

# A Study on Comparative Analysis on the Performance of Sectorial, Multi - Sectorial and Equity Diversified Mutual Funds

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**Abstract:** *The study entitled a comparative analysis on the performance of sectorial, multi - sectorial and equity diversified mutual funds was done with the primary objectives of analyzing the risk and return associated with these three funds. Each fund will have its own objective and there can be achieved. All investments in mutual funds and securities are subject to market risk and the NAV of the scheme may go up or down depending upon the factor and force affecting the securities market including the fluctuations in the interest rate. The research design used in this study was descriptive method. The major limitations in this study are the equity diversified funds are started too early than that of sectorial and multisectorial funds which were started recently. So the percentage to return will vary. The result of the study is that there is no consistent growth in the return, it varies according to market fluctuation. Hence the past performance cannot necessarily be the indicative of future performance of the scheme.*

**Keywords:** Performance of sectorial, multisectorial, investment, market risk, equity diversified mutual funds, risk and return, market fluctuation.

## 1. Introduction

Investment is the use of money to earn income or profit. The term also refers to the expenditure of funds for capital goods - such as factories farm, equipment, livestock and machinery. Capital goods are used to produce other goods or services.

Investment promotes economic growth and contributes to a nation's wealth. When people deposit money in a saving account in a bank, for example, the bank may invest by lending the funds to various business companies. These firms, in turn may invest the money in new factories and equipment to increase their production. In addition to borrowing from banks, most companies issue stocks and bonds that they sell to investors to raise capital needed for business expansion. Governments also issue bonds to obtain funds to invest in such projects like construction of dams, roads and schools. All such investments involve a present sacrifice of income to get an expected future benefit. As a result INVESTMENT RAISES A NATION'S STANDARD OF LIVING.

### 1.1 Statement of the Problem

Mutual funds pool the funds of small investor and invest it in the securities. As the investors do not know in which portfolio the fund managers will go investment, the performance such as the risk and the return associated with each fund type will only affect the investor. In this case equity diversified funds make investment in the shares in diversified nature. Sectorial funds make investment in one particular sector, while the multisectorial funds make investment in two or more sectors. Here the risk associated with each type will vary; hence the return will also vary. Since the investors are investing based on the scheme category such as equity diversified, sectorial and multisectorial, this study as a research gains importance.

## 2. Scope of the Study

This study covers the asset management companies such as

Biral sunlife Mutual Funds, Chola Mutual funds, Franklin Templeton India Mutual Funds, DSP Merrillynch Mutual Funds, Principal Mutual Funds, Alliance Mutual Funds, Tata Mutual Funds

The mutual fund schemes that were taken for the study were

- 1) Equity diversified funds
- 2) Sectorial funds and
- 3) Multisectorial funds

## 3. Objectives of the Study

- Comparing the equity diversified funds performance with sectorial and multisectorial funds.
- To analyse return and its consistency in each type of the fund.
- To analyse the risk that is associated with each of these funds.
- To analyse the performance of funds in relation to the market indices.
- To analyse the consistency of growth in performance of these funds.
- To predict the future performance of the funds which were taken into the analysis.

## 4. Research Methodology

### 4.1 Research Design

For this study descriptive method of research is used for analyzing the performance of the funds. Descriptive study is the research study that describes the characteristics of any

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individual or of groups. Here it describes the characteristics based on the schemes and the performance based on the various asset management companies

## 4.2 Tools Used for Analysis

### 4.2.1 Sharpe, Treynor and Jensen Method

Portfolio performance was measured mostly in terms of returns in early days, though there was an awareness of the concept of risk, which was difficult to quantify. Risk could not be incorporated in evaluation, as there was no measures that combined both return and risk. Returns on portfolios performance are Sharpe Ratio, Treynor measure and Jensen measure. These are absolute measure of portfolio performance that can be used to rank different portfolios.

