

## PERFORMANCE APPRAISAL OF GROWTH MUTUAL FUND

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**Abstract** - A Mutual Fund is a pool of money, collected from investors, and is invested according to certain investment objectives. The paper examines the performance of 25 Growth Mutual Fund Schemes. Over the time period of Jan 2004-Dec 2008. For this purpose three techniques are used (I) Beta (II) Sharpe Ratio (III) Treynor Ratio. Rank is given according to result drawn from this scheme and comparison is also made between results drawn from different schemes and normally the different are insignificant.

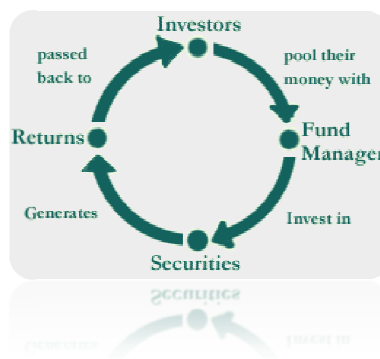
The study noticed that there exist moderate correlation between risk and return of the Sample Scheme. The finding shows that Reliance Growth show highest performance in all schemes under study. With the comparison of different analysis tools the highest deviation comes in ICICI Prudential FMCG. This paper help the investor to know about the performance of different Mutual Fund Schemes. This will give a great help for investor while taking there investment decision.

**Keywords:** Sharpe Ratio, Treynor Ratio, Beta

### I INTRODUCTION

**“Mutual fund is vehicle that enables a number of investors to pool their money and have it jointly managed by a professional money manager.”**

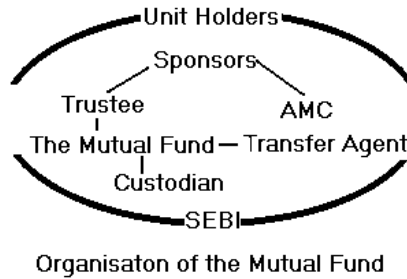
A Mutual Fund is a pool of money, collected from investors, and is invested according to certain investment objectives. The income earned through these investments and the capital appreciation realized are shared by its unit holders in proportion to the number of units owned by them. We will cover these topics shortly. First, however, we're going to focus our attention on the “nuts and bolts” of how mutual funds operate.



**Mutual Fund Operation Flow Chart**

### Organization of a Mutual Fund

Mutual funds and the unit trust are governed by the Securities Exchange Commission in USA and by the Securities Investment Board in the UK. The four tier system for managing Mutual funds in India, ensuring an arms length between the sponsor and the funds, as designed by the SEBI, is discussed below:



### Performance Evaluation of following Mutual Funds Schemes

Reliance growth  
Sundaram BNP Paribas select midcap  
Birla sun life equity fund  
ICICI Prudential FMCG  
SBI Manglum multiplier plus 93  
HDFC Tax saver  
Kotak 30  
Sundaram BNP Paribas select focus  
Reliance Banking Fund  
SBI Manglum sector umbrella contra & growth  
SBI Manglum Global fund 94  
DSP Blackrock top 100 equity fund  
Franklin India prima plus  
HDFC top 200  
ICICI Prudential Dynamic plan  
Tata pure equity fund  
Birla sun life buy India fund  
Birla sun life basic industries  
Sahara growth fund  
HSBC equity fund  
Birla sun life MNC fund  
Sundaram BNB Paribas Tax saver  
UTI MNC fund  
SBI Manglum tax gain scheme 93  
Kotak MNC fund

