Performance and risk analysis of monthly income plans (MIP) of selected mutual funds in India

Ashok khurana
Guru Nanak Khalsa College, Yamunanagar (Haryana).

ABSTRACT

The study evaluates the performance and risk of monthly income plans of selected mutual funds with an objective to identify the top performing monthly income plan amongst the selected plans. The study has analyzed growth performance on the basis of returns of 6 months, 1 year, 3 years and since inception returns. Growth performance of the funds have been compared with industry average, and its benchmark index i.e., CRISIL MIP Blended Index. The Standard Deviations, Sharpe Ratio and Beta of the selected schemes have been compared to analyze volatility of the schemes and return per unit of risk. The study ends up with identifying top performing monthly income plans for relatively aggressive and conservative risk profile investors.

Introduction

A monthly income plan can be thought of as budget for a retirement income. Rather than reaching retirement and spending one's nest egg by making random withdrawals of varying amounts, a monthly income plan can ensure to receive a stable amount of funds each month to spend, which limits the risk of over-spending. In this regard, an MIP is similar in many ways to an annuity. MIPs are launched with the objective of giving a monthly income to investors, but the periodicity depends upon the option chosen by the investor. These are generally monthly, quarterly, half yearly and annual options.

A growth option is also available, where the investors do not receive regular dividends, but gains in the form of capital appreciation.

Monthly Income Plans or MIP's are a category of mutual funds that invest mainly in debt instruments. In monthly income plans, 80-90 percent of the funds are invested in debt instruments, and about 10-20% of the assets are allocated to equity stocks to give good return to investors. These plans facilitate the investors to maintain a low risk portfolio and generate regular and stable returns.

The returns in these funds are available on monthly, quarterly, half-yearly or annual returns to the investors; depend upon the option chosen by the investor. These plans are flexible as investor can easily redeem MIP's units.

These plans are suitable for conservative investors who want to earn marginally better returns than a debt only portfolio. MIP's are most suitable investment vehicle for retired and senior citizens who need regular or monthly dividend.

However, like any other fund of mutual fund, market risk also affects the returns of monthly income plans.

Categories of monthly income plans

MIP's can be classified into following two categories i.e. MIP – Conservative, and MIP – Aggressive. MIP conservative category includes schemes with a maximum equity component schemes with a maximum equity investment of upto 30percent. A common feature of both MIP's is the regular declaration of dividends (mostly monthly). The CRISIL MIPEX (benchmark for MIPs) returned 7.92 percent over the period of June 2009 end quarter compared to 0.16percent in the previous quarter.

Review of literature

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.

Tele:
E-mail addresses: omusa7@gmail.com

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.

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.

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.

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.

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).

Statement of the problem

The literature review revealed that none of the researchers has so for examined the performance of monthly income plans of mutual funds in India. Hence, the present study is an attempt to evaluate the growth performance and inherent risk of Monthly Income Plans of selected mutual funds in India. Monthly Income Plans are suitable for those investors who need regular and less risky income. The expected output of the study is to unearth top performing Monthly Income Plans amongst the selected plans for advice to relatively aggressive and conservative investors looking for several regular income avenues.

Objectives of the study

The objective of the present study to analyze the performance of Monthly Income Plans in comparison to average performance of similar category funds, and its benchmark i.e. CRISIL MIP- Blended Index. Further, it strives to find out the best performing Monthly Income Plan in terms of Risk return matrix over the selected period of study.

Nature and scope of study

The present study is empirical in nature. This present study is based on secondary data, and all the relevant information has been collected from Books, Journals, Magazines, Newspapers,

and Websites providing information about mutual funds. The present study evaluates 10 open-ended Monthly Income Plan schemes of selected mutual funds. The schemes selected for analysis are Birla Sun Life Monthly Income Plan – Growth, Birla Sun Life Monthly Income Plan - Wealth 25 Growth, DSP Black Rock Saving Manager Fund - Aggressive Growth, H.D.F.C. Monthly Income Long Term Plan – Growth, H.S.B.C. Monthly Income Plan Saving Plan – Growth, ICICI Prudential Income Mutiplier Fund – Cumulative, ICICI Prudential Monthly Income Plan – Cumulative, Principal MIP Plus Growth, Reliance MIP Growth, UTI MIS Advantage Fund Growth.

