Execution Investigation of Selected Mutual Funds Applicable for Technical Institutions

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Abstract

Speculation is the vocation of the assets on resources with the point of acquiring salary or capital appreciation. Venture has two characteristics in particular time and hazard. During the time spent speculation, the present utilization is scarified to get returns later on. The penance that must be home is sure yet later on might be dubious. So shared assets are one of the most ideal approaches to contribute with a lower hazard. The study includes the information investigation of the top assets in India whose execution is broke down to choose the right decision of venture.

Keywords- Sensex, BSE, NSE, Net Asset Value, Risk, Return

I. INTRODUCTION

Mutual Fund is a pooling of cash from shareholders and puts resources into an assortment of securities, for example, stocks, securities and currency market instruments. Most open-end common assets stand prepared to purchase its shares at current NAV, which relies on upon the aggregate markets estimation of the asset's speculation portfolios at the season of reclamation.

II. METHODOLOGY

A. Need for the Study
To cram on the concert of selected funds, with a number of tools and techniques to undertake in the quantification and considerate, the risk and return for each investment fund plan, which must be considered. And investigation of the mutual fund systems is done to determine which fund has performed the best, which helps the company, the performance of funds of various companies with to distinguish the same sector under similar market conditions.

B. Scope of the Study
The present study includes 10 investment funds systems from different fund companies launched. These are:
1) L&T.Short.term.income.fund (G)
2) Pramerica.Short.term.income.fund (G)
3) ING.Short.term.income.fund (G)
4) Edelwiss.Short.term.income.fund (G)
5) BNP.Paribas.Short.term.income.fund (G)
6) HSBC.short.term.income.Fund (G)
7) Baroda.Pioneer.short.term.Fund (G)
8) IDBI.short.term.Fund (G)
9) Peerless.short.term.fund (G)
10) Religare.Invesco.short.term.Fund (G)

The duration of this research is from 1 January 2014 to 31 December 2014. The NAV of the chosen scheme have compared for 10 years with monthly returns. Then, these systems were compared with the benchmark return, to evaluate the performance of these systems.

C. Literature Review
An attempt made in this section done in the area of performance analysis of selected investment funds to verify the past research was.

Treynor & Mazuy (1966) led to analyse the market movements a test of the ability of the Investment Manager. The study used to analyze the investment performance results of 57 investments, the evidence of market timing skills and found no statistical evidence of Investment Manager for one of the samples funds had marked to market successfully. The study showed that the investment managers had no way to identify the market as a whole but they can outguess undervalued securities.
Fama (1972) suggested alternative methods of investment performance with breakdown of performance in terms of stock selection, the evaluation, market timing, diversification and risk bearing. It showed mechanism for sorting out return on investment due to manager the ability to pick the best securities to a particular risk from the part that is due to the forecast of market price movements.

Gupta (1974) evaluated the performance of investment funds market through their investment goals and objectives for the period 1962-1971. The results showed that performance models led to identical results. The fund with a higher volatility in several subgroups sorting out the superior performance exhibited when compared with the other. And also that all fund types to measure better than the market, regardless of selection of the market index and performance.

Henrikson and Merton (1981) developed additional statistical framework for both parametric and non-parametric tests of market timing ability of investment managers. It is reported that if forecasts of the Fund Manager were observed, proposed the parametric test that without further assumptions about the distribution of security returns, if not non-parametric test assuming either capital asset pricing model or multi-factor return structure can be used. These measures allow for the identification and separation of profits from market timing capabilities that the micro-selection skills.

Lee and Rahman (1990) also analyses the market timing and selectivity performance of investment funds some evidence of micro- and macro-forecasting ability of fund managers indicated by simple regression technique.

D. Statement of the Problem
The project deals with the Execution Investigation of Selected Mutual Funds Applicable for Technical Institutions.

E. Objective of the Study
1) In order to interpret the selected mutual fund systems appreciate Sharpe ratio use, Jensen ratio, alpha ratio Treynor models.
2) To estimate the risk of a selected investment fund systems and comparing NSE Treasury Bill Index
3) Measured and compare the performance of 10 selected fund systems.