## II REVIEW OF LITERATURE

- **M. Swaminathan and V. Buvanmeswaran (2006)** have conducted a study on investor's preference towards mutual funds with special reference to Thiruchirapali Town, Tamil Nadu. The investors of Thiruchirapali become more cautious after they lost their saving with incorporated bodies. They are now turning more to mutual funds because of more safety, liquidity, capital gains and transparency. They wish to route their investments through mutual funds.
- **Meijun Qian(2006)** have examined the performance of Whom Can You Trust? A Study on Mutual Fund Governance. This paper examines the Investors in an open-end Mutual Fund can vote with their feet by withdrawing assets from or adding assets to the Fund. This paper examines the effectiveness of this market monitoring mechanism in relation to the trading scandals erupted in 2003. With a sample of 92 Fund families and 10220 funds\*classes I find that the probability of being indicted is higher for younger funds, funds whose boards are excessively paid, and funds whose money flow is insensitive to past returns. In funds with higher flow sensitivity, there are less stale pricing and less abnormal flows, implying less opportunistic trading. These findings suggest that investors' ability to withdraw from or add assets to funds is an effective Fund governance mechanism
- **Geoffrey c. Fri , Travis sapp (2005)** have examined the performance of Mutual Fund Flows and Investor Returns: An Empirical Examination of Fund Investor Timing Ability. This paper examines the timing ability of Mutual Fund investors using cash flow data at the individual Fund level. Over 1991-2004 equity Fund investor timing decisions reduce Fund investor average returns by 1.56% annually. Underperformance due to poor timing is greater in load funds and funds with relatively large risk-adjusted returns. In particular, the magnitude of investor underperformance due to poor timing largely offsets the risk-adjusted alpha gains offered by good-performing funds. Investors in both actively managed funds and index funds exhibit poor investment timing.
- **Naraismhan and Vijaylakshmi (2001)** have examined the performance of funds managers in selecting and investing in top performing stocks and performance in timing the investment on such top performance stocks by taking 76 mutual funds schemes of 25 asset management companies. The study noticed a general shift from holding a large portfolio to a lean portfolio and examined the impact of this change on achieving diversification benefits and performance of funds. The findings about the performance of funds in identifying and investing in top performing stocks showed that except in a few cases the funds by and large missed a significant part of top 100 stocks.
- **Khorana ,Tufano and Leiwedge(2007)** have examined the performance of Structure, Mergers and Shareholder Wealth: A Study of the Mutual Fund Industry. This paper examines and understands the role and effectiveness of fund boards. Some Fund mergers - typically across-family Fund mergers - benefit target shareholders but are costly to target Fund directors. According to this paper Fund mergers of this kind are more likely when funds underperform and when their boards are composed of a larger fraction of independent trustees. This strong interaction effect is consistent with more independent boards exhibiting a lower tolerance of poor performance before initiating across-family mergers. This effect is most

pronounced when all of the fund's directors are independent, not at the 75% level of independence required by the SEC. Moreover, while boards approve across-family mergers that lead to substantial reductions in their own compensation, more highly paid target fund boards are less likely to approve these mergers. Other structural board characteristics (in particular, board size and independent chairs) are not strongly related to fund merger likelihoods and board structure is unrelated to post-merger performance.

### **III RESEARCH METHODOLOGY**

#### **RESEARCH DESIGN**

Research design is basically the laying out of structure processes and proceedings of research work. The research design is DESCRIPTIVE –cum- EXPLORATORY RESEARCH DESIGN. Because it involves description of nature of sample size of sample, collection of data, technique of data collection , analysis of data and finally concluding with certain findings.

#### **OBJECTIVE OF STUDY**

1. To evaluate the performance of selected growth mutual funds.
2. To evaluate the performance of selected growth fund with the help of **SHARPE RATIO**.
3. To evaluate the performance of selected growth fund with the help of **TREYNOR'S RATIO**.
4. To compare and evaluate the actual result with the result derived from the above mentioned technique.

#### **HYPOTHESIS**

There is no significance difference between the actual result of performance evaluation of growth mutual fund and observed result which is derived from SHARPE RATIO and TREYNOR's RATIO and BETA.

#### **SAMPLE DESIGNS**

- Simple random sampling
- Stratified random sampling
- Cluster sampling

While selecting the sample from population of funds, the population was stratified into a number of strata by arranging them in alphabetical order and then a random selection of funds was made from each strata. This stratified random sampling procedure has been followed in sample selection. Net asset value of the selected schemes over a period of 5years months (Jan. 04 to dec. 08) from the major part of the database.

#### **COLLECTION OF DATA**

Data basically classified into two types, primary data and secondary data. In this research project. I have primarily made use of secondary data collected from The Economic Times & Internet. The data collected is for 25 mutual fund schemes out of which mostly are exclusively quoted on BSE & also on other stock exchanges. The study is entirely based on the secondary data. The scope of the study kept limited to the time period of 5 years (January 2004 to December 2008).

