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GLOSSARY OF FINANCIAL TERMS
(Continued from Previous Issue)

Cap
The top interest rate that can be paid on a floating-rate security.

Capital Asset
Long-term asset that is not bought or sold in the normal course of business.

Capital Gain
Difference between an asset's purchase price and selling price, when the difference is positive.

Capital Markets
Markets where capital funds - debt and equity - are traded.

Capital Stock
Stock authorized by a company's charter. The number and value of issued shares are normally shown, together with the number of shares authorized, in the capital accounts section of the balance sheet.

Capitalization Rate
Rate of interest used to convert a series of future payments into a single present value.

PERFORMANCE EVALUATION OF MUTUAL FUND SCHEMES

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Abstract
The active involvement of mutual funds in the economic development can be seen by their dominant presence in the money and capital market. The present study is confined to evaluate the performance of mutual funds on the basis of daily returns compared with security returns and S&P CNX 500 Index. The present study covers 25 schemes, (10 growth schemes, 11 income schemes, and 4 balanced schemes) floated by different institutions. For the purpose of this study, four performance measures., Sharpe, Treynor, Jensen's and Fama's measures are applied It is observed that the performance of sample schemes during the study period is good. However, there are some instances where poor performance has been reflected.

Introduction
Mutual fund is a trust or an investment company that pools resources from thousands of investors who share common investment goal and then diversifies its investments into different types of securities in order to provide potential returns and reasonable safety. It has become a major vehicle for mobilization of savings, especially from the small and household savers for investments in the capital market. The mutual fund helps the small and medium size investors to participate in today's complex and modern financial scenario. The investors can participate in the mutual fund by buying the units of the fund. The income earned through these investments and capital appreciation realized by the scheme is shared by its unit holders in proportion to the number of units owned by them. The active involvement of mutual funds in the economic development can be seen by their dominant presence in the money and capital market.

Significance of the study
Mutual Funds Industry has grown by leaps and bounds, particularly during the last two decades. Moreover the entry of private mutual fund has injected a

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Market Value of Schemes Investment + Other Assets (including accrued interest) – All Liabilities (unit Capital and reserves)

$$NAV = \frac{\text{Market Value of Schemes Investment + Other Assets (including accrued interest) – All Liabilities (unit Capital and reserves)}}{\text{No of units outstanding at the end of the day}}$$

B) **Portfolio returns:** The portfolio returns are calculated as follows

$$R_{it} = \frac{D_t + NAV_t - NAV_{t-1}}{NAV_{t-1}}$$

Where

R_{it} is the **portfolio returns**.
NAV_t = per share NAV at the end of the day t
NAV_{t-1} = per share NAV at the end of the previous day

c) **Market returns:** The following formula is used to calculate market returns.

$$R_{mt} = \frac{M.Ind_t - M.Ind_{t-1}}{M.Ind_{t-1}}$$

Where

R_{mt} is the market returns.
$M.Ind_t$ = Market Index at the end of the day t
$M.ind_{t-1}$ = Market Index at the end of the previous day

d) **Risk:** It is the difference between the required rate of returns on mutual fund investment and the risk free rate. The total risk of a fund is the sum of systematic and unsystematic risk and it is measured in terms of standard deviation of returns of the fund.

e) **Beta:** The systematic risk is measured in terms of beta, which represents fluctuations in the NAV of the fund vis-à-vis market. Beta coefficient compares the variability of funds returns to the market as a whole. It is a relative measure. By convention, market will have beta value of 1.0. Mutual fund can be said to be volatile, more volatile or less volatile.

f) **Alpha:** It represents the difference between a mutual fund's actual performance and what would be expected at the level of risk assumed. A healthy fund would have an alpha equal to zero. A positive alpha indicates that the manager produced returns greater than expected for the risk taken. Alpha is calculated by comparing the fund's actual performance with the risk adjusted expected returns.