F. Limitations of the Study
- The study is limited to performance analysis of mutual funds.
- Considers only one year of data.
- 10 investment funds for the analysis considered.
- Is limited to selected investment funds systems.
- Due to their busy schedules to interact with the company was professional limited.

G. Ways to Measure the Mutual Fund Risk
The distributors have a large selection of products that offer the potential investors. But there are very large numbers of companies that have similar products to investors. So there are a large number of mutual fund products offered on the market. So there should be some factors that compare these AMCs. These comparative factors are:

1) Treynor’s Ratio
Treynor of action is called a threat to volatility ratio. Treynor reflect the balance portfolio beta as a measure of the risk. Portfolio beta is the average beta of individual assets in the relevant portfolio.

\[
TR = \frac{(RP - RF)}{\beta}
\]

Where,
\(RP\) = Expected Return
\(RF\) = Risk free return
\(\beta\) = Beta of the portfolio

2) Sharpe Ratio
Investor seeks income from risk-free instruments such as treasury bills, government bonds or bank deposits. So the purpose of the investment is to generate returns over the risk-free return. At the same time be accompanied by high yields with a high degree of volatility. Investors take these variations in market value just because they want a higher return. The Sharpe ratio represents the compromise between risk and return. At the same time there is desire to achieve returns that are higher than those of risk-free rate.

3) Beta
A measure of the volatility or systematic risk security or a portfolio in comparison with the market index as a whole. Beta 1 show that the safety of the price will move with the market. If beta is less than 1, meaning that the security be less volatile than the market. If beta is greater than 1, meaning that the price of the security to be more volatile than the market.

4) Standard Deviation
The standard deviation (SD) of the average is the amount by which the numbers going from this average to an average deviate. It helps to know how closely represents an average of the underlying figures. If the individual monthly payments from the average...
are very different, then the fund is risky, offering high returns in a few months and poor yields in another. If they are similar, then the fund is a low risk, with about the same rate of return every month. A high standard deviation is a measure of volatility.

III. DATA ANALYSIS AND INTERPRETATION

A. Details of Schemes Selected

1) L&T Short Term Income Fund (G)
   - Fund Type: Open-ended
   - Investment Plan: Growth
   - Risk Grade: Above average
   - Risk Return: Average
   - Net Assets: Rs. 168.9 crore as on Dec 31, 2014

2) Pramerica Short term income fund (G)
   - Fund Type: Open-ended
   - Investment Plan: Growth
   - Risk Grade: Low
   - Risk Return: Average
   - Net Assets: Rs. 37.0 crore as on Dec 31, 2014

3) ING Short Term Income Fund (G)
   - Fund Type: Open-ended
   - Investment Plan: Growth
   - Risk Grade: High
   - Risk Return: Low
   - Net Assets: Rs. 30.7 crore as on Dec 31, 2014

4) Edelwiss Short Term Income Fund (G)
   - Fund Type: Open-ended
   - Investment Plan: Growth
   - Risk Grade: Above average
   - Risk Return: Low
   - Net Assets: Rs. 30.2 crore as on Dec 31, 2014

5) BNP Paribas Short Term Income fund (G)
   - Fund Type: Open-ended
   - Investment Plan: Growth
   - Risk Grade: Above average
   - Risk Return: above Average
   - Net Assets: Rs. 316.5 crore as on Dec 31, 2014

6) HSBC Short Term Income Fund (G)
   - Fund Type: Open-ended
   - Investment Plan: Growth
   - Risk Grade: Above average
   - Risk Return: Below Average
   - Net Assets: Rs. 760.0 crore as on Dec 31, 2014

7) Baroda Pioneer Short Term Fund (G)
   - Fund Type: Open-ended
   - Investment Plan: Growth
   - Risk Grade: Above average
   - Risk Return: Below Average
   - Net Assets: Rs. 184.1 crore as on Dec 31, 2014

