco Monthly Income Plan - Growth	0.31
8	DSP BlackrockSavings Manager Fund - Aggressive - Growth	0.03
9	ICICI Prudential Income Multiplier Fund - Cumulative	0.00
10	Birla Sun Life MIP - Wealth 25 - Growth	-0.00
11	HDFC MIP - STP – Growth	-0.04
12	FT India MIP - Plan A – Growth	-0.09
13	FT India MIP - Plan B – Growth	-0.09
14	PRINCIPAL M I P – Growth	-0.00
15	UTI Monthly Income Scheme - Growth	0.02

Source : *Compiled from mutualfundindia.com*

Analysis of table 1.6 clearly reveals that Canara Robeco Balance - Growth has given highest treynor ratio of -0.30. It indicates the better performance of fund and Escorts Balance Fund Growth has given lowest treynor ratio of -1.60. It indicates the lowest performance of fund.
Fama Fama, advocated yet another measure of portfolio performance.

TABLE 1.7
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON FAMA

Sr.	Scheme Name	Fama
1	HDFC Prudence Fund – Growth	-0.00
2	Canara Robeco Balance – Growth	0.15
3	DSP BlackrockBalanced Fund - Growth	-0.12
4	Birla Sun Life 95 – Growth	0.07
5	SBI Magnum Balanced Fund – Growth	0.01
6	Tata Balanced Fund – Growth	-0.08
7	HDFC Balanced Fund – Growth	0.04
8	FT India Balanced Fund – Growth	0.07
9	Kotak Balance	-0.10
10	Escorts Balanced Fund – Growth	-0.44
11	Sundaram BNP Paribas Balanced Fund - Growth	-0.07
12	UTI Balanced Fund – Growth	-0.05
13	ICICI Prudential Balanced – Growth	-0.02
14	PRINCIPAL Balanced Fund – Growth	-0.01
15	ING Balanced Fund – Growth	-0.03

Source : *Compiled from mutualfundindia.com*

Fama suggested that overall portfolio performance due to stock selection ability (realized return minus expected portfolio return) of the fund manager and second the performance (Expected portfolio return risk free return) due to higher portfolio risk assumed by the fund manager. Fama further broke selectivity into two finer components i.e. net selectivity and diversification higher portfolio return may be consequence of higher portfolio risk resulting from low diversification of equity mutual fund.
Analysis of table 1.7 the Canara Robeco Balance - Growth has given the highest fama ratio of 0.15. It indicates higher risk with higher return and Escorts Balance Fund - Growth indicates lowest fama ratio of 0.44. It indicates the low risk with low return.

Mean
The simple mathematical average of a set of two or more numbers. The mean for a given set of numbers can be computed in more than one way including the arithmatic mean method, which uses the sum of the numbers in the series, and the geometric mean method. However, all of the primary method for computing a simple average of a normal number series produce the same approximate result most of the time.
Table 1.8 depicts the value of mean return of schemes selected for the study. The result indicated that Canara Robeco Balance -Growth earned higher returns as compared to other schemes and market average return is -0.21 and the Escorts Balance Fund- Growth earned lowest return as compared to other schemes is -0.65.

Table 1.8
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON MEAN

Sr.	Scheme Name	Mean
1	HDFC Prudence Fund – Growth	-0.31
2	Canara Robeco Balance – Growth	-0.21
3	DSP Blackrock Balanced Fund - Growth	-0.34
4	Birla Sun Life 95 – Growth	-0.21
5	SBI Magnum Balanced Fund – Growth	-0.34
6	Tata Balanced Fund – Growth	-0.38
7	HDFC Balanced Fund – Growth	-0.26
8	FT India Balanced Fund – Growth	-0.24
9	Kotak Balance	-0.38
10	Escorts Balanced Fund – Growth	-0.65
11	Sundaram BNP Paribas Balanced Fund - Growth	-0.41
12	UTI Balanced Fund – Growth	-0.34
13	ICICI Prudential Balanced – Growth	-0.35
14	PRINCIPAL Balanced Fund – Growth	-0.35
15	ING Balanced Fund – Growth	-0.38

Source : *Compiled from mutualfundindia.com*

Correlation

A statistical measure of how two securities move in relation to each other. Correlation are used in advance portfolio management correlation is computed into what is known as the correlation co-efficient, which ranges between -1 and +1. Perfect positie correlation (a correlation co-efficient of +1 implies that as one security moves, either up or down, the other security will move in lock step in the same direction. Alternative, perfect negative correlation means that if one security move in either direction the security that is perfectly negatively correlated will move by an equal amount in the opposite direction, if the correlation is 0, the movement of the securities are said to have no correlation, they are completely random.