#### Return

For each mutual fund scheme under study, the monthly returns are computed as:

$$R_i = \frac{NAV_t - NAV_{t-1}}{NAV_{t-1}}$$

#### Average

$$\bar{R} = \sum R_i / n$$

I = 1, 2, 3 ..... n

#### Risk

Standard deviation: Measure of Total Risk

Financial analysts and statisticians prefer to use a quantitative risk surrogate called the clash of returns, denoted by  $\sigma$ . The standard deviation and the variance are equally acceptable and equivalent quantitative measures of an asset's total risk. The variance and standard deviation are computed from logarithmic monthly returns.

$$\sigma = \left[ \frac{\sum (R_i - \bar{R})^2}{n} \right]^{1/2}$$

#### Beta

Measure of Systematic Risk

To obtain the measure of systematic risk (Beta) of the mutual fund scheme, Market Model is applied.

$$\beta = \frac{N \sum XY - E \sum \Sigma Y}{N \sum X^2 - (\sum X)^2}$$

#### Risk - Less Asset

By definition, a risk less asset has zero variability of returns. If an investor buys an asset at the beginning of the holding period with the known terminal value, such type of asset can be called as risk - less or risk free asset. Government securities and nationalized bank deposits fall under this category. As the government securities are not easily available to the common man, we take the nationalized bank deposits as the risk free asset and the interest rate on such deposits are considered as risk free return.

#### Sharpe Ratio

This is a measure of risk - adjusted return on a portfolio. It is a ratio of excess return to the standard deviation of portfolio returns. An implicit assumption of the Sharpe ratio is that the portfolio is not combined with other risky portfolios. It is relevant for performance evaluation when comparing mutually exclusive portfolios.

The Sharpe measure follows his earlier work on capital asset pricing model (CAPM) dealing specifically with capital market line (CML).

The Sharpe measure of performance denoted by S is given by

$$S = \frac{R_j - R_f}{\sigma_i}$$

Where,

$R_i$  = the average rate of return on portfolio 'i' during a specified time period.

$R_f$  = the average rate of return on a risk free investment during the same period

#### Treynor Measure

This is also a measure of risk - adjusted return on a portfolio. It is a ratio of excess return to the systematic risk ( $\beta$ ) of the portfolio. It is relevant for performance measurement when evaluating portfolios separately or in combination with other portfolios. A high treynor measure indicated a favorable relationship between risk and return on the portfolio. Sharpe Ratio and Treynor measure give the same results in the case of highly diversified portfolios as the total risk of portfolios approaches that of a market portfolio.

$$T = \frac{R_i - R_f}{\beta}$$

Where,

$R_i$  = the average rate of return on portfolio 'i' during a specified time period.

$R_f$  = the average rate return on a risk free investment during the same period.

$\beta$  = the slope of the fund's characteristic line during that time period (this indicates portfolio's relative volatility with respect to market portfolio).

A larger 'T' value indicates a better portfolio performance for all investors regardless of their risk performances. The numerator of this ratio ( $R_i - R_f$ ) is the risk premium and the denominator is a measure of market risk. The Treynor measure is risk premium per unit of systematic risk.

#### Jensen's Alpha

This is the difference between a fund's actual return and the return on a benchmark portfolio with the same systematic risk ( $\beta$ ) of the portfolio whose performance is being evaluated. It measures the ability of active fund management to earn returns in excess of the reward for market risk. We can infer meaningful results if it is used to compare two portfolios with similar betas. Jensen's measure is also based on capital asset pricing model. CAPM estimates the expected return on any security or portfolio by the following expression:

$$E(R_i) = R_f + \beta_i [E(R_m) - R_f]$$

Where,

$E(R_i)$  = expected return on security or portfolio I

$R_f$  = Risk free return

$\beta I$  = Systematic risk (beta) of security

$E(R_m)$  = expected return on the market portfolio I

Jensen's alpha ( $\alpha$ ) is defined as:

$$R_i - R_f = \alpha I + \beta I (R_m - R_f) + \epsilon I$$

The value of ' $\alpha$ ' suggests whether the portfolio manager possesses superior (inferior) market timing and stock selection skills. A positive ( $\alpha$ ) is an indication of superior fund management ability.

### Result of the Analysis

Name of the Funds	EQ	Dbt	Hybrid	ST
Benchmark mutual fund	12	-	-	17
Birla sunlife M. F	6	4	13	6
BOB Mutual fund	14	19	-	17
Can bank	22	21	14	1
Cholamandalam Mutual fund	10	10	-	21
Dent sche Mutual fund	-	20	-	5
DSP Merill lynch	5	3	6	12
Escorts Mutual fund	11	1	7	-
Franklin Templeton Mutual fund	4	5	1	7
a/c Mutual fund	16	25	8	24

HDFC Mutual fund	2	9	2	23
HSBC Mutual fund	-	22	-	14
INA Vysya	23	23	17	3
IM fund	19	11	4	18
Kotak Mahindra	15	2	5	8
LIC Mutual fund	21	16	10	4
Principal Mutual fund	9	6	15	9
Purchantial ICICI	8	8	9	19
Reliance Mutual fund	1	14	-	16
Sahara	20	24	-	2
SBI	18	15	16	11
Std chalid	-	17	-	22
Sundaram Mutual fund	3	7	3	20
Tata Mutual fund	7	12	11	15
Taules Mutual fund	17	18	-	-
UTI	13	13	12	10

It concusses, that Reliance Equity fund is performing well, and Escort mutual fund is doing good in case of debt funds, Franklin Templeton Mutual fund is performing well in hybrid funds. In short lam funds, canbank mutual funds performance good.