8) IDBI Short Term Fund (G)
   - Fund Type: Open-ended
- Investment Plan: Growth
- Risk Grade: Above average
- Risk Return: Average
- Net Assets: Rs. 168.9 crore as on Dec 31, 2014

9) Peerless Short Term Fund (G)
- Fund Type: Open-ended
- Investment Plan: Growth
- Risk Grade: Low
- Risk Return: Above Average
- Net Assets: Rs. 191.8 crore as on Dec 31, 2014

10) Religare Invesco Short Term Fund (G)
- Fund Type: Open-ended
- Investment Plan: Growth
- Risk Grade: Average
- Risk Return: Low
- Net Assets: Rs. 1561.7 crore as on Dec 31, 2014

B. Calculations based on Statistical Parameters

Table 1: Risk & Return Analysis

<table>
<thead>
<tr>
<th>SR.NO</th>
<th>Name of the Scheme</th>
<th>Avg. Return</th>
<th>NSE Treasury Bill Index</th>
<th>Standard Deviation(σ)</th>
<th>Beta(β)</th>
<th>Co-Efficient Of Determination (R²)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>L&amp;T Short term income fund(G)</td>
<td>0.54974</td>
<td>0.59713</td>
<td>0.95872</td>
<td>0.0847</td>
<td>0.05196</td>
</tr>
<tr>
<td>2.</td>
<td>Pramerica Short term income fund(G)</td>
<td>0.55769</td>
<td>0.59713</td>
<td>0.462</td>
<td>0.04424</td>
<td>0.04311</td>
</tr>
<tr>
<td>3.</td>
<td>ING Short term income fund(G)</td>
<td>0.43675</td>
<td>0.59713</td>
<td>0.990461</td>
<td>0.09413</td>
<td>0.12815</td>
</tr>
<tr>
<td>4.</td>
<td>Edelwiss Short term income fund(G)</td>
<td>0.40445</td>
<td>0.59713</td>
<td>5.825108</td>
<td>0.06445</td>
<td>0.04781</td>
</tr>
<tr>
<td>5.</td>
<td>BNP Paribas Short term income fund(G)</td>
<td>0.93816</td>
<td>0.59713</td>
<td>0.71119</td>
<td>0.06332</td>
<td>0.0128</td>
</tr>
<tr>
<td>6.</td>
<td>HSBC Short term income fund(G)</td>
<td>0.73953</td>
<td>0.59713</td>
<td>4.16305</td>
<td>0.09538</td>
<td>0.02597</td>
</tr>
<tr>
<td>7.</td>
<td>Baroda Pioneer Short term income Fund(G)</td>
<td>0.52603</td>
<td>0.59713</td>
<td>0.76844</td>
<td>0.06456</td>
<td>0.34963</td>
</tr>
<tr>
<td>8.</td>
<td>IDBI Short term income fund(G)</td>
<td>0.49993</td>
<td>0.59713</td>
<td>0.93394</td>
<td>0.08514</td>
<td>0.41157</td>
</tr>
<tr>
<td>9.</td>
<td>Peerless Short term income fund(G)</td>
<td>0.60677</td>
<td>0.59713</td>
<td>0.15419</td>
<td>0.0112</td>
<td>0.26154</td>
</tr>
<tr>
<td>10.</td>
<td>Religare Invesco Short term fund(G)</td>
<td>0.41657</td>
<td>0.59713</td>
<td>0.76763</td>
<td>0.06543</td>
<td>0.35986</td>
</tr>
</tbody>
</table>

1) Return analysis

The average weekly return is calculated based on the NAV (Net Asset Value). It is evident from the table-1, based on the average weekly return while the remaining five systems (50%) were of 10 debt schemes, 5 systems have performed (50%), even compared to the market index not been able, the benchmark portfolio on to perform. The top performer with the highest average weekly returns is BNP Paribas Short term bond funds (G), followed by HSBC short-term Income Fund (G) Peerless shortly Fund (G) Pramerica Short-term bond funds (G), L & T Short-term bond funds.