Analysis of data

It comprises of analysis and interpretation of the collected data of selected Monthly Income Plans. It has been classified into the following parts.

(a) The collected data has been analyzed on the basis of returns of 6 months, 1 year, 3 years and since inception returns.

(b) The selected returns of selected Monthly Income Plans have been compared with Average Performance of similar Category funds and CRISIL MIP Blended Index

(c) The Standard Deviations, Shape Ratio and Beta of the selected schemes have been compared to analyze volatility of the schemes and return per unit of risk.

Tools used for data analysis

1. Compounded Annual Growth Rate: CAGR represents the smoothed annualized gain earned over the investment time horizon. CAGR is not an accounting term, but remains widely used particularly in growth industries or to compare the growth rates of two investment projects. Because CAGR dampens the effect of volatily of periodic returns that can render arithmetic means irrelevant. CAGR is often used to describe the growth over a period of time. Eg. Revenue, Units delivered etc.

$$CAGR(t_0, t_n) = \left(\frac{V(t_n)}{V(t_0)}\right)^{\frac{1}{t_n - t_0}} - 1$$

$V(t_0)$: start value,
$V(t_n)$: finish value,
$t_n - t_0$: number of years.

2. Absolute Return: In general a mutual fund seeks to produce returns that are better than its peers its fund category or the market as a whole. This type of fund management is referred to as a relative return approach to fund investing. As an investment vehicle an absolute returns fund seeks to make positive returns by employing investment management techniques that differ from traditional mutual fund. Absolute returns investments techniques include using short selling, futures, options, derivatives, arbitrage, leverage and unconventional assets.

3. Standard Deviation: Standard Deviation is a statistical measurement applied to the annual rate of return of an investment to measure the investment's volatility. S.D. is the deviation of the readings from the mean of the readings, higher S.D. indicates higher volatility and higher risk of the scheme.

$$S = \sqrt{\frac{\sum_{k}^{n} = 1(r_k - r_{expected})^2}{n - 1}}$$

S= Standard deviation
r_k = specific return
$r_{expected}$ = Expected return
n= No. of return (sample size)

4. Sharpe Ratio: A ratio developed by Wiilliam F. Sharpe, to measure risk - adjusted performance, the Sharpe ratio is calculated by substracting the risk- free rate from the rate of return for a portfolio and dividing the result by the standard deviation of portfolio returns. It is calculated as :

$$Sharpe\ Ratio = \frac{\bar{r}_p - rf}{\sigma p}$$

Where

$\bar{r}_p$	=	Expected Portfolio Return
Rf	=	Risk free rate
σp	=	Portfolio Standard deviation

Sharpe Ratio is a measure of the effectiveness of the fund manager who manages the scheme, it shows the "Units of returns" generated for every unit of risk taken. Normally schemes with higher "Returns per unit risk" are more efficiently and effectively managed schemes.

5. Beta: Beta is the measure of a fund's (or stock's) volatility (or systematic risk), relative to the market or benchmark. Beta is used in the capital asset pricing model (CAPM), a mode that calculates the expected return of an asset based on its beta and expected market returns. Beta is calculated using regression analysis.

Beta expresses the fundamental trade off between minimizing risk and maximizing returns. A beta of 1 indicates that the security's price will move with the market, a beta of less than 1 indicates that security price will be less volatile than the market. More than 1 indicates, the security price will be more volatile than the market.

