

# Performance Evaluation: A Comparative Study Between Indian And Foreign Equity Mutual Funds

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## INTRODUCTION

Saving for the future is good. Investing for it is even better. Mutual funds have many benefits that make them one of the most efficient, cost effective, and easy investment options available. They are also ideal vehicles for individual investors who don't have the time, willingness or ability to manage their own portfolio of bonds or stocks. The Indian mutual fund industry is one of the fastest growing sectors in the Indian capital and financial markets. The mutual fund industry in India has seen dramatic improvements in quantity as well as quality of product and service offerings in recent years.

With the growth of the economy and the capital market in India, the size of investors has also increased rapidly. In fact, small investors in India have regularly invested in public issues to finance big and small green-field projects of known promoters. They have been benefitted from such investments in the past. As the stock market crumbled later on and new issues flopped, small investors again began looking for a good opportunity. In this situation, mutual funds proved that they are able to deliver the goods.

Mutual Fund industry today is one of the most preferred investment avenues in India. However, with a plethora of schemes to choose from, the retail investor faces problems in selecting funds. Factors such as investment strategy and management style are qualitative, but the fund's record is an important indicator too. Though past performance alone cannot be indicative of future performance, it is, frankly, the only quantitative way to judge how good a fund is at present.

## NEED AND SIGNIFICANCE OF THE STUDY

The impressive growth of mutual funds in India has attracted the attention of Indian researchers, individuals and institutional investors during the past ten years. The Indian mutual fund industry is currently in the phase of consolidation and growth stage of the product life cycle. The competition would intensify in the coming years as it happened in other industries. Hence, it is appropriate, relevant and topical to focus our attention on as to how the Indian mutual industry would emerge in the coming few years to ascertain what kind of products (mutual fund schemes) would be able to win the investors' confidence and survive in the market place.

## OBJECTIVES OF THE STUDY

The study will have a proper direction by setting the objectives. The following objectives are formulated for the present study:

1. To compare the performance of Indian and foreign equity mutual funds.
2. To evaluate performance of different equity mutual funds schemes on the basis of risk- return parameters.
3. To evaluate the performance of Indian and foreign equity mutual funds on risk adjusted measures as suggested by Sharpe, Treynor, and Jensen.

## HYPOTHESES OF THE STUDY

1. There is no significant difference between the returns of different mutual fund schemes of respective Indian mutual fund investment styles.

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**2. There is no significant difference between the returns of different mutual fund schemes of respective foreign mutual fund Investment styles.**

**3. There is no significant difference between the returns of Indian and foreign equity mutual funds.**

## **RESEARCH METHODOLOGY**

### **FUNDS SELECTED FOR THE STUDY**

Equity Mutual funds which have been operating for greater than five years and performing during the period of study (i.e. 2003 - 2007) were selected for the present research. There were 102 such mutual funds that were classified into Indian and foreign equity mutual funds. This includes 40 Indian equity diversified funds, 18 equity index funds, 16 equity tax savings funds, five Indian equity technology funds, 16 foreign equity diversified, three foreign equity index funds, two foreign equity tax savings funds and two foreign equity technology funds. The reasons for studying the performance of mutual fund for a period of five years (2003 -2007) are:

- A large number of mutual funds had been launched during 2003 - 2007.
- The mutual fund industry in India registered notable growth during the 2003-2007 period.
- The Indian stock market had done exceptionally well during 2003-2007.

### **DATA COLLECTION**

The Research Study has been based on secondary data. To gain an overview of the current performance trends of the Indian mutual fund industry, secondary data has been an important source and was collected from the fact sheets, newspapers, journals, books, periodicals, websites, etc. The data was collected from various websites of AMCs, AMFI, value research online, moneycontrol.com, etc. Bombay Stock Exchange Sensex annualized returns values have been drawn from websites for the study period to compute market returns for Equity diversified, equity tax savings, equity banking, equity MNC, Equity other and Equity index, balanced and hybrid funds. Bombay Stock Exchange FMCG Index values have been taken for computing market returns for equity FMCG funds. Bombay Stock Exchange Information Technology Index values have been selected for computing market returns for equity Technology funds, Bombay Stock Exchange Health Care index values have been taken for computing market return for Equity Pharmacy and 364 Days Treasury bill values were taken for computing market returns for money market institutional, debt institutional, debt short term, debt speciality, debt long term, debt floating rate, money income plan and money market funds.