## 5. Data Analysis and Interpretation

### 5.1 Indices Tables

Table 5.1.1: Name of the Scheme: Franklin India Prima Plus

Month	2016		2017		2018		2019		2020	
	Returns	BM index	Returns	BM index	Returns	BM index	Returns	BM index	Returns	BM index
Jan	7.916	8.09	4.568	2.23	- 2.472	3.61	- 3.118	6.60	- 2.724	3.62
Feb	4.389	1.41	9.492	6.74	0.170	0.68	4.531	2.80	5.623	2.95
Mar	- 17.966	24.09	- 0.210	1.85	- 4.418	7.92	- 1.190	1.80	- 1.680	2.16
Apr	5.541	0.89	- 1.333	1.88	3.122	1.27	1.584	1.10	- 4.253	6.46
May	4.819	5.02	- 6.895	4.97	9.076	14.86	- 11.909	17.11	7.676	8.23
Jun	- 6.235	6.91	1.696	2.90	11.760	10.30	1.161	0.03	3.491	3.69
Jul	- 1.136	3.09	- 5.275	9.83	9.666	4.98	4.194	6.34	5.801	6.02
Aug	- 2.718	1.31	4.788	4.29	10.383	16.42	4.380	1.25	8.150	4.25
Sep	- 12.837	14.13	- 7.246	6.56	2.718	1.49	4.444	6.88	2.961	6.08
Oct	9.787	7.37	0.426	0.98	7.461	6.65	- 1.826	0.25	- 9.478	10.07
Nov	10.574	11.05	6.022	6.67	3.199	3.43	9.159	9.44	10.954	10.63
Dec	0.609	0.69	4.090	1.99	11.172	16.62	7.478	8.81	4.743	4.99
S. D	8.94		5.32		0.626		5.62		5.96	
Beta	0.875		0.954		0.626		0.737		0.913	
Sharpe	- 2.22		- 0.89		4.58		0.47		2.88	
Treynor	- 24.09		- 4.66		56.20		4.50		18.86	
Jensen	- 4.95		- 4.80		1.45		- 2.78		- 2.79	
Correlation	0.97		0.93		0.91		0.96		0.96	

In Sharpe method, the Franklin India Prima Plus's 2018 Portfolio has higher return than other portfolio. That means the company performs better fund in the year 2018.

In Treynor's method, the Portfolio of 2018 has higher return than other portfolio.

In Jensen's method, the Portfolio of 2018 has higher return than other portfolio.

It is known from the correlation that the relationship between the Franklin India Prima Plus's stock return and stock market index return is high in 2016 and 2020.

The fund has high return during June 2018 and the risk rate is high during 2016.

### Ranking Tables

Table 5.1.2: Sharpe Method – Equity Diversified Funds

S. No.	Name	2016		2017		2018		2019		2020	
		Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank
1	Franklin India Prima Plus	- 2.22	3	- 0.89	3	4.58	8	0.47	8	2.88	9
2	Principal Equity Fund	- 8.72	8	- 3.26	8	11.57	7	1.27	3	4.67	6

3	Principal Growth Fund	- 7.93	7	- 3.17	4	13.32	4	1.45	2	5.23	4
4	DSP Merrill Lynch Equity Fund	12.55	1	139.64	1	22.50	1	- 8.60	10	98.97	1
5	Franklin India Bluechip Fund	- 9.23	9	- 3.18	5	16.21	2	1.05	5	5.63	3
6	Cholamandalam Growth Fund	- 3.20	5	- 4.00	10	4.50	9	0.70	6	7.52	2
7	Cholamandalam Growth Fund - Cumulative	- 2.49	4	- 3.21	6	15.12	3	0.68	7	5.21	5
8	Birla Advantage Fund - Plan B	- 4.36	6	- 3.77	9	12.68	5	1.69	1	4.44	7
9	Birla India Opportunities Fund - Plan B	0.25	2	0.59	2	0.22	10	- 0.17	9	- 0.36	10
10	Chola Opportunities Fund - Cumulative	- 10.87	10	- 3.24	7	11.80	6	1.12	4	3.31	8