g) **Sharpe Measure**
The performance of a fund is evaluated on the basis of Sharpe Ratio, which is a ratio of returns generated by the fund over and above risk free rate of returns and the total risk associated with it. According to Sharpe, it is the total risk of the fund that the investors are concerned about. So, the model evaluates funds on the basis of reward per unit of total risk. Symbolically, it can be written as:

$$\text{Sharpe Index } (S_i) = \frac{R_i - R_f}{\sigma_i}$$

Where,

R_i = Average returns on portfolio
R_f = Risk free rate of interest
σ_i = Standard deviation (risk) of the returns of portfolio

While a high and positive Sharpe Ratio shows a superior risk-adjusted performance of a fund, a low and negative Sharpe Ratio is an indication of unfavorable performance.

h) **Treynor Measure**
This model evaluates funds on the basis of Treynor's Index. This Index is a ratio of returns generated by the fund over and above risk free rate of returns (generally taken to be the returns on securities backed by the government, as there is no credit risk associated), during a given period and systematic risk associated with it (beta). While a high and positive Treynor's Index shows a superior risk-adjusted performance of a fund, a low and negative Treynor's Index is an indication of unfavorable performance.
Symbolically, it can be represented as:

$$\text{Treynor's Index } (T_i) = \frac{R_i - R_f}{\beta_i}$$

Where,

R_i = Average returns on portfolio
R_f = Risk free rate of interest
β_i = Beta co efficient of portfolio

i) **Jenson Model**
Jenson's model proposes another risk adjusted performance measure. This measure was developed by Michael Jenson and it is sometimes referred to as the

...ncient market theories state that higher the risk, higher should be the ...ns and vice versa. The growth schemes with the highest risk yielded higher ...urns. The income schemes with the next higher risk yielded moderate returns. ...h the case of balanced schemes, they earned low returns with low risk. The overall analysis shows that the risk returns relationship does exist in few of the mutual fund schemes.

With reference to the performance of the individual growth schemes, the Reliance Growth Fund – Growth Plan has yielded the highest returns of 75.79% with highest risk (25.89). The Birla Advantage Fund – Dividend Scheme has earned the negative returns of -1.58% with low risk (1.74).

Among the sample income schemes taken for this study, Reliance Income Fund – Annual Dividend Plan has yielded the highest returns of 47.31% with highest risk (18.89). This is followed by Birla Sunlife, Govt. Securities Long Term Dividend Scheme (returns of 22.74% and risk 8.5). The least returns was earned by the Birla Sunlife Monthly Income – Quarterly Dividend Plan (0.33%) while least risk was faced by the Birla Sun life Cash Manager – Growth.

In the case of balanced schemes, JM Balanced Fund - Growth Scheme has earned high returns of 3.77% with high risk of 2.62 compared to other schemes. All other balanced schemes have earned negative returns irrespective of level of risk. The overall analysis shows that the growth and income schemes have performed better than the balanced schemes. Among the individual schemes, Reliance Funds occupied the top rank in both the growth and income schemes.

ii) Results of Performance Measure models

Table -2 shows the results of Sharpe, Treynor, Jensen, and Fama models. From the analysis of the Table, a general trend could be observed. Few schemes got similar ranks both under the Sharpe and Treynor measures. This indicates the fact that the total risk of a well diversified portfolio is equal to the systematic risk. It means that the schemes are well diversified. Such schemes are given below:

Growth Scheme

- ❖ Birla Sun life Tax Relief – 96 Fund
- ❖ Birla Sun life Equity Fund – Growth

Income Scheme

- ❖ Birla Income plus – Growth
- ❖ Birla Sun life Income Fund – Regular Growth

Balanced Schemes

- ❖ JM Balanced Fund – Dividend

The Sharpe ratio clearly shows that most of the sample growth schemes have earned positive results. Schemes like Birla Advantage Fund – Dividend, Birla Sunlife Equity Fund – Dividend have earned negative results. These schemes are considered as superior risk adjusted performing fund. Most of the income and balanced schemes earned negative results under Sharpe and Treynor measures. It indicates the unfavorable performance of funds.

The results of Treynor measures show that most of the schemes have earned low and negative results. This is an indication of unfavorable performance of funds. The Jenson measures in all the schemes under three categories showed positive results ranging from 6-7 percent except the Birla Tax Plan – 98.

