A Study on Performance of Mutual Funds

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ABSTRACT
A mutual fund is a trust that pools the savings of a number of investors who share a common financial goal. The money thus collected is invested in capital market instruments such as shares, debentures, and other securities. The study was undertaken to analyze five mutual fund schemes. The performance evaluation of balanced mutual funds scheme is carried out through risk adjusted performance measure by Sharpe’s, Treynor’s Ratio which will ultimately help investors to choose the best mutual fund generating maximum return with minimum risk. Risk and return was analyzed by finding out Average Return, Standard Deviation, Beta Sharpe Ratio and Treynor ratio. The data used is monthly closing NAV recorded in the period starting from 1st April 2013 to 31st March 2014.

Keywords---- Beta, Standard Deviation, Sharpe’s, Treynor’s Ratio.

THE MUTUAL FUND INDUSTRY IN INDIA
The mutual fund industry in India started in 1963 with the formation of Unit Trust of India (UTI) at the initiative of the Reserve Bank of India (RBI) and the Government of India. The objective then was to attract small investors and introduce them to market investments. Since then, the history of mutual funds in India can be broadly divided into six distinct phases.

Phase I (1964-87): Growth Of UTI
In 1963, UTI was established by an Act of Parliament. As it was the only entity offering mutual funds in India, it had a monopoly. Operationally, UTI was set up by the Reserve Bank of India (RBI), but was later delinked from the RBI. The first scheme, and for long one of the largest launched by UTI, was Unit Scheme 1964. Later in the 1970s and 80s, UTI started innovating and offering different schemes to suit the needs of different classes of investors. Unit Linked Insurance Plan (ULIP) was launched in 1971. The first Indian offshore fund, India Fund was launched in August 1986. In absolute terms, the investible funds corpus of UTI was about Rs 600 crores in 1984. By 1987-88, the assets under management (AUM) of UTI had grown 10 times to Rs 6,700 crores.

Phase II (1987-93): Entry of Public Sector Funds
The year 1987 marked the entry of other public sector mutual funds. With the opening up of the economy, many public sector banks and institutions were allowed to establish mutual funds. The State Bank of India established the first non-UTI Mutual Fund, SBI Mutual Fund in November 1987. This was followed by Canbank Mutual Fund, LIC Mutual Fund, Indian Bank Mutual Fund, Bank of India Mutual Fund, GIC Mutual Fund and PNB Mutual Fund. From 1987-88 to 1992-93, the AUM increased from Rs 6,700 crores to Rs 47,004 crores, nearly seven times. During this period, investors showed a marked interest in mutual funds, allocating a larger part of their savings to investments in the funds.

Phase III (1993-96): Emergence of Private Funds
A new era in the mutual fund industry began in 1993 with the permission granted for the entry of private sector funds. This gave the Indian investors a broader choice of 'fund families' and increasing competition to the existing public sector funds.
foreign fund management companies were also allowed to operate mutual funds, most of them coming into India through their joint ventures with Indian promoters.

The private funds have brought in with them latest product innovations, investment management techniques and investor-serving technologies. During the year 1993-94, five private sector fund houses launched their schemes followed by six others in 1994-95.

Phase IV (1996-99): Growth and SEBI Regulation

Since 1996, the mutual fund industry scaled newer heights in terms of mobilization of funds and number of players. Deregulation and liberalization of the Indian economy had introduced competition and provided impetus to the growth of the industry.

A comprehensive set of regulations for all mutual funds operating in India was introduced with SEBI (Mutual Fund) Regulations, 1996. These regulations set uniform standards for all funds. Erstwhile UTI voluntarily adopted SEBI guidelines for its new schemes. Similarly, the budget of the Union government in 1999 took a big step in exempting all mutual fund dividends from income tax in the hands of the investors. During this phase, both SEBI and Association of Mutual Funds of India (AMFI) launched Investor Awareness Programme aimed at educating the investors about investing through MFs.

Phase V (1999-2004): Emergence of a Large and Uniform Industry

The year 1999 marked the beginning of a new phase in the history of the mutual fund industry in India, a phase of significant growth in terms of both amount mobilized from investors and assets under management. In February 2003, the UTI Act was repealed. UTI no longer has a special legal status as a trust established by an act of Parliament. Instead it has adopted the same structure as any other fund in India - a trust and an AMC/UTI Mutual Fund is the present name of the erstwhile Unit Trust of India (UTI). While UTI functioned under a separate law of the Indian Parliament earlier, UTI Mutual Fund is now under the SEBI's (Mutual Funds) Regulations, 1996 like all other mutual funds in India.