### **PERFORMANCE MEASURES USED IN THE STUDY**

The performance of selected funds is evaluated using average rate of return of fund, standard deviation, Risk/Return, Sharpe Ratio, Treynor ratio and Jensen ratio. Return alone should not be considered as the basis of measurement of the performance of a mutual fund scheme, it should also include the risk taken by the fund manager because different funds will have different levels of risk attached to them. Risk associated with a fund, in a general, can be defined as variability or fluctuations in the returns generated by it. The higher the fluctuations in the returns of a fund during a given period, the higher will be the risk associated with it. Standard deviation is a statistical measure of the range of a fund's performance, and is reported as an annual number. When a fund has a high standard deviation, its range of performance has been very wide, indicating that there is a greater potential for volatility. The most common measures that combines both risk and reward are Sharpe Ratio, Treynor ratio and Jensen ratio.

$$\text{Treynor's index} = (R_p - R_f) \div \beta_p$$

Where,

$R_p$  = Portfolio return over a period

$R_f$  = Risk-free return over a period

$\beta_p$  = Market-risk, beta coefficient

Higher value of Treynor's index indicates better performance of portfolio and vice versa. The Treynor's measure of portfolio performance is a relative measure that ranks the funds in terms of risk (market risk) and return. The index is also termed as reward to volatility ratio.

$$\text{Sharpe's index} = (R_p - R_f) \div \sigma_p$$

$R_p$  = Portfolio return over a period

$R_f$  = Risk-free return over a period

$\sigma_p$  = Total risk, standard deviation of portfolio return

Higher value of Sharpe's index indicates better performance of portfolio and vice versa. The Sharpe's measure of portfolio performance is also a relative measure that ranks the funds in terms of risk (total risk) and return. The ratio is also termed as reward to variability ratio.

Jensen's Measure is calculated as:

$$\alpha_p = \bar{r}_p - [r_f + \beta_p (\bar{r}_m - r_f)]$$

Where

$\bar{r}_p$  = Expected total portfolio return

$r_f$  = Risk free rate

$\beta_p$  = Beta of the portfolio

$\bar{r}_m$  = Expected market return

**Jensen's Measure** is a risk-adjusted performance measure that represents the average return on a portfolio over and above that predicted by the capital asset pricing model (CAPM), given the portfolio's beta and the average market return. This is the portfolio's alpha. In fact, the concept is sometimes referred to as "Jensen's alpha."

Jensen's measure is one of the ways to help determine if a portfolio is earning the proper return for its level of risk. If the value is positive, then the portfolio is earning excess returns. In other words, a positive value for Jensen's alpha means a fund manager has "beat the market" with his or her stock picking skills. The Jensen ratio measures how much of the portfolio's rate of return is attributable to the manager's ability to deliver above-average returns, adjusted for market risk. The higher the ratio, the better the risk-adjusted returns. A portfolio with a consistently positive excess return will have a positive alpha, while a portfolio with a consistently negative excess return will have a negative alpha.

## RESULTS AND DISCUSSION

The Indian and foreign equity mutual funds are classified into the following categories:

- Indian equity diversified funds
- Indian equity index funds
- Indian equity tax savings funds
- Indian equity technology funds
- Foreign equity diversified funds
- Foreign equity index funds
- Foreign equity tax savings funds
- Foreign equity technology funds

## PERFORMANCE OF INDIAN EQUITY DIVERSIFIED FUNDS

**Table 1** portrays that 88% of Indian Equity Diversified Mutual Funds have generated greater returns than the market returns of 43.66%. The average risk per unit return (coefficient of Variation) works out to be 0.19 for Indian Equity Diversified Funds.

Reliance Growth Fund - Retail Plan has the highest returns with 76.36%, followed by Tata Equity Opportunities Fund - Plan B with 73.44%, SBI Magnum Contra Fund with 71.10% and Birla Sun Life India Opportunities Fund - Plan B has the lowest returns with 34.76%. The risk is highest for Tata Equity Opportunities Fund - Plan B with 61.85 and lowest for UTI Master share with 16.35. The risk return ratio ranges from 0.28 to 0.92 for Indian Equity Diversified Mutual Funds. Birla Sun Life Dividend Yield Plus has the highest risk return ratio indicating high risk per unit return and SBI Magnum Global Fund has the lowest risk return ratio indicating low risk per unit return.

Risk adjusted performance measure in the form of Sharpe ratio has been computed for the 40 Indian equity diversified funds. The fund with the least Sharpe ratio 0.95 is Birla Sun Life Dividend Yield plus and the fund with the highest Sharpe ratio 3.26 is SBI Magnum Global fund. The range of excess return over risk free return per unit of unit of total

risk is from 0.95 to 3.26. Treynor ratio using risk adjusted measure was computed for Indian Equity Diversified Mutual Funds. The Treynor ratio for these funds ranges from 26.18 to 148.74. SBI Magnum Global Fund has the highest Treynor ratio and UTI Master Plus Unit Scheme has the least Treynor ratio. All the funds in this category have a