## **METHOD FOR ANALYSIS OF DATA**

Data analysis is the most important part of the research, which ultimately leads to the results, and findings of the present study. There are various methods and techniques of data analysis. Statistical tools have formed the basis of data analysis in this project as well as analysis has been done through graph.

### **Statistical Tools used for Analyzing Data**

Risk defines the fluctuations in the returns of a fund during a given time period. If there is a probability of high increase and decrease in the return it means more will the fluctuation which represents a higher level of risk. The standard deviation represents total risk associated with a security. This total risk further can be categorized in two parts

- 1) systematic risk
- 2) unsystematic risk.

Systematic risk is that fluctuation which occurs due to the unavoidable or uncontrollable factor such as interest rate, inflation rate and other market factors. So this risk plays a more important part in evaluation of the fund performance. This is represent by beta and calculated as follows:

$$\text{Beta} = \text{Cov} (R_p, R_M) / \sigma^2 (R_M)$$

$R_p$  = Portfolio Return

$R_M$  = Market Return

$\sigma^2$  = Square of S.D

If a fund NAV is more sensitive toward the market fluctuation it means that fund has high beta coefficient or vice-versa. On the other hand unsystematic risk occurs due to specific securities in the portfolio and can be diversified.

To evaluate the return with risk associated the following methods have considered.

1. Sharpe ratio
2. Treynor's ratio

### **Sharpe ratio**

It is reward to variability ratio given by **W.F.Sharpe** in **1966**. It is expressed as the excess return per unit of risk, where risk is measured by the standard deviation of the rate of return.

In mathematical terms :

$$S_p = ( R_p - R_f ) / \sigma_p$$

where

$S_p$  = Sharpe's ratio for fund p,

$R_p$  = Average return on fund p,

$\sigma_p$  = Standard deviation of return of return on fund p, and

$R_f$  = Return on risk free asset.

The Sharpe ratio for a fund indicates whether the returns that the fund delivered were commensurate with the volatility that it exhibited. Since **Sharpe ratio is measure of the return per unit of risk, a high value is good**

## **2. Treynor's ratio**

It is reward to volatility ratio given by **Jack Treynor** in **1965** and is expressed as a ratio of returns to systematic risk(beta).

In mathematical terms :

$$T_p = (R_p - R_f) / \beta_p$$

where

$T_p$  = Treynor's ratio for fund p,

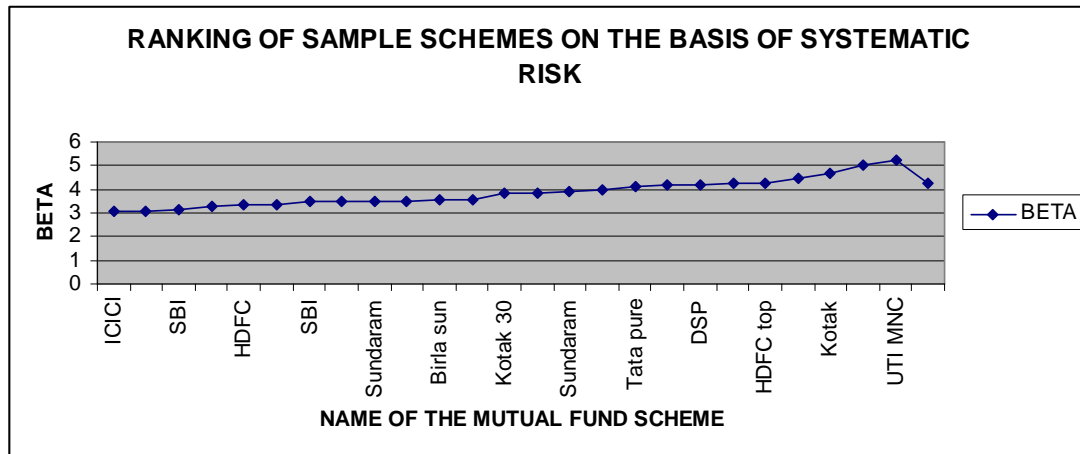
$R_p$  = Average return on fund p,

$\beta_p$  = Sensitivity of fund return to market return, and

$R_f$  = Return on risk free asset.