**Table 5.1.3: Sharpe Method – Sectorial And Multisectorial Funds**

S. No.	Name	2016		2017		2018		2019		2020	
		Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank
1	Franklin Infotech Fund	- 10.67	5	- 6.73	6	5.49	7	8.97	5	15.45	3
2	Franklin Pharma Fund	- 1.59	1	- 1.18	5	5.24	8	0.44	9	2.40	6
3	DSP Merrill Lynch Technology. com Fund	- 23.48	6	- 21.79	9	25.18	5	20.57	2	25.05	1
4	Alliance New Millennium Fund	- 125.08	9	15.27	2	125.19	2	4.34	6	8.16	5
5	Alliance Buy India Fund	- 44.49	7	- 13.06	7	123.49	3	16.65	3	2.02	9
6	Franklin India Prima Fund	- 2.72	3	- 0.58	3	5.51	6	0.82	7	2.07	8
7	Birla MNC Fund - Plan B	- 1.97	2	- 1.05	4	4.42	9	0.50	8	2.30	7
8	Alliance Basic Industries Fund	- 70.81	8	21.69	1	129.24	1	16.58	4	9.58	4
9	Tata Life Sciences & Technology Fund	- 3.88	4	- 15.11	8	26.10	4	21.79	1	17.22	2

**Table 5.1.4: Treynor’s Method – Equity Diversified Funds**

S. No.	Name	2016		2017		2018		2019		2020	
		Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank
1	Franklin India Prima Plus	- 24.09	9	- 4.66	10	56.20	2	4.50	1	18.86	8
2	Principal Equity Fund	- 10.00	5	- 2.06	6	20.67	7	2.71	4	20.03	5
3	Principal Growth Fund	- 10.08	6	- 1.88	4	20.93	5	3.39	2	20.34	3
4	DSP Merrill Lynch Equity Fund	5.54	2	11.08	2	6.11	10	- 12.87	9	3.73	9
5	Franklin India Bluechip Fund	- 9.37	4	- 1.84	3	20.99	4	2.24	6	19.99	6
6	Cholamandalam Growth Fund	- 18.47	8	- 2.10	7	18.24	9	1.56	7	20.51	2
7	Cholamandalam Growth Fund - Cumulative	- 44.59	10	- 1.89	5	21.25	3	1.24	8	20.55	1
8	Birla Advantage Fund - Plan B	- 13.93	7	- 2.75	9	20.77	6	3.26	3	20.26	4
9	Birla India Opportunities Fund - Plan B	97.74	1	19.99	1	245.24	1	- 90.03	10	- 137.49	10
10	Chola Opportunities Fund - Cumulative	- 9.08	3	- 2.24	8	18.83	8	2.56	5	18.90	7

**Table 5.1.5: Treynor’s Method – Sectorial And Multisectorial Funds**

S. No.	Name	2016		2017		2018		2019		2020	
		Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank
1	Franklin Infotech Fund	- 9.90	5	- 1.57	5	1.91	9	3.21	4	8.58	4
2	Franklin Pharma Fund	- 31.50	8	- 14.55	9	55.52	3	4.60	3	16.56	3
3	DSP Merrill Lynch Technology. com Fund	- 6.73	4	- 1.41	4	2.66	8	2.70	6	5.49	5
4	Alliance New Millennium Fund	- 1.11	1	0.11	2	3.12	6	0.34	9	1.35	8
5	Alliance Buy India Fund	- 1.69	3	- 0.19	3	3.22	5	0.78	7	0.69	9
6	Franklin India Prima Fund	- 21.71	6	- 2.97	7	59.47	1	6.58	1	18.40	1
7	Birla MNC Fund - Plan B	- 59.71	9	- 9.42	8	56.16	2	4.78	2	18.14	2
8	Alliance Basic Industries Fund	- 1.24	2	0.16	1	3.40	4	0.68	8	1.53	7
9	Tata Life Sciences & Technology Fund	- 26.00	7	- 2.41	6	3.06	7	2.74	5	4.91	6