The emergence of a uniform industry with the same structure, operations and regulations make it easier for distributors and investors to deal with any fund house. Between 1999 and 2005 the size of the industry has doubled in terms of AUM which have gone from above Rs 68,000 crores to over Rs 1,50,000 crores.

Phase VI (From 2004 Onwards): Consolidation and Growth

The industry has lately witnessed a spate of mergers and acquisitions, most recent ones being the acquisition of schemes of Allianz Mutual Fund by Birla Sun Life, PNB Mutual Fund by Principal, among others. At the same time, more international players continue to enter India including Fidelity, one of the largest funds in the world.

II. OBJECTIVES OF THE STUDY

- To understand the calculation of Net- Asset Values of mutual funds.
- To evaluate investment performance of mutual funds in terms of risk and return.

III. LITERATURE REVIEW

Debasish (2009) studied the performance of selected schemes of mutual funds based on risk and return models and measures. The study covered the period from April 1996 to March 2005 (nine years). The study revealed that Franklin Templeton and UTI were the best performers and Birla Sun Life, HDFC and LIC mutual funds showed poor performance.

Das Bhagaban, Mohanty Sangeeta, Shil Chandra Nikhil (2008) has thrown light on the selection behavior of Indian retail investors towards mutual funds and life insurances particularly in post-liberalization period. With this background, their paper made an earnest attempt to study the behavior of the investors in the selection of these two investment vehicles in an Indian perspective by making a comparative study.

Sondhi and Jain (2010) examined the market risk and investment performance of equity mutual funds in India. The study used a sample of 36 equity fund for a period of 3 years. The study examined whether high beta of funds have actually produced high returns over the study period. The study also examined that open-ended or close ended categories, size of fund and the ownership pattern significantly affect risk-adjusted investment performance of equity fund. The results of the study confirmed with the empirical evidence produced by fama (1992) that high beta funds (market risks) may not necessarily produced high returns. The study revealed that the category, size and ownership have been significantly determinant of the performance of mutual funds during the study period.

HYPOTHESIS

H₀: Investment in Mutual Funds is beneficial and profitable.
H₁: Investment in Mutual Funds is not beneficial and profitable.

IV. TOOLS FOR ANALYSIS

The following are some of the tools that will be used to analyse the performance of the selected mutual fund schemes.

BETA

It measures the systematic risk and shows how prices of securities respond to the market force Beta is calculated as: β = Covariance (Kᵢ, Km) Variance (Km)

where, Kᵢ is the returns on the portfolio or stock - DEPENDENT VARIABLE Km is the market returns or index - INDEPENDENT VARIABLE

Variance is the square of standard deviation

STANDARD DEVIATION

It is used to measure the variation in individual returns from the average expected return over a certain period.
period. Standard deviation is used in the concept of risk of a portfolio of investments; higher standard deviation means a greater fluctuation in expected return.

**SHARPE INDEX**

Sharpe index was given by WF Sharpe in 1966, it measures risk premium of a portfolio, relative to the total amount for 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 larger the Sharpe Index, the portfolio over performance the market and vice versa.

\[
\text{Sharpe Index} = \frac{\text{Portfolio Average Return (Rp)} - \text{Risk Free Rate of Interest (Rt)}}{\text{Standard Deviations of the Portfolio Return}}
\]

**TREYNOR’S INDEX**

It was given by Jack Treynor in 1965, it is expressed as a ratio of returns to systematic risk i.e., beta. It adjusts return based on systematic risk, therefore it is relevant for performance measurement when evaluating portfolios separately or in combination with other portfolios.

\[
\text{Treynor’s Index} = \frac{\text{Portfolio Average Return (Rp)} - \text{Risk Free Rate of Interest (Rt)}}{\text{Beta Coefficient of Portfolio}}
\]