**Table 1: Indian Equity Diversified Funds**

S. No	Indian Equity Diversified Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	Reliance Growth Fund - Retail Plan	76.36	48.54	0.64	1.45	39.12	2.58
2	Tata Equity Opportunities Fund - Plan B	73.44	61.85	0.84	1.09	28.48	-21.82
3	SBI Magnum Contra Fund	71.10	24.37	0.34	2.67	85.81	36.52
4	SBI Magnum Global Fund	69.90	19.62	0.28	3.26	148.74	47.73
5	Taurus Star Share	67.86	30.67	0.45	2.02	48.99	14.27
6	Reliance Vision Fund - Retail Plan	65.64	53.34	0.81	1.12	27.36	-22.55
7	SBI Magnum Multiplier Plus	65.40	32.78	0.50	1.81	43.31	7.71
8	Birla Sun Life Equity Fund	64.44	31.73	0.49	1.84	49.24	13.71
9	Tata Select Equity Fund	62.26	41.85	0.67	1.35	31.59	-10.87
10	Tata Pure Equity Fund	62.06	44.25	0.71	1.27	32.02	-9.94
11	Birla Sun Life Midcap Fund	61.40	33.59	0.55	1.65	43.85	7.78
12	HDFC Top 200 Fund	60.38	42.05	0.70	1.29	32.78	-8.15
13	HDFC Equity Fund	59.88	39.01	0.65	1.38	35.40	-3.50
14	HDFC Capital Builder Fund	59.76	37.21	0.62	1.45	47.94	11.50
15	Principal Resurgent India Equity Fund	58.82	48.95	0.83	1.08	27.43	-19.78
16	HDFC Growth Fund	57.94	37.84	0.65	1.37	33.53	-6.46
17	ICICI Pru Power	57.62	39.68	0.69	1.30	31.14	-10.87
18	Kotak 30	56.38	23.05	0.41	2.19	54.63	15.63
19	Taurus Discovery Fund	54.06	40.69	0.75	1.18	42.53	5.47
20	ICICI Pru Dynamic Plan	52.98	30.41	0.57	1.55	35.28	-3.22
21	Birla Sun Life Advantage Fund	52.94	33.55	0.63	1.40	35.20	-3.32
22	JM Equity Fund	51.68	30.68	0.59	1.49	34.61	-4.08
23	Birla Sun Life Frontline Equity Fund	51.22	26.32	0.51	1.72	39.12	1.65
24	Escorts Growth Plan	51.22	26.27	0.51	1.72	49.70	10.93
25	Sahara Growth Fund	51.18	30.88	0.60	1.46	34.33	-4.43
26	UTI Master Value Fund	50.96	44.38	0.87	1.01	29.46	-12.57
27	UTI Master Equity Plan Unit Scheme	50.50	36.45	0.72	1.22	30.04	-11.35
28	UTI Master growth 93	50.10	36.15	0.72	1.22	31.28	-9.05
29	Principal Growth Fund	49.64	23.56	0.47	1.85	56.92	14.75
30	Birla Sun Life Dividend Yield Plus	48.58	44.74	0.92	0.95	28.75	-13.26
31	UTI Index Select Equity Fund	48.12	32.60	0.68	1.29	29.90	-10.99
32	ICICI Pru Growth Plan	47.88	29.67	0.62	1.41	31.97	-7.50
33	LIC MF Growth Fund	47.26	37.33	0.79	1.11	29.91	-10.75
34	UTI Master Plus Unit Scheme	45.58	33.50	0.73	1.18	26.18	-17.42
35	UTI Equity Fund	45.26	32.12	0.71	1.22	31.90	-7.13
36	LIC MF Equity Fund	42.86	33.81	0.79	1.09	27.37	-13.92
37	Canara Robeco Equity Diversified	37.64	16.92	0.45	1.87	64.20	13.08
38	BOB Growth Fund	37.12	19.81	0.53	1.57	78.52	16.20
39	UTI Master share	36.92	16.35	0.44	1.89	71.28	14.58
40	Birla Sun Life India Opportunities Fund - Plan B	34.76	18.03	0.52	1.60	43.75	3.99
Mean Return		54.73					
Standard Deviation of Returns			10.18				
Market Return (BSE Sensex)		43.66					
The average risk per unit return (coefficient of Variation) works out to be $10.18/54.73 = 0.19$							
35 Indian Equity Diversified Mutual funds have generated greater returns then the market returns.							

positive Treynor ratio. Jensen ratio for Indian Equity Diversified Funds has been computed and the ratio ranges from -22.55 to 47.73. There are seventeen Funds with superior performance. SBI Magnum Global Fund has the highest Jensen ratio and Reliance Vision Fund Retail Plan has the least Jensen ratio.

## PERFORMANCE OF INDIAN EQUITY INDEX FUNDS

From **Table 2** it can be understood that out of 18 Indian equity index funds, five Funds i.e. Benchmark Nifty Junior BeEs, HDFC Index Fund Sensex Plus Plan, ICICI Pru SPiCE Plan, Tata Index Fund Nifty Plan A and UTI Master Index Funds have generated greater returns than the market returns of 43.66%. The average risk per unit return (coefficient of Variation) works out to be 0.15.