This measure is based on fact that preferred portfolio lies on the most counter clockwise ray in the expected return-beta space. The higher the ratio better is the performance.

Mutual Fund Name	BETA	Rank
ICICI Prudential FMCG	3.047358	1
Reliance Banking Fund	3.096622	2
SBI Manglum Global fund 94	3.138694	3
Reliance growth	3.307596	4
HDFC TaxSaver	3.315358	5
Birla sun life basic industries	3.331479	6
SBI Manglum sector umbrella contra & growth	3.457233	7
Birla sun life equity fund	3.457799	8
Sundaram BNP Paribas select midcap	3.474427	9
SBI Manglum Multiplier Plus 93	3.491751	10
Birla sun life buy India fund	3.571395	11
Sundaram BNP Paribas select focus	3.577539	12
Kotak 30	3.847518	13
SBI Manglum tax gain scheme 93	3.869502	14
Sundaram BNB Paribas Tax saver	3.887694	15
HSBC equity fund	3.957809	16
Tata pure equity fund	4.115051	17
ICICI Prudential Dynamic plan	4.164481	18
DSP Blackrock top 100 equity fund	4.194525	19
Franklin India prima plus	4.251429	20
HDFC top 200	4.284082	21
Sahara growth fund	4.494771	22
Kotak MNC fund	4.674153	23
Birla sun life MNC fund	5.018145	24
UTI MNC fund	5.232971	25
BSE	4.287399	

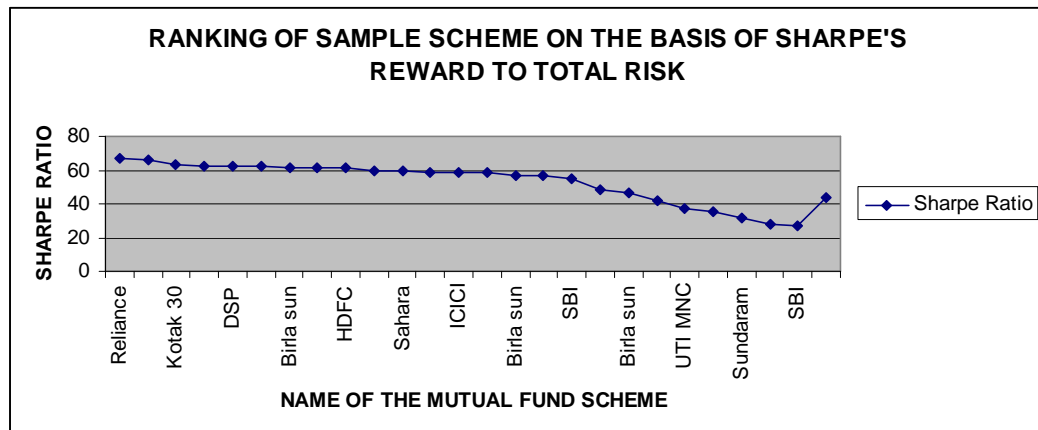


**Sharpe Portfolio Performance Measure**

While high and positive ratios show a superior risk adjusted performance of a fund, a low and negative ratio is an indication of unfavorable performance. Table reports the value of Sharpe’s reward to variability ratio.

**Ranking of the sample Schemes on the basis of Sharpe’s Reward to Total Risk**

Mutl Fund Name	Sharpe Ratio	Rank
Reliance growth	66.87137	1
Reliance Banking Fund	65.83052	2
Kotak 30	63.57324	3
Sundaram BNP paribas select midcap	62.37677	4
DSP Blackrock top 100 equity fund	62.36204	5
HDFC top 200	62.16962	6
Birla sun life equity fund	61.54903	7
Franklin India prima plus	61.40437	8
HDFC taxsaver	61.04737	9
ICICI Prudential Dynamic plan	59.44483	10
Sahara growth fund	59.18655	11
Tata pure equity fund	59.03346	12
ICICI Prudential FMCG	58.79146	13
Sundaram BNP paribas select focus	58.29372	14
Birla sun life buy India fund	57.18571	15
SBI Manglum Multiplier Plus 93	56.56723	16
SBI Manglum sector umbrella contra & growth	55.10411	17
SBI Manglum Global fund 94	48.1655	18
Birla sun life basic industries	46.82514	19
Birla sun life MNC fund	42.24056	20
UTI MNC fund	36.99097	21
HSBC equity fund	35.79415	22
Sundaram BNB Paribas Tax saver	31.67465	23
Kotak MNC fund	28.10528	24
SBI Manglum tax gain scheme 93	26.79843	25
BSE	43.53343	