V. DATA ANALYSIS AND INTERPRETATION

**BETA**

<table>
<thead>
<tr>
<th>SR NO.</th>
<th>NAME OF THE SCHEME</th>
<th>BETA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Canara Robeco Balance Scheme Growth (Direct Plan)</td>
<td>-0.17133</td>
</tr>
<tr>
<td>2</td>
<td>Axis Triple Advantage Fund Growth (Direct Plan)</td>
<td>-0.53695</td>
</tr>
<tr>
<td>3</td>
<td>Kotak-Balance-Direct Growth</td>
<td>-0.28948</td>
</tr>
<tr>
<td>4</td>
<td>HDFC Balanced Fund - Direct Plan (G)</td>
<td>-0.2849</td>
</tr>
<tr>
<td>5</td>
<td>Baroda Pioneer Balance Fund Growth (Direct Plan)</td>
<td>-0.22523</td>
</tr>
</tbody>
</table>

Table-1: Showing Beta of the Funds

A Fund with a lesser Beta is a better choice for an investor as it would be less volatile. Axis Triple Advantage Fund Growth (Direct Plan) has the lowest Beta value among all the above funds which means it is comparatively less volatile. Kotak-Balance-Direct Growth has the next lowest Beta, followed by HDFC Balanced Fund - Direct Plan (G), Baroda Pioneer Balance Fund Growth (Direct Plan).

Canara Robeco Balance Scheme Growth (Direct Plan) has the highest Beta value among all the above funds which means it is comparatively less volatile.
## STANDARD DEVIATION

<table>
<thead>
<tr>
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<th>NAME OF THE SCHEME</th>
<th>STANDARD DEVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Canara Robeco Balance Scheme Growth (Direct Plan)</td>
<td>0.863324</td>
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<tr>
<td>2</td>
<td>Axis Triple Advantage Fund Growth (Direct Plan)</td>
<td>0.867199</td>
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<tr>
<td>3</td>
<td>Kotak-Balance-Direct Growth</td>
<td>0.891096</td>
</tr>
<tr>
<td>4</td>
<td>HDFC Balanced Fund - Direct Plan (G)</td>
<td>0.880186</td>
</tr>
<tr>
<td>5</td>
<td>Baroda Pioneer Balance Fund Growth (Direct Plan)</td>
<td>0.860599</td>
</tr>
</tbody>
</table>

Table-2: Showing Standard Deviations of the Funds

A higher standard deviation means that the returns of the fund have been more volatile than a fund having low standard deviation. In other words high standard deviation means high risk.

Canara Robeco Balance Scheme Growth (Direct Plan) has the next lowest SD, followed by Axis Triple Advantage Fund Growth (Direct Plan), HDFC Balanced Fund - Direct Plan (G).

Baroda Pioneer Balance Fund Growth (Direct Plan) Fund Fund has the lowest SD which means it is comparatively less risky to the other funds as its returns are less volatile.

Kotak-Balance-Direct Growth has the highest SD among all the funds which means it is comparatively more risky as its returns are more volatile.

## SHARPE’S RATIO

<table>
<thead>
<tr>
<th>SR NO.</th>
<th>NAME OF THE SCHEME</th>
<th>SHARPE RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Canara Robeco Balance Scheme Growth (Direct Plan)</td>
<td>-0.04348</td>
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<tr>
<td>2</td>
<td>Axis Triple Advantage Fund Growth (Direct Plan)</td>
<td>0.080087</td>
</tr>
<tr>
<td>3</td>
<td>Kotak-Balance-Direct Growth</td>
<td>-0.02002</td>
</tr>
<tr>
<td>4</td>
<td>HDFC Balanced Fund - Direct Plan (G)</td>
<td>-0.04462</td>
</tr>
<tr>
<td>5</td>
<td>Baroda Pioneer Balance Fund Growth (Direct Plan)</td>
<td>0.009933</td>
</tr>
</tbody>
</table>

Table-3: Showing Sharpe’s Ratio of the Funds

Axis Triple Advantage Fund Growth (Direct Plan) has the highest Sharpe’s ratio (0.080087) which means it has outperformed all the other funds, as higher the Sharpe’s Ratio higher the performance of the mutual fund. Baroda Pioneer Balance Fund Growth (Direct Plan) has the next highest Sharpe’s ratio, followed by Kotak-Balance-Direct Growth, Canara Robeco Balance Scheme Growth (Direct Plan).