Formula for Beta of an asset within a Portfolio:

$$\beta a = \frac{Co\ v.(r_a, r_p)}{Var.(r_p)}$$

Where r_a measures the rate of return of asset r_p measures the rate of return of portfolio Cov (r_a, r_p) is co-variance between rates of return.

Results and discussion

(A) Comparative analysis of performance of selected MIP growth schemes

1. Table 1 depicts the performance of selected MIP's Growth schemes over the period of last 6 months, 1 year, 3 year and since inception respectively. It also depicts the Average Industry Returns and it benchmark index returns i.e. CRISIL MIP Blended Index. Analysis of table 1 clearly reveals that compounded annualized percentage returns since inception varies between 9.23 percent and 12.45 percent. The highest since inception returns of 12.45percent are depicted by H.D.F.C. Long Term Plan Growth. It is followed by Birla Sun Life Monthly Income Plan Growth (12.29percent), and Reliance MIP Growth (11.60percent). It is found that Birla Sun Life Monthly Income Plan Wealth 25 - Growth has given the minimum Compounded Annualized Percentage Return of 9.23percent respectively.

2. Analysis further shows that compounded annualized percentage returns over the period of last 3 years ranges between 7.48percent to 12.18percent. Reliance MIP- Growth stands at first position with 12.18percent Compounded annualized percentage return. It is followed by Principal MIP Plus Growth (12.10percent), H.D.F.C. Long Term Plan Growth (11.73percent), respectively. The Birla Sun Life Monthly Income Plan wealth 25 - Growth has shown minimum Compounded annualized percentage returns of 7.48percent over the period of last 3 years.

1. Analysis further shows that as a whole, all the selected schemes have outperformed the benchmark index i.e. CRISIL MIP Blended Index over the period of last 6 months, 1 year and 3 years respectively. Only one scheme i.e. Birla Sun Life Monthly Income Plan Wealth 25 - Growth have underperformed the CRISIL MIP Blended Index over the period of last 3 years.

All the selected schemes have outperformed the industry index i.e. Average Performance of similar category funds. Over the period of last 3 years these 4 schemes

i.e. Birla Sun Life Monthly Income Plan Wealth 25 growth, D.S.P. Black Rock Savings Manager Fund Aggressive, ICICI Prudential Income Mutliplier Fund cumulative, ICICI Prudential MIP - Cumulative have underperformed the industry index over the period of last 3 years respectively. Most of the schemes have outperformed the benchmark index,

i.e. CRISIL MIP Blended Index and Industry Index i.e. Average Performance if similar category funds have outperformed over the period of study. Only one scheme

i.e. ICICI Prudential MIP Cumulative has underperformed the Industry Index over the period of study.

(A)Analysis of risk and volatility ratios of MIP schemes

Table 2 highlights the Standard Deviation (S.D.), Sharpe Ratio (Return per units of risk) and Beta Ratio.

Birla Sun Life M.I.P. Growth has been ranked at second position with lowest S.D. and Beta and higher Sharpe Ratio i.e. 7.86, 0.67 and 0.84. The Birla Sun Life MIP Growth has been selected for investment in terms of risk volatility analysis. The selected scheme has been treated as less risky amongst all the selected MIP schemes.

1. D.S.P. Black Rock Saving Manager Fund - Aggressive has been ranked at first position in terms of risk and volatility analysis. D.S.P. Black Rock Saving Manager Fund has lowest S.D, Beta and higher Sharpe ratio i.e. 6.53, 0.59 MIP and 0.86 amongst all the selected funds. In terms of Risk Grade, the selected schemes are below average i.e. it is less risky and better for investment purpose.

2. H.D.F.C. Monthly Income Long Term Plan - Growth has been treated as high risk and high return in term of risk grade. The selected fund ranked at more risky investment with high S.D. and Beta i.e. 10.63 and 0.94 and Sharpe Ratio 0.63. But on the basis of return, H.D.F.C. plan has outperformed the Industry Average and CRISIL MIP Blended Index.