**Table 2 : Indian Equity Index Funds**

S. No	Indian Equity Index Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	Benchmark Nifty Junior BeEs	61.18	54.14	0.88	1.02	28.75	-17.18
2	HDFC Index Fund - Sensex Plus Plan	44.74	21.71	0.49	1.79	39.09	1.38
3	ICICI Pru SPiCE Plan	44.48	22.93	0.52	1.68	36.51	-1.25
4	Tata Index Fund - Nifty Plan - A	44.22	24.79	0.56	1.54	33.70	-4.53
5	UTI Master Index Fund	43.98	22.04	0.50	1.72	37.40	-0.30
6	Tata Index Fund - Sensex Plan - A	43.32	23.61	0.55	1.58	34.77	-3.14
7	ICICI Pru Index Fund - Nifty Plan	42.92	24.02	0.56	1.54	34.30	-3.66
8	UTI Nifty Index Fund	42.22	23.66	0.56	1.53	34.06	-3.87
9	Birla Index Fund	41.44	24.43	0.59	1.45	32.61	-5.53
10	Benchmark Nifty BeEs	41.08	21.68	0.53	1.62	36.12	-1.53
11	UTI SUNDER	40.80	20.14	0.49	1.73	39.69	1.75
12	SBI Magnum Index Fund	40.60	23.64	0.58	1.46	32.31	-5.77
13	HDFC Index Fund - Sensex Plan	39.72	18.73	0.47	1.80	39.19	1.29
14	HDFC Index Fund - Nifty Plan	39.48	24.27	0.61	1.38	30.47	-7.94
15	Principal Index Fund	38.88	23.71	0.61	1.39	31.28	-6.75
16	LIC MF Index Fund - Sensex Plan	34.54	19.41	0.56	1.47	33.14	-3.92
17	LIC MF Index Fund - Sensex Advantage Plan	34.22	16.98	0.50	1.66	37.70	0.01
18	LIC MF Index Fund - Nifty Plan	32.66	23.87	0.73	1.12	25.49	-12.77
Mean Return		41.69					
Standard Deviation of Returns			6.04				
Market Return (BSE Sensex)		43.66					
The average risk per unit return (coefficient of Variation) works out to be $6.04/41.69 = 0.15$							
5 Indian Equity Index Mutual funds have generated greater returns then the market returns.							

The returns for Indian Equity Index Funds range from 32.66% to 61.18%. The returns are highest for Benchmark Nifty Junior BeEs and lowest for LIC MF Index Fund - Nifty Plan. The risk for Indian Equity Index Funds ranges from 16.98 to 54.14. The risk is highest for Benchmark Nifty Junior BeEs and lowest for LIC MF Index Fund - Sensex Advantage Plan.

The risk per unit ratio for Indian Equity Index Mutual Funds ranges from 0.47 to 0.88. Benchmark Nifty Junior BeEs has the highest ratio indicating high risk per unit return and HDFC Index Fund - Sensex Plan has the lowest ratio indicating low risk per unit return.

Risk adjusted performance measure in the form of Sharpe ratio has been computed for 18 Indian equity index funds. The range of excess return over risk free return per unit of total risk is from 1.02 to 1.80. HDFC index fund Sensex Plan has the highest Sharpe ratio and Benchmark Nifty junior BeEs has the least Sharpe ratio. Treynor ratio was computed for Indian Equity Index Mutual funds and the ratio ranges from 25.49 to 39.69. UTI SUNDER fund has the highest Treynor ratio and LIC MF Index Funds Nifty Plan has the least Treynor ratio. Jensen ratio for Indian Equity Index Fund has been computed and the ratio ranges from -17.18 to 1.75. There are four funds with superior performance. UTI SUNDER fund has the highest Jensen ratio and Benchmark Nifty Junior BeEs has the least Jensen ratio.



## PERFORMANCE OF INDIAN EQUITY TAX SAVINGS FUNDS

**Table 3** presents that except LIC MF Tax Plan Mutual Fund, all other Indian Equity Tax Savings funds have generated greater returns than the market returns of 43.66%. The average risk per unit return (coefficient of Variation) works out to be 0.16.