**Table 5.1.6: Jensen’s Method – Equity Diversified Funds**

S. No.	Name	2016		2017		2018		2019		2020	
		Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank
1	Franklin India Prima Plus	- 4.95	4	- 4.80	2	1.45	2	- 2.78	3	- 2.79	3
2	Principal Equity Fund	- 15.77	8	- 16.09	5	- 4.60	4	- 8.66	6	- 4.35	5
3	Principal Growth Fund	- 13.83	7	- 17.04	6	- 5.58	6	- 6.35	4	- 5.00	7
4	DSP Merrill Lynch Equity Fund	- 8.91	6	- 39.59	10	- 11.58	10	- 2.60	2	- 53.59	10
5	Franklin India Bluechip Fund	- 16.87	9	- 17.44	8	- 7.91	8	- 9.39	8	- 6.50	8
6	Cholamandalam Growth Fund	- 2.43	3	- 20.65	9	- 0.39	3	- 9.90	9	- 9.39	9
7	Cholamandalam Growth Fund - Cumulative	- 0.78	2	- 17.22	7	- 6.32	7	- 14.11	10	- 4.60	6
8	Birla Advantage Fund - Plan B	- 5.25	5	- 14.81	4	- 5.40	5	- 9.18	7	- 3.49	4
9	Birla India Opportunities Fund - Plan B	8.59	1	7.87	1	7.19	1	4.50	1	3.31	1
10	Chola Opportunities Fund - Cumulative	- 20.82	10	- 14.64	3	- 9.05	9	- 7.93	5	- 2.71	2

**Table 5.1.7:** Jensen's Method – Sectorial and Multisectorial Funds

S. No.	Name	2016		2017		2018		2019		2020	
		Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank	Indices	Rank
1	Franklin Infotech Fund	- 22.20	5	- 33.32	5	- 27.63	4	- 20.45	4	- 17.59	5
2	Franklin Pharma Fund	- 3.57	2	- 2.60	1	0.26	3	- 1.90	1	- 4.37	3
3	DSP Merrill Lynch Technology. com Fund	- 42.37	6	- 61.43	6	- 45.11	6	- 32.74	5	- 26.77	9
4	Alliance New Millennium Fund	- 242.36	9	- 150.66	8	- 90.01	9	- 39.53	7	- 18.97	6
5	Alliance Buy India Fund	- 57.31	7	- 75.63	7	- 84.32	8	- 64.00	8	- 7.32	4
6	Franklin India Prima Fund	- 5.98	3	- 3.32	3	3.17	1	- 2.58	3	- 0.83	1
7	Birla MNC Fund - Plan B	- 9.10	4	- 2.95	2	1.58	2	- 2.58	2	- 1.88	2
8	Alliance Basic Industries Fund	- 122.02	8	- 153.57	9	- 80.78	7	- 75.29	9	- 19.18	7
9	Tata Life Sciences & Technology Fund	- 1.81	1	- 25.74	4	- 36.99	5	- 34.12	6	- 21.42	8

#### 4. Findings

- There is greater fluctuation in the return yielded by the funds and hence the past performance will not be helpful in predicting the future performance.
- The equity diversified funds shows better risk diversification and it shows moderate return only.
- Most of the funds showed better returns during the year of 2018.
- DSP Merrill lynch Equity Fund is performing extremely good by providing high returns, in case of equity diversified fund. No other sectorial or multisectorial funds are providing such a high return.
- The fluctuation in case of equity diversified funds performance is more than that of sectorial and multisectorial funds.
- Franklin Infotech fund is the only fund that has consistent growth is Sharpe method.
- Each method gives different index value, no one fund found to have performed similarly in all three.
- Some funds both in Equity diversified and sectorial and multisectorial do not reach the positive index.
- Correlation shows that there is positive relationship between the index and the return.

#### 5. Suggestions

- Investors should be aware about the risk and the return associated with each fund.
- They should be knowledgeable enough to know the portfolio in which their funds are getting invested.
- The selection of funds should not be made based on the reputation of the AMC, but on the performance of the fund itself.
- The investors should be able to decide the investment on the basis of the market condition.
- The fund manager should be right enough to select the correct portfolio. The investor should also be aware about the fund manager who is looking after their fund.
- Lot of magazines and journals are making various research on the performance, of mutual funds. These will also guide them in choosing the right fund.

#### 6. Conclusion

Mutual fund is the one which can give the small investor, the better returns. If one play it right in mutual fund, he can be richly rewarded. Over the last five years, the best funds have tripled investors money while the worst one have actually

made losses. Rs.1 lac invested in a good fund have become over 2.5 lac today, but the same amounts only 95, 000 while invested in worst performing fund.

Thus the investor should be in a position to choose the right fund, and also in the right also in the right asset management company. While selecting such funds, he should also consider his objective, his risk taking ability and the period of investment. It a right fund is selected at right time, it will give better returns to them.

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