3. Reliance MIP - Growth has been preferred for investment purpose with highest Sharpe Ratio i.e. 1.17. But the risk is also high because of highest S.D. and Beta i.e. 10.42 and 0.80. The selected fund has been treated as high risk and high return aggressive fund.

4. UTI MIS Advantage Fund has been treated as risky investment but in terms of return UTI MIS Advantage Fund has outperformed the benchmark index i.e. CRISIL MIP Blended Index over the period of study. The S.D., Sharpe and Beta are 7.88, 0.32 and 0.72 respectively. The selected fund has shown minimum expense ratio i.e. 1.60%, hence, it may be considered worth investing by the investor.

5. Birla Sun Life MIP II - Wealth 25 Growth and ICICI Prudential Income Multiplier Fund - Cumulative has been ranked as high risk and low return funds. The Birla Sun Life MIP II - Wealth 25 Growth has shown highest S.D., Beta and Low Sharpe Ratio i.e. 12.42, 1.11 and 0.18.

6. The ICICI Prudential Income Multiplier Fund- Cumulative has been ranked at lowest position with highest S.D., Beta and lowest Sharpe Ratio i.e. 12.75, 1.13 and 0.11.

7. On the basis of analysis of risk and volatility analysis, it is found that in terms of low risk grade there are two funds

available D.S.P. Black Rock Saving Manager Fund - Aggressive and Birla Sun Life M.I.P. - Growth amongst all the selected funds. In case of Aggressive fund i.e. high risk and high return there are three fund available i.e. H.D.F.C. Monthly Income Long Term Plan – Growth, Reliance M.I.P. - Growth and UTI MIS Advantage Fund. Birla Sun Life M.I.P. - Wealth 25 Growth and ICICI Prudential Income. Multiplier Fund - Cumulative has been ranked as lowest position in terms of risk and volatily analysis. These funds have shown highest S.D. and Beta i.e. more risky funds for investment purpose.

The conclusions holds valid under the assumption that the investor remains invested having time horizon of 3 years and with moderate risk appetite to a superior long term returns.

Conclusion

The analysis of the selected Monthly Income Plans shows that the majority of the schemes have performed well over long horizon of time. All the selected schemes has outperformed the benchmark index i.e. CRISIL MIP Blended Index.

The top most outperforming Monthly Income Plans in comparison with Average Performance of similar category funds and with CRISIL MIP Blended Index are H.D.F.C. Monthly Income Long term Plan - Growth, Principal MIP Plus - Growth and Reliance MIP - Growth respectively.

However, D.S.P. Black Rock Saving Manager Fund - Aggressive and ICICI Prudential Income - Cumulative have underperformed the Industry Average over the period of study. To conclude, Investors with some aggression may invest in H.D.F.C. Monthly Income Long Term Plan- Growth, Reliance MIP Plus and UTI MIS Advantage Plan respectively.

However, Conservative investors may invest in D.S.P. Black Rock Saving Manager Fund - Aggressive and Birla Sun Life M.I.P. - Growth respectively.