2) Risk Analysis

The risk is based on the standard deviation calculated (σ), beta (β), Co-efficient determination. From 10 debt schemes, 3 systems have a standard deviation less than the market index and are less risky compared with the index remaining 2 have a high standard deviation. Overall variability in the return of the market more than variability in return of portfolio systems. High value of the standard deviation is high level of risk. The analysis shows that beta value based on the NAV in all systems is less than 1, suggesting that these defense systems in nature and less sensitive to market forces. The value of R2 is based on NAV is highest in IDBI shortly Fund (G) followed by Religare Invesco shortly Fund (G) Baroda Pioneer shortly Fund (G) Peerless shortly Fund (G) ING Term Bond Fund (G) indicating that the systematic risk in these systems is highest compared to other systems in which the value of R2 is the least.

C. Application of Sharpe Model

Table 2: Application of Sharpe Model for performance analysis

<table>
<thead>
<tr>
<th>SR.NO</th>
<th>Name of the Scheme</th>
<th>Sharpe ratio</th>
<th>NSE Treasury Bill Index</th>
<th>Performance</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>L&amp;T Short term income fund(G)</td>
<td>0.48999</td>
<td>0.59713</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Pramerica Short term income fund(G)</td>
<td>1.0202</td>
<td>0.59713</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>ING Short term income fund(G)</td>
<td>0.35377</td>
<td>0.59713</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>4.</td>
<td>Edelwiss Short term income fund(G)</td>
<td>0.05461</td>
<td>0.59713</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>5.</td>
<td>BNP Paribas Short term income fund(G)</td>
<td>1.19772</td>
<td>0.59713</td>
<td>1</td>
<td>2</td>
</tr>
</tbody>
</table>
6. HSBC Short term income fund(G) 0.15684 0.59713 0 9
7. Baroda Pioneer Short term income fund(G) 0.57217 0.59713 0 4
8. IDBI Short term income fund(G) 0.44282 0.59713 0 6
9. Peerless Short term income fund(G) 3.37503 0.59713 1 1
10. Religare Invesco Short term fund(G) 0.43018 0.59713 0 8

Note: 1 stands for superior performance and 0 stands for deprived performance.

![Sharpe's Ratio Chart](chart.png)

**Fig. 1:** Screening Performance of mutual funds with Sharpe’s Ratio means

1) **Interpretation**

Table (2) and graphics (1) explains about the performance of selected funds based on Sharpe Ratio & Ranking of funds is always made at the highest ratio. A higher Sharpe ratio is better, since it is produced per unit of risk a higher return. The performance of these systems is compared to the market index. The control more than 1 value shows that it has a good performance in the market and less than 1 value shows the poor performance. Based on NAV, BNP Paribas Short term bond funds (G) Peerless shortly Fund (G) Peerless Father's Fund (G) have more than one value, therefore carried out on the market and those rules have a good performance shown in comparison to the market index.

**D. Appliance of Treynor Model**

<table>
<thead>
<tr>
<th>SL.NO</th>
<th>Name of the Scheme</th>
<th>Treynor ratio</th>
<th>NSE Treasury Bill index</th>
<th>Performance</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>L&amp;T Short term income Fund</td>
<td>5.47042</td>
<td>0.59713</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>2.</td>
<td>Pramerica Short term income Fund(G)</td>
<td>10.653</td>
<td>0.59713</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>3.</td>
<td>ING Short term income fund(G)</td>
<td>3.72208</td>
<td>0.59713</td>
<td>1</td>
<td>9</td>
</tr>
<tr>
<td>4.</td>
<td>Edelwiss Short term income fund(G)</td>
<td>4.93524</td>
<td>0.59713</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>5.</td>
<td>BNP Paribas Short term income fund(G)</td>
<td>13.4508</td>
<td>0.59713</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>6.</td>
<td>HSBC Short term income fund(G)</td>
<td>-6.8481</td>
<td>0.59713</td>
<td>0</td>
<td>10</td>
</tr>
<tr>
<td>7.</td>
<td>Baroda Pioneer Short term income fund(G)</td>
<td>6.80937</td>
<td>0.59713</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>IDBI Short term income fund(G)</td>
<td>4.8574</td>
<td>0.59713</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>9.</td>
<td>Peerless Short term income fund(G)</td>
<td>46.4405</td>
<td>0.59713</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>10.</td>
<td>Religare Invesco Short term fund(G)</td>
<td>5.04622</td>
<td>0.59713</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Note: 1 stands for good performance and 0 stands for poor performance.
Fig. 2: screening Performance of mutual funds with Treynor’s Ratio process