**Table 3: Indian Equity Tax Savings Funds**

S. No	Indian Equity Tax Savings Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	SBI Magnum Tax Gain Scheme	75.52	38.03	0.50	1.83	59.40	25.41
2	Birla Sun Life Tax Plan	64.64	55.01	0.85	1.07	27.58	-21.53
3	Birla Tax Plan 98	64.16	55.72	0.87	1.04	27.42	-21.79
4	ICICI Pru Tax Plan	63.24	51.13	0.81	1.12	34.00	-6.22
5	HDFC Tax Saver	62.54	35.39	0.57	1.60	55.30	18.01
6	HDFC Long Term Advantage Fund	59.44	44.70	0.75	1.20	39.57	2.53
7	Principal Tax Savings Fund	59.34	26.41	0.45	2.02	54.67	16.58
8	Birla Sun Life Tax Relief 96	55.66	34.92	0.63	1.42	36.20	-2.04
9	Tata Tax Saving Fund	55.56	44.70	0.80	1.11	30.80	-11.09
10	Principal Personal Tax Savings Fund	53.24	31.60	0.59	1.50	42.40	5.25
11	Sahara Tax Gain	49.90	31.69	0.64	1.39	36.15	-1.88
12	Escorts Tax Plan	49.18	31.22	0.63	1.38	33.14	-5.93
13	Canara Robeco Equity Tax Saver	48.58	26.64	0.55	1.60	39.60	2.05
14	BOB ELSS 96	48.08	37.40	0.78	1.13	30.62	-9.72
15	UTI Equity Tax Savings Plan	44.46	25.90	0.58	1.49	43.94	5.47
16	LIC MF Tax Plan	40.42	33.36	0.83	1.03	25.05	-17.38
Mean Return		55.87					
Standard Deviation of Returns			9.04				
Market Return (BSE Sensex)		43.66					
The average risk per unit return (coefficient of Variation) works out to be $9.04/55.87 = 0.16$ 15 Indian Equity Tax Savings Mutual funds have generated greater returns than the market returns.							

The returns range from 40.42% to 75.52% for Indian Equity Tax Savings Funds. The returns are highest for **SBI Magnum Tax Gain Scheme** and lowest for **LIC MF Tax Plan**. The risk is highest for **Birla Tax Plan 98** with **55.72** and the risk is lowest for **UTI Equity Tax Savings Plan** with 25.90. The risk per unit return for Indian Equity Tax Savings Mutual Funds ranges from 0.45 to 0.87. The risk return ratio is highest for Birla Tax Plan 98 indicating high risk per unit return and ratio is lowest for Principal Tax Savings Fund indicating low risk per unit return.

The Sharpe ratio for sixteen Indian equity tax savings funds has been computed. The range of excess returns over risk free return per unit of total risk ranges from 1.03 to 2.02. LIC MF tax plan has the least Sharpe ratio and Principle tax savings fund has the highest Sharpe ratio. Treynor ratio has been computed for Indian Equity Tax Savings Mutual Funds and the Treynor ratio ranges from 25.05 to 59.40. SBI Magnum Tax Gain Scheme has the highest Treynor ratio and LIC MF Tax Plan has the least Treynor ratio. Jensen performance measure for Indian Equity Tax Savings Funds has been computed and it is found that seven funds have superior performance. SBI Magnum Tax Gain Scheme has the highest Jensen ratio of 25.41 and Birla Tax Plan 98 has the least Jensen ratio of -21.79.

## PERFORMANCE OF INDIAN EQUITY TECHNOLOGY FUNDS

**Table 4** indicates that three out of five Indian Equity Technology Mutual Funds i.e. Birla Sun Life New Millennium, ICICI Pru Technology Fund and SBI Magnum IT Funds have generated greater returns than the market returns of 29.30%. The average risk per unit return (coefficient of Variation) works out to be 0.19.

The returns for Indian Equity Technology Funds range from 26.26% to 40.30%. The returns are highest for Birla Sun Life New Millennium and lowest for Kotak Tech. The risk ranges from 16.88 to 25.05 for Indian Equity Technology Funds. The risk is highest for UTI Software Fund and lowest for Kotak Tech.

The risk per unit return for Indian Equity Technology Mutual Funds ranges from 0.49 to 0.90. UTI Software Fund has the highest ratio indicating high risk per unit return and Birla Sun Life New Millennium has the lowest ratio indicating low risk per unit return.

The Sharpe ratio for five Indian equity technology mutual funds has been calculated and the Sharpe ratio of these funds ranges from 0.87 to 1.72. Birla Sun Life New Millennium has the highest Sharpe Ratio and UTI Software fund has the least Sharpe ratio. Treynor performance measure was computed for Indian Equity Technology Mutual Funds and the ratio ranges from 12.98 to 52.96. Birla Sun Life New Millennium has the highest Treynor ratio and UTI Software Fund has the least Treynor ratio. Jensen ratio for Indian Equity Technology Funds ranges from -17.37 to 19.21. Birla Sun Life New Millennium has the highest Jensen ratio and UTI Software Fund has the least Jensen ratio. Only Birla Sun Life New Millennium and ICICI Pru Technology Fund funds have superior performance.

**Table 4: Indian Equity Technology Funds**

S. No	Indian Equity Technology Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	Birla Sun Life New Millennium	40.30	19.92	0.49	1.72	52.96	19.21
2	ICICI Pru Technology Fund	38.60	24.36	0.63	1.34	28.53	5.95
3	SBI Magnum IT Fund	37.10	24.47	0.66	1.27	18.35	-8.45
4	UTI Software Fund	27.74	25.05	0.90	0.87	12.98	-17.37
5	Kotak Tech	26.26	16.88	0.64	1.20	19.40	-4.12
Mean Return		34					
Standard Deviation of Returns			6.51				
Market Return (BSE IT)		29.3					
The average risk per unit return (coefficient of Variation) works out to be $6.51/34.00 = 0.19$							
3 Indian Equity Technology Mutual funds have generated greater returns than the market returns.							