The application of Fama's measures under the three categories showed that most of the schemes have earned low but positive results. However, the Birla Tax Plan – 98 earned high returns of 5.54. It means that the fund manager has managed the fund efficiently and earned the returns well above the returns of other schemes.

iii) Top Mutual Fund Schemes:

The ranking of the schemes under the four models are not the same. This may be due to the fact that these four models use different parameters for the evaluation. The ranking of schemes (top three schemes) under four models are given in **Table-3**

Findings of the Study

The following are the important findings of the study:

- ❖ Among the growth schemes taken for this study, two schemes – Reliance Growth Fund – GP (75.79%) and Birla Advantage Fund -Growth (14.59%) have outperformed others. The actual returns of these schemes are greater than the average returns

- ❖ The few sample income schemes (Reliance Income Fund – ADP, Birla Sunlife Govt.Secu.Long Term Dividend, etc.) have yielded moderate returns, while the balanced schemes earned low returns.

Table 1
AND RETURNS OF MUTUAL FUND SCHEMES VS. SENSEX

No	Schemes	Fund Return	Fund Risk	Beta
	Growth Scheme			
1	Birla AdvandageFund –Dividend	-0.0158	1.7477	-0.0268
2	Birla AdvandageFund –Growth	0.1459	3.8360	0.1751
3	Birla Tax Plan 98	0.0862	4.5782	-0.0906
4	Birla sun life Tax Relief -96 Fund	0.0438	1.7828	0.3020
5	Birla sun life Equity Fund –Dividend	0.0217	1.9434	0.3159
6	Birla sun life Equity Fund – Growth	0.0566	1.8846	0.3272
7	JM Basic Fund	0.0568	5.2400	0.1493
8	Reliance vision Fund-GP	0.1110	1.4530	0.1481
9	Reliance Growth Fund –DP	0.0794	2.1848	-0.0528
10	Reliance Growth Fund-GP	0.7579	25.8897	0.3632
	Average (For all schemes)	**13.43%**	**5.0540**	
	Income Schemes			
11	Birla Income Plus – Growth	0.1048	4.2816	-0.0821
12	Birl Sunlife Income Fund – Reg.Growth	0.0373	0.1757	0.0109
13	Birla Sunlife Income Fund - 54EA Div	0.0052	0.4891	0.0120
14	Birla Sunlife Income Fund - 54EB Div	0.0052	0.4817	0.0183
15	Birla Sunlife Monthly Income –Qty Div	0.0033	0.4094	0.0261
16	Birla Sunlife Govt.Secu.Long Term Dividend	0.2274	8.5226	-0.1805
17	Birla Sunlife Cash Manager – Growth	0.0231	0.0141	-0.0001
18	Reliance Income Fund - QDP	0.0075	0.3454	0.0002
19	Reliance Income Fund - HDP	0.0090	0.4262	0.0004
20	Reliance Income Fund - ADP	0.4731	18.8896	0.1852
21	Reliance Income Fund - Growth	0.0356	0.1594	-0.0031
	Average (For all schemes)	**8.47%**	**3.1086**	
	Balanced Scheme			
22	Birla Balance –Growth	-0.0062	1.0413	-0.0299
23	Birla Balance – Dividend	-0.0021	1.2445	-0.0196
24	JM balanced fund –Dividend	-0.0070	1.1263	0.1903
25	JM balanced fund –Growth	0.0377	2.6249	0.0734
	Average (For all schemes)	**0.56%**	**1.5093**	
	MARKET (S&P CNX 500) INDEX	**4.5%**	**1.648**	**1.000**

Source: Corporate Database- Prowess.