Table 1.9
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON CORRELATION

Sr.	Scheme Name	Correlation
1	HDFC Prudence Fund – Growth	0.94
2	Canara Robeco Balance – Growth	1.08
3	DSP BlackrockBalanced Fund - Growth	0.74
4	Birla Sun Life 95 – Growth	0.85
5	SBI Magnum Balanced Fund – Growth	1.06
6	Tata Balanced Fund – Growth	0.95
7	HDFC Balanced Fund – Growth	0.92
8	FT India Balanced Fund – Growth	0.96
9	Kotak Balance	0.88
10	Escorts Balanced Fund – Growth	0.49
11	Sundaram BNP Paribas Balanced Fund - Growth	1.04
12	UTI Balanced Fund – Growth	0.93
13	ICICI Prudential Balanced – Growth	0.98
14	PRINCIPAL Balanced Fund – Growth	1.05
15	ING Balanced Fund – Growth	1.06

Source : *Compiled from mutualfundindia.com*

Analysis of table 1.9 clearly reveals that Canara Robeco Balanced-Growth is highest degree of correlation 1.08 and Escort Balance Fund- Growth is lowest degree of correlation 0.49

Alpha

The size of the alpha exhibits the stock's unsystematic returns and its average return independence of market return if the fund produces the expected return at the level of risk assumed, the fund would have an alpha equal to zero. A positive alpha indicates that the manager produced return greater than expected for the risk taken. Alpha is calculated by comparing the fund's actual performance with the risk-adjusted expected return.

TABLE 1.10
ANALYSIS OF VOLATILITY AND RETURN PER UNIT OF RISK BASED ON ALPHA

Sr.	Scheme Name	Alpha
1	HDFC Prudence Fund – Growth	9.01
2	Canara Robeco Balance – Growth	6.50
3	DSP BlackrockBalanced Fund - Growth	7.52
4	Birla Sun Life 95 – Growth	7.67
5	SBI Magnum Balanced Fund – Growth	3.01
6	Tata Balanced Fund – Growth	5.84
7	HDFC Balanced Fund – Growth	7.66
8	FT India Balanced Fund – Growth	2.62
9	Kotak Balance	1.07
10	Escorts Balanced Fund – Growth	2.27
11	Sundaram BNP Paribas Balanced Fund - Growth	2.20
12	UTI Balanced Fund – Growth	2.98
13	ICICI Prudential Balanced – Growth	-1.77
14	PRINCIPAL Balanced Fund – Growth	-6.03
15	ING Balanced Fund – Growth	0.22

Source : *Compiled from valueresearonline.com*

Analysis of table 1.10 clearly reveals that all the funds has outperformed its benchmark index by 1%. Only 2 schemes ICICI Prudential Balanced- Growth, PRINCIPAL Balanced Fund-Growth has clearly underperformed with -1.77 and -6.03 alpha ratio. A positive Alpha indicates that the manager produced return greater than expected for the risk taken.

Conclusion

In the contemporary world, many fast mushrooming financial institutions are, offering new products and services to the investors. A proper evaluation measure will get rid of the confusion and help investors to decide the relatively better investment in various mutual fund schemes. This study observed that HDFC Prudence Fund-Growth, Canara Robeco Balance - Growth, DSP blackrock Balance Fund - Growth are the top three funds on the basis of CAGR for the last five years. These funds have also outperformed the Crisil Balance Fund Index over the period of last 5 years. Canara Robeco Balanced Growth Scheme is relatively more volatile with highest standard deviation, Beta as well as Treynor ratio. The study observed that Canara Robeco Balance Growth is the most aggressive hybrid mutual fund whereas Escort Balance Fund - Growth is relatively least a more defensive fund.

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