Kotak-Balance-Direct Growth has the lowest Sharpe’s ratio (-0.04462) among all the selected funds, which means it has yielded very less returns for the same risk level.
### Table-4: Showing Treynor’s Ratio of the Funds

<table>
<thead>
<tr>
<th>NAME OF THE SCHEME</th>
<th>TREYNOR’S RATIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canara Robeco Balance Scheme Growth (Direct Plan)</td>
<td>0.219075</td>
</tr>
<tr>
<td>Axis Triple Advantage Fund Growth (Direct Plan)</td>
<td>-0.12934</td>
</tr>
<tr>
<td>Kotak-Balance-Direct Growth</td>
<td>0.254428</td>
</tr>
<tr>
<td>HDFC Balanced Fund - Direct Plan (G)</td>
<td>0.137866</td>
</tr>
<tr>
<td>Baroda Pioneer Balance Fund Growth (Direct Plan)</td>
<td>-0.03795</td>
</tr>
</tbody>
</table>

Higher the Treynor’s ratios better the returns of the mutual fund. Kotak-Balance-Direct Growth has the highest Treynor’s ratio (0.254428), which means it has yielded better returns over all the other funds at the same risk level. Canara Robeco Balance Scheme Growth (Direct Plan) has the next highest Treynor’s ratio followed by HDFC Balanced Fund - Direct Plan (G), Baroda Pioneer Balance Fund Growth (Direct Plan). Axis Triple Advantage Fund Growth (Direct Plan) has the lowest Treynor’s ratio (-0.12934) of all the selected funds, which shows it has earned very less returns.

### Table 7-: Showing Overall Rankings of the Mutual Funds

<table>
<thead>
<tr>
<th>NAME OF THE SCHEME</th>
<th>RANKING #</th>
</tr>
</thead>
<tbody>
<tr>
<td>Axis Triple Advantage Fund Growth (Direct Plan)</td>
<td>1</td>
</tr>
<tr>
<td>Baroda Pioneer Balance Fund Growth (Direct Plan)</td>
<td>2</td>
</tr>
<tr>
<td>Canara Robeco Balance Scheme Growth (Direct Plan)</td>
<td>3</td>
</tr>
<tr>
<td>Kotak-Balance-Direct Growth</td>
<td>4</td>
</tr>
<tr>
<td>HDFC Balanced Fund - Direct Plan (G)</td>
<td>5</td>
</tr>
</tbody>
</table>

### VI. FINDINGS

- In this study, H0 hypothesis is accepted as the investment in Mutual fund schemes is profitable.
- It can be observed that Canara Robeco Balance Scheme Growth (Direct Plan) has yielded the highest return (56.6%) of all the selected mutual funds. This is due to the portfolio of its investments which have performed very well. Therefore the fund manager should be credited for the success of the fund. Hence investors who are attracted to funds with highest returns will be interested in this mutual fund scheme.
- Kotak-Balance-Direct Growth has the highest Treynor’s ratio (0.254428). Higher the Treynor’s ratios better the returns of the mutual fund. The investors should again select a mutual fund with a higher Treynor’s ratio, as it yields higher returns for the same risk level.

### VII. CONCLUSION

By comparing the above mentioned schemes I come to know risk and return relation between specified schemes. Therefore investor before investing in any mutual fund schemes they should study the risk and return relation. And if the risk and return has been matched with their planning, then only investor should go for mutual fund scheme. So the future of mutual funds in India is bright, because it meets investor’s needs perfectly. This will give boost to Indian investors and will attract foreign investors also. It will lead to the
growth of strong institutional framework that can support the capital markets in the long run. Investors who want the highest returns and are willing to take higher risk should invest their funds in Canara Robeco Balance Scheme Growth (Direct Plan), as it has yielded the highest returns (56.6%) among all the selected mutual funds.

Comparing the overall performance of all the selected mutual fund schemes Axis Triple Advantage Fund Growth (Direct Plan) has been the best mutual fund scheme, as it has the best ranking as per Sharpe & Beta followed by Baroda Pioneer Balance Fund Growth (Direct Plan), Canara Robeco Balance Scheme Growth (Direct Plan) but in the case of HDFC Balanced Fund - Direct Plan (G) has very weak performance, as it has the lowest Sharpe’s ratio (-0.04462) among all the selected funds, which means it has yielded very less returns for the same risk level.

REFERENCES