Table 2
RESULTS OF SHSAPE, TREYNOR, JENSON AND FAMA MODELS

Schemes	SHARPE	Rank	TRYNOR	Rank	JENSON	Rank	FAMA	Rank
Growth Scheme								
Birla AdvandageFund -Dividend	-0.0542	10	2.484	1	0.0676	2	0.0437	4
Birla AdvandageFund -Growth	0.1285	1	-0.237	9	0.0631	5	0.0158	8
Birla Tax Plan 98	0.0715	2	0.826	4	-0.1115	10	5.5423	1
Birla sun life Tax Relief -96 Fund	0.0062	7	-0.178	7	0.0604	6	0.0432	5
Birla sun life Equity Fund -Dividend	-0.0128	9	-0.190	8	0.0601	7	0.0667	2
Birla sun life Equity Fund - Growth	0.0210	6	-0.148	6	0.0598	8	0.0418	6
JM Basic Fund	0.0440	4	-0.392	10	0.0637	3	-0.0029	9
Reliance vision Fund-GP	0.0649	3	0.297	5	0.0637	3	0.0476	3
Reliance Growth Fund -DP	0.0057	8	1.349	3	0.0682	1	0.0378	7
Reliance Growth Fund-GP	0.0267	5	1.902	2	0.0590	9	-0.2786	10
Income Schemes								
Birla Income Plus - Growth	0.0892	3	0.921	3	0.0688	2	0.0098	8
Birla Sunlife Income Fund -Reg.Growth	-0.3440	9	-6.096	9	0.0668	7	0.0647	3
Birla Sunlife Income Fund - 54EA Div	-0.1318	4	-5.578	8	0.0667	8	0.0605	7
Birla Sunlife Income Fund - 54EB Div	-0.1339	5	-3.664	7	0.0666	9	0.0606	6
Birla Sun life Monthly Income -Qty Div	-0.1603	7	-2.567	6	0.0664	10	0.0615	4
Birla Sunlife Govt.Secu.Long Term Div	0.2195	2	0.599	4	0.0710	1	-0.0468	10
Birla Sunlife Cash Manager - Growth	-4.7240	11	533.169	1	0.0670	4	0.0668	1
Reliance Income Fund - QDP	-0.1865	8	-312.028	11	0.0670	4	-0.0057	9
Reliance Income Fund - HDP	-0.1481	6	-162.328	10	0.0670	4	0.0613	5
Reliance Income Fund - ADP	0.4696	1	0.111	5	0.0629	11	-0.1851	11
Reliance Income Fund - Growth	-0.3848	10	21.350	2	0.0671	3	0.0649	2
Balanced Scheme								
Birla Balance -Growth	-0.0705	4	2.238	2	0.0677	1	0.0531	1
Birla Balance - Dividend	-0.0559	2	3.412	1	0.0674	2	0.0504	3
JM balanced fund -Dividend	-0.0665	3	-0.359	3	0.0628	4	0.0520	2
JM balanced fund -Growth	0.0122	1	-0.875	4	0.0654	3	0.0320	4

Source: Corporate Database- Prowess.

Particulars	1991-92			1996-97			
	Target	Achievement	Rate of achievement (in %)	Target	Achievement	Rate of achievement (in %)	Rate of target (in %)
1. Production (Rs. Crores)							
(a) SSI	160000.00 (81.89)	160000.00 (81.92)	100.00	2,33,463.00 (79.20)	-	-	145.91
(b) VSI	195376.00 (100)	195294.00 (100)	99.95	2,94,775.00 (100)	-	-	150.87
2. Employment (Lakh person)							
(a) SSI	133.30 (32.11)	126.00 (28.42)	94.52	150.50 (27.17)	-	-	112.90
(b) VSI	415.02 (100)	443.22 (100)	106.79	553.74 (100)	-	-	133.42
3. Export (Rs. Crores)							
(a) SSI	7981.00 (43.61)	12658.00 (55.06)	158.60	20,200.00 (40.22)	-	-	253.10
(b) VSI	18297.45 (100)	22949.16 (100)	125.64	50,215.00 (100)	-	-	274.43

Source : Computed from
1. The Seventh Five Year Plan 1985-90 Vol II
2. Eigth Five Year Plan, 1992-97 Vol I-I
(Govt. of India, Planning Commission, New Delhi)

Note:
1. Rate of achievement = $\frac{100}{\text{Target}}$ × Achievement

2. Rate of target = $\frac{100}{\text{Target}}$ × Target (current year)

(Previous year)
3. Figures given in the paranthesis are percentage