1) Interpretation
The performance of the debt arrangements based on the Treynor index is shown in Table 3 and Figure 2, which provides for a mechanism for the systematic risk of the outperformance over risk free rate.

The performance of these systems as compared to the market index is based on the performance indicator shows that, i.e. NAV, 1 scheme (10%) have shown poor performance because it is relatively index value is less than 1, while the remaining 9 systems (90 %) outperformed the market. The top 4 performers are Peerless shortly Fund (G) BNP Paribas Short-term bond funds (G) Pramerica Short-term bond funds (G) Baroda Pioneer shortly Fund (G).

IV. SUMMARY OF FINDINGS, SUGGESTIONS

A. Summary of Findings

1) Resting on the Source of Average Return
Return after analysis of 10 debt provisions 5 systems, i.e. BNP Paribas Short term bond funds (G), HSBC shortly Income Fund (G) Peerless shortly Fund (G) Pramerica Short-term bond funds (G) and L & T Short-term bond funds (G) Performance is good when compared to the market index. Based on the average weekly return the remaining 5 systems have not been able to perform to the benchmark portfolio.

2) Resting on the Source of Standard Deviation
After risk analysis of 10 debt schemes, 3 systems, i.e. Peerless shortly Fund (G), L & T Short-term bond funds (G) and Pramerica Short-term bond funds (G) have a lower risk, i.e. standard deviation than the market index or benchmark. Therefore, variability in the return of the market more than variability in return of portfolio systems.

3) Resting on the Source of Beta
The analysis shows that beta value based on the NAV in all systems is less than 1, suggesting that these defense systems in nature and less sensitive to market forces.

4) Resting on the Source of Determination (R-Square)
The value of R2 is based on the NAV is high ie IDBI Father's Fund (G) Religare Invesco shortly Fund (G) Peerless shortly Fund (G), ING Term Bond Fund (G) L & T Short-term Income Fund (G). After R-square, show these means that the systematic risk high in these systems as compared to other systems.

5) According To Sharpe’s Ratio
Peerless shortly Fund (G) BNP Paribas Short-term bond funds (G) and Pramerica Short-term bond funds (G), these agents have more than 1 value, so that these systems perform well.

6) According to Treynor’s Ratio
Peerless shortly Fund (G) BNP Paribas Short-term bond funds (G) Pramerica Short-term bond funds (G) and Baroda Pioneer shortly Fund (G), L & T Short-term bond funds (G) have more excess return-free interest rate on risk for one unit for the systematic risk, so that these systems, the performance is good.
7) **According To Jensen Alpha Measure**
BNP Paribas Short term bond funds (G), HSBC shortly Income Fund (G) Peerless shortly Fund (G) Pramerica Short-term bond funds (G) L & T Short-term bond funds (G) have generated income over the balance back well, so is these systems performance.

V. **CONCLUSION**
After these selected investment fund short-term systems analysis Sharpe ratio model, the ratio Treynor model and Alpha Model Jenson found in debt that three systems, i.e. BNP Paribas Short term bond funds (G) Pramerica Short-term bond funds (G) and L & T Short bond fund has given (G), consistency performance in all models. It is also noted that these three systems shown on the basis of return, standard deviation, beta consistency performance. Worst systems are short-term HSBC Income Fund (G) and followed by Edelwiss Short term bond funds (G).

**REFERENCES**