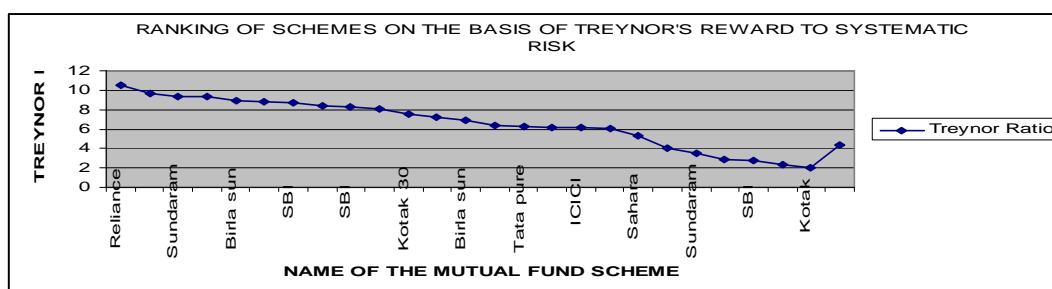
### Treynor Portfolio Performance Measure

Developed by Jack Treynor, this performance measure evaluated funds on the basis of Treynor Index. This index is a ratio of return generated by the fund over and above the risk free rate of return (generally taken to be the return on securities backed by government) during a given time period and systematic risk associated with it measured by Beta. This is called as reward volatility ratio. All risk averse investors would like to maximize this value while a high and positive Treynor Index shows a superior risk adjusted performance of a fund, a low and negative Treynor Index is an indication of unfavorable performance.

### Ranking of Schemes on the basis of Treynor's Reward to Systematic Risk.

Mutual Fund Name	Treynor Ratio	Rank
Reliance growth	10.56453	1
ICICI Prudential FMCG	9.613306	2
Sundaram BNP paribas select midcap	9.342783	3
Reliance Banking Fund	9.333802	4
Birla sun life equity fund	8.920752	5
HDFC Tax saver	8.802049	6
SBI Manglum Global fund 94	8.745229	7
SBI Manglum Multiplier Plus 93	8.362589	8
SBI Manglum sector umbrella contra & growth	8.269537	9
Sundaram BNP Paribas select focus	8.083056	10
Kotak 30	7.569541	11
Birla sun life basic industries	7.180531	12
Birla sun life buy India fund	6.936672	13
DSP Blackrock top 100 equity fund	6.369579	14
Tata pure equity fund	6.223429	15
Franklin India prima plus	6.162337	16
ICICI Prudential Dynamic plan	6.155294	17
HDFC top 200	6.022059	18
Sahara growth fund	5.268923	19
HSBC equity fund	4.007788	20
Sundaram BNP Paribas Tax saver	3.480744	21
Birla sun life MNC fund	2.848772	22
SBI Manglum tax gain scheme 93	2.790417	23
UTI MNC fund	2.330615	24
Kotak MNC fund	2.034772	25
BSE	4.336872	





Comparison of Rank of Mutual Fund Scheme analysis through Beta, Sharpe Ratio, Treynor Ratio