## PERFORMANCE OF FOREIGN EQUITY DIVERSIFIED FUNDS

**Table 5** depicts that except ING Core Equity Fund all other Foreign Equity Diversified Mutual Funds have generated greater returns than the market returns of 43.66%. The average risk per unit return (coefficient of Variation) works out to be 0.14.

**Table 5: Foreign Equity Diversified Funds**

S. No	Foreign Equity Diversified Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	Sundaram BNP Paribas Select Midcap	73.20	47.28	0.65	1.42	35.31	-4.55
2	Franklin India Prima Fund	67.08	61.99	0.92	0.99	28.91	-18.56
3	HSBC Equity Fund	65.68	51.58	0.79	1.16	32.11	-10.38
4	DSP-ML Equity Fund - Regular Plan	64.76	38.80	0.60	1.52	36.74	-1.53
5	DSP-ML Opportunities Fund - Regular Plan	62.64	42.45	0.68	1.33	33.34	-7.40
6	DSP-ML Top 100 Equity Fund - Regular Plan	60.64	41.19	0.68	1.33	31.96	-9.82
7	Sundaram BNP Paribas Select Focus - Retail Plan	59.40	32.57	0.55	1.64	39.17	2.01
8	Sundaram BNP Paribas Growth Fund	57.66	33.22	0.58	1.56	38.50	1.08
9	Templeton India Growth Fund	56.12	48.24	0.86	1.04	26.62	-20.87
10	Franklin India Prima Plus Fund	55.86	29.71	0.53	1.68	39.20	1.91
11	DWS Alpha Equity Fund	55.74	35.93	0.64	1.39	33.69	-5.92
12	Franklin India Blue chip Fund	54.30	36.99	0.68	1.31	31.96	-8.67
13	Franklin India Opportunities Fund	51.62	21.58	0.42	2.12	46.19	8.40
14	DBS Chola Growth Fund	51.06	29.36	0.58	1.54	37.72	0.04
15	Morgan Stanley Growth Fund	44.50	27.15	0.61	1.42	32.18	-6.60
16	ING Core Equity Fund	40.90	14.29	0.35	2.45	129.27	24.75
Mean Return		57.57					
Standard Deviation of Returns			8.31				
Market Return (BSE Sensex)		43.66					
The average risk per unit return (coefficient of Variation) works out to be $8.31/57.57 = 0.14$							
15 Foreign Equity Diversified Mutual funds have generated greater returns than the market returns.							

The returns are highest for Sundaram BNP Paribas Select Midcap with 73.20% followed by Franklin India Prima Fund with 67.08% and returns are lowest for ING Core Equity Fund with 40.90%. The risk is highest for Franklin India

Prima Fund with 61.99 and lowest for ING Core Equity Fund with 14.29. The risk per unit return ranges from 0.35 to 0.92 for Foreign Equity Diversified Mutual Funds. Franklin India Prima Fund has the highest ratio indicating high risk per unit return and ING Core Equity Fund has the lowest ratio indicating low risk per unit return.

The Sharpe ratio for sixteen foreign equity diversified funds has been calculated. The range of excess returns over risk free return per unit of total risk ranges from 0.99 to 2.45. A Franklin Indian prima fund has the least Sharpe ratio and ING core equity fund has the highest Sharpe ratio. Treynor ratio has been calculated for Foreign Equity Diversified Mutual funds and the Treynor ratio for these funds ranges from 26.62 to 129.27. ING Core Equity Funds has the highest Treynor ratio and Templeton Indian Growth Fund has the least Treynor ratio. Jensen ratio for Foreign Equity Diversified funds has been computed. There are six Foreign Equity Diversified Funds with superior performance. The ratio ranges from -20.87 to 24.75. ING Core Equity Fund has the highest Jensen ratio of 24.75 and Templeton India Growth Fund has the least Jensen ratio of -20.87.

## PERFORMANCE OF FOREIGN EQUITY INDEX FUNDS

It can be observed from **Table 6** that all the Foreign Equity Index Mutual Funds have generated lesser returns than the market returns of 43.66%. They are under performers. The average risk per unit return (coefficient of Variation) works out to be 0.02.

**Table 6: Foreign Equity Index Funds**

S. No	Foreign Equity Index Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	Franklin India Index Fund - NSE Nifty Plan	42.16	21.53	0.51	1.68	37.58	-0.11
2	Franklin India Index Tax Fund	41.06	22.84	0.56	1.54	34.28	-3.5
3	Franklin India Index Fund - BSE Sensex	40.64	19.08	0.47	1.82	39.66	1.72
Mean Return		41.29					
Standard Deviation of Returns			0.78				
Market Return (BSE Sensex)		43.66					
The average risk per unit return (coefficient of Variation) works out to be $0.78/41.29 = 0.02$ . All the Foreign Equity Index Mutual funds have generated lesser returns than the market returns.							