References:
1. Aggarwal Nisha, Financial Institutions and Markets, Kalyani Publishers, New Delhi 2006, pp. 18.1 - 18.33
2. Aggarwal Nisha, Financial Institutions and Markets, Kalyani Publishers, New Delhi 2006, pp. 18.1 - 18.33
3. Bansal L.K., Mutual Funds Management and Working, Deep & Deep Publication, New Delhi, 1996 pp. 22- 26, 34 - 37.
4. Bansal L.K., Mutual Funds Management and Working, Deep & Deep Publication, New Delhi, 1996, pp. 22-37.
5. Genesan S.J. Raja, Mutual Funds, Indian Management, Vol. 39, No. 10, 2000, pp 42.
6. Gupta Amitabh, Mutual Funds in India, A study of Investment Management, Finance India, Vol. 15, No. 2, 2001, p. 631.
7. Gupta K. Shashi, Financial Institutions and markets, Kalyani Publishers, New Delhi, 2006, pp. 18.1-18.33
8. Jain Amit, Mutual Funds: Trends and features. Chartered Secretary, Vol. 30, No. 12, 2000, pp.1528.
9. Jutur Sharath, Evaluating Indian Mutual Funds, Chartered Financial Analyst, Vol. 10, 2004, pp 83.
10. Mehru K.D., Problems of Mutual Funds in India, Finance India, Vol. 18, No. 1, 2004, pp 220.
11. Mutual Fund 2005, The ICFAI University Press, Vol. XI, Issue 7, July 2005, pp. 10 - 12.
12. Panday Ajay, Assured Return Schemes by Mutual Funds : An Appraisal of regulatory Issues, Vision, Vol. 4, No. 1, 2000, pp 29.
13. Shrivastava R.M. Management of Indian Financial Institutions, Divya Nigam, Publishers pp. 682, 686, 695-97
14. Singh Amit, Equity Funds Performance: A Mutual Disappointment, Chartered Financial Analyst, Vol. 17, 2001, pp 37.

15. Singh Gurucharan, Mutual Funds-Performance, Evaluationof Equity Fund, The Indian Journal of Commerce, Vol. 56, No. 4, October-December 2003, pp 46.

Table 1: Performance of Selected MIP Growth Schemes

S.No.	Scheme Name	Absolute returns (%)		Compounded Annualized Returns (%)	
		6 Months*	1 Year*	3 years**	Since Inception **
(1)	Birla Sun Life Monthly Income Plan Growth	15.03	17.55	10.66	12.29
(2)	Birla Sun Life Monthly Income Plan Wealth 25- Growth	21.14	17.12	7.48	9.23
(3)	DSP Black Rock Saving Manager Fund- Aggressive Growth	14.75	13.02	10.08	11.09
(4)	H.D.F.C. Monthly Income Long Term Plan – Growth	26.86	20.83	11.73	12.45
(5)	H.S.B.C. MIP Saving Plan Growth	15.34	16.75	11.18	10.36
(6)	ICICI Prudential Income Mutliplier Fund – Cumulative	22.18	15.11	8.46	10.58
(7)	ICICI Prudential MIP Cumulative	15.05	14.32	8.48	9.98
(8)	Principal MIP Plus Growth	19.60	13.52	12.10	9.96
(9)	Reliance MIP Growth	20.13	25.54	12.18	11.60
(10)	UTI MIS Advantage Fund – Growth	16.57	16.98	10.45	10.73
	Average Performance of Similar Category Funds	20.48	18.7	10.38	10.83
	Crisil MIP Blended Index.	9.79	10.29	7.81	9.29

*Absolute Returns   ** Compounded Annualized Returns as on 4 September, 2010
Source: www.valueresearchonline.com

Table 2: Risk & Volatility Ratios of Selected MIP Schemes

S.No.	Scheme Name	Standard Deviation	Sharpe Ratio	Beta Ratio
1.	Birla Sun Life Monthly Income Plan Growth	7.86	0.84	0.67
2.	Birla Sun Life Monthly Income Plan Wealth 25 – Growth	12.42	0.18	1.11
3.	D.S.P. Black Rock Saving Manager Fund Aggressive	6.53	0.86	0.59
4.	H.D.F.C. Monthly Income Long Term Plan – Growth	10.63	0.63	0.94
5.	H.S.B.C. MIP Saving Plan – Growth	8.18	0.46	0.71
6.	ICICI Prudential Income Multiplier Fund Cumulative	12.75	0.11	1.13
7.	ICICI Prudential MIP Cumulative	9.88	0.23	0.76
8.	Principal MIP Plus Growth	8.31	0.40	0.76
9.	Reliance MIP Growth	10.42	1.17	0.80
10	UTI MIS Advantage Fund Growth	7.88	0.32	0.72