Mutual Fund scheme Name	Rank from Beta	Rank from Sharpe ratio	Rank from Treynor ratio
Birla sun life basic industries	6	19	12
Birla sun life buy India fund	11	15	13
Birla sun life equity fund	8	7	5
Birla sun life MNC fund	24	20	22
DSP Blackrock top 100 equity fund	19	5	14
Franklin India prima plus	20	8	16
HDFC TaxSaver	5	9	6
HDFC top 200	21	6	18
HSBC equity fund	16	22	20
ICICI Prudential Dynamic plan	18	10	17
ICICI Prudential FMCG	1	13	2
Kotak 30	13	3	11
Kotak MNC fund	23	24	25
Reliance Banking Fund	2	2	4
Reliance growth	4	1	1
Sahara growth fund	22	11	19
SBI Manglum Global fund 94	3	18	7
SBI Manglum Multiplier Plus 93	10	16	8
SBI Manglum sector umbrella contra & growth	7	17	9
SBI Manglum tax gain scheme 93	14	25	23
Sundaram BNP Paribas Tax saver	15	23	21
Sundaram BNP Paribas select focus	12	14	10
Sundaram BNP Paribas select midcap	9	4	3
Tata pure equity fund	17	12	15
UTI MNC fund	25	21	24

### FINDINGS AND CONCLUSION

1. A Reliance Growth shows the highest performance in all schemes under studies.

2. Risk analysis shows that maximum deviation in return shows in SBI Manglum Global Fund 94 whereas minimum deviation in Return found in UTI MNC Fund.
3. Systematic Risk analysis shows that ICICI Prudential FMCG have the lowest systematic risk whereas UTI MNC Fund shows the greater systematic risk.
4. On the basis of SHARPE's RATIO Relience Growth show highest performance in Return whereas SBI Manglum Tax Scheme 93 show the lowest performance.
5. On the basis of TREYNOR's RATIO the Relience Growth again show the highest performance in Return whereas Kotak MNC Fund show the lowest performance
6. While comparing the result drawn from TREYNOR's RATIO highest deviation occur in Birla Sun Life Basic Industries , SBI Manglum Global Fund 94.

A mutual fund brings together a group of people and invests their money in stocks, bonds, and other securities. The advantages of mutual are professional management, diversification, and economies of scale, simplicity, and liquidity. **Finally we conclude that:**

- 1 All most of the schemes have outperformed the market during the study period in terms of return. However the difference in market return and funds in found insignificant.
- 2 There exists a moderate correlation between risk and return of the sample schemes
- 3 Beta of the most scheme is more than one and thus , they are more prone to risk than the market.
- 4 A large majority of the schemes have failed in earning a risk premium irrespective of the performance measurement model concerned.
- 5 Most of the scheme have not performed better then the market on the basis of risk adjusting return also but the difference is not found significant.

#### REFERENCES

- [1] Bhole L.M. "Financial Institutions and Market Structure, Growth and Innovations", Tata McGraw Hill Publication, New Delhi, 1995.
- [2] Chag, EC and Lewellen, WG, " Market Timing and Mutual Funds Investment Performance", Journal of Business, Jan. 1984, pp. 57-72.
- [3] Chandra Prasanna, "The Investment Game How to Win", Tata McGraw Hill Publishing Company Ltd., New Delhi, 1995.
- [4] Geoffrey c. Fri , Travis sapp (2005) The performance of Mutual Fund Flows and Investor Returns.
- [5] Khan M.Y., Jain, PK., "Financial Management Text and Problems", Tata McGraw Hill Publication, New Delhi, 1995
- [6] Khorana ,Tufano and Leiwedge(2007) The performance of Structure, Mergers and Shareholder Wealth.
- [7] Meijun Qian(2006) the performance of Whom Can You Trust ? A Study on Mutual Fund Governance.
- [8] M. Swaminathan and V. Buvanmeswaran (2006) Investor's preference Towards mutual funds with special reference to Thiruchirapali Town, Tamil Nadu.

- [9] Narsimhan, M.S. and Vijayalakshmi S., "Performance Analysis of Mutual funds in India", Finance India, Vol. XV, No.1, March 2001, PP. 155-174.
- [10] Pandey I.M., "Financial Management", Vikas Publishing Houses Pvt. Ltd., New Delhi, 1995.
- [11] Sharpe, William F., "Mutual Fund Performance", Journal of Business, Jan.1996, pp.119-138.
- [12] Treynor, JL and K Mazuy, "Can Mutual Fund Outguess the Market?", Harvard Business Review, 43, No.1, pp. 63-75.
- [13] Treynor, Jack L., "How to Rate Management of Investment Funds", Harvard Business Review, Jan-Feb. 1965, pp. 6375.