The returns are highest for Franklin India Index Fund - NSE Nifty Plan with 42.16% followed by Franklin India Index Tax Fund with 41.06% and lowest for Franklin India Index Fund - BSE Sensex with 40.64%. The risk is highest for Franklin India Index Tax Fund with 22.84 followed by Franklin India Index Fund - NSE Nifty Plan with 21.53 and lowest risk is for Franklin India Index Fund - BSE Sensex with 19.08. The risk return ratio for Foreign Equity Index Mutual Funds ranges from 0.47 to 0.56. Franklin India Index Tax Fund has the highest ratio indicating high risk per unit return and Franklin India Index Fund - BSE Sensex has the lowest ratio indicating low risk per unit return.

Risk adjusted performance measure in the form of Sharpe ratio has been computed for the three foreign equity index funds. The risk adjusted Sharpe performance ranges from 1.54 to 1.82. Franklin India index fund BSE Sensex has the highest Sharpe ratio and Franklin India index tax fund has the least Sharpe ratio. Treynor performance measure was computed for Foreign Equity Index Mutual Funds and the ratio ranges from 34.28 to 39.66. Franklin India Index Fund BSE Sensex has the highest Treynor ratio and Franklin India Index Tax Fund has the least Treynor ratio. Jensen ratio for Foreign Equity index Funds has been computed. Only Franklin India Index Fund BSE Sensex has the superior performance. The Jensen ratio ranges from -3.50 to 1.72.

**Table 7: Foreign Equity Tax Savings Funds**

S. No	Foreign Equity Tax Savings Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	Sundaram BNP Paribas Tax Saver (OE)	59.94	28.90	0.48	1.87	56.49	17.96
2	Franklin India Tax Shield	51.70	29.56	0.57	1.55	42.43	5.11
Mean Return		55.82					
Standard Deviation of Returns			5.83				
Market Return (BSE Sensex)		43.66					
The average risk per unit return (coefficient of Variation) works out to be $5.83/55.82 = 0.10$ . All the Foreign Equity Tax Savings Mutual funds have generated greater returns than the market returns.							



## PERFORMANCE OF FOREIGN EQUITY TAX SAVINGS FUNDS

It can be understood from **Table 7** that all the Foreign Equity Tax Savings Mutual Funds have generated greater returns than the market returns of 43.66%. The average risk per unit return (coefficient of variation) works out to be 0.10.

Sundaram BNP Paribas Tax Saver (OE) has highest returns with 59.94% and Franklin India Tax Shield has lowest returns with 51.70%. Franklin India Tax Shield has the highest risk with 29.56 and Sundaram BNP Paribas Tax Saver (OE) has the lowest risk with 28.90. The risk per unit ratio for Foreign Equity Tax Savings Mutual Funds ranges from 0.48 to 0.57. The risk return ratio is highest for Franklin India Tax Shield, indicating high risk per unit return and lowest for Sundaram BNP Paribas Tax Saver indicating low risk per unit return.

The Sharpe ratio is 1.87 for Sundaram BNP Paribas tax saver and 1.55 for Franklin India tax shield. Between the two funds, Sundaram BNP Paribas Tax Saver has the highest Sharpe ratio. Treynor ratio for Foreign Equity Tax Saving Mutual Funds ranges from 42.43 to 56.49. and Sundaram BNP Paribas Tax Savings has the highest Treynor ratio. Jensen ratio has been computed for Foreign Equity Tax Savings Funds and both the funds have superior performance. Between the two funds, Sundaram BNP Paribas Tax Saver has higher Jensen performance. Based on all three measures, it is revealed that Sundaram BNP Paribas tax saver is the better performer.

## PERFORMANCE OF FOREIGN EQUITY TECHNOLOGY FUNDS

It is observed from **Table 8** that one out of two Foreign Equity Technology Mutual Funds has generated greater returns than the market returns of 29.30%. The average risk per unit return (coefficient of Variation) works out to be 0.42.

**Table 8: Foreign Equity Technology Funds**

S. No	Foreign Equity Technology Funds	Returns (%)	Risk	Risk/Return	Sharpe	Treynor	Jensen
1	DSP-ML Technology.Com - Regular Plan	49.08	15.22	0.31	2.83	-304.4	46.42
2	Franklin Infotech Fund	26.62	25.08	0.94	0.82	12.76	-17.11
Mean Return		37.85					
Standard Deviation of Returns			15.88				
Market Return (BSE Sensex)		29.3					
The average risk per unit return (coefficient of Variation) works out to be $15.88/37.85 = 0.42$							
1 Foreign Equity Technology Mutual funds have generated greater returns than the market returns.							

The returns are highest for DSP-ML Technology.Com - Regular Plan with 49.08% and lowest for Franklin Infotech Fund with 26.62%. The risk is highest for Franklin Infotech Fund with 25.08 and is lowest for DSP-ML Technology.Com - Regular Plan with 15.22. The risk per unit return for Foreign Equity Technology Mutual Funds ranges from 0.31 to 0.94. Franklin Infotech Fund has the highest ratio indicating high risk per unit return and DSP-ML Technology.Com - Regular Plan has the lowest ratio indicating low risk per unit return.

The Sharpe ratio is 2.83 for DSP ML technology.com regular plan which is higher between the two foreign equity technology funds. Treynor ratio ranges from -304.40 to 12.76 and between the two funds in the category, Franklin Infotech Fund has higher Treynor ratio. Jensen ratio for Foreign Equity Technology Funds has been computed and out of the two funds. DSP ML Technology.com Regular Plan has the higher Jensen ratio of 46.42 indicating relative superior performance.

## RETURN AND RISK PARAMETERS OF INDIAN AND FOREIGN MUTUAL FUNDS

**Table 9** shows that among Indian Equity funds, the returns are highest for Equity Tax Savings (55.87%) followed by

**Table 9: Return and Risk Parameters of Indian and Foreign Equity Mutual Funds**

S. No	Type of Fund (Indian)	Returns (%)	Risk	Coefficient of Variation	Type of Fund (Foreign)	Returns (%)	Risk	Coefficient of Variation
1	Equity Diversified	54.73	10.18	0.19	Equity Diversified	57.57	8.31	0.14
2	Equity Index	41.69	6.04	0.15	Equity Index	41.29	0.78	0.02
3	Equity Tax Savings	55.87	9.04	0.16	Equity Tax Savings	55.82	5.83	0.10
4	Equity Technology	34.00	6.51	0.19	Equity Technology	37.85	15.88	0.42

Equity Diversified (54.73). It is just the reverse incase of foreign mutual funds as Equity Diversified funds are the toppers in returns (57.57%) followed by Equity tax savings (55.82%). A comparison of Indian and foreign equity funds reveals that there is not much difference in the returns between Indian and foreign equity index funds and equity tax savings funds.

As far as risk is concerned, a marked difference is observed between all Indian and foreign equity funds. For Indian equity funds, the risk is highest for Indian Equity Diversified funds and is lowest for equity index funds. Incase of foreign equity funds, the risk is highest for Foreign Equity Technology funds and lowest for Equity index funds. It is also observed the coefficient of variation of various Indian equity funds differ from foreign equity funds.

## HYPOTHESIS

**There is no significant difference between the returns of different mutual fund schemes of respective foreign mutual fund investment styles.**

From **Table 10** it can be concluded that for Foreign Equity Diversified and Foreign Equity Index investment styles, the F value is significant at 1% level. Therefore the null hypothesis that there is no significant difference between the returns of mutual fund schemes of respective foreign mutual funds investment styles is rejected. It implies that returns of mutual fund schemes significantly differ from one another within the respective foreign investment style.

**Table 10: ANOVA Between Returns Of Various Equity Mutual Fund Schemes Of Foreign Investment Style**

S. No	Name	F Value	Result
1	Foreign Equity Diversified	4.35	Significant at 1% Level
2	Foreign Equity Index	145.98	Significant at 1% Level
3	Foreign Equity Tax Savings	5.03	Not Significant
4	Foreign Equity Technology	2.93	Not Significant

For the remaining foreign investment styles, the F value is not significant. It implies that returns of mutual funds schemes do not significantly differ from other within the respective foreign investment style.

## HYPOTHESIS

**There is no significant difference between the returns of different mutual fund schemes of respective Indian mutual fund investment styles.**

**Table 11** reveals that the F value is significant at 1% level for Indian Equity Diversified, Indian Equity Index and Indian Equity Tax Savings. The alternative hypothesis that there is significant difference between the returns of mutual fund schemes of respective Indian investment style is accepted. It implies that returns of mutual fund schemes significantly differ from one another within the respective Indian Investment Style.

**Table 11: ANOVA Between Returns Of Various Equity Mutual Fund Schemes Of Indian Investment Style**

S. No	Name	F Value	Result
1	Indian Equity Diversified	2.44	Significant at 1% Level
2	Indian Equity Index	3.5	Significant at 1% Level
3	Indian Equity Tax Savings	3.71	Significant at 1% Level
4	Indian Equity Technology	3.15	Not Significant

For the remaining Indian Investment Styles, the F value is not significant. Therefore, the null hypothesis that there is no significant difference between the returns of mutual fund schemes of respective Indian Investment Style is accepted. It implies that returns of mutual funds schemes do not significantly differ from other within the respective Indian Investment Style.

**Table 12: ANOVA Between Returns Of Indian And Foreign Equity Mutual Funds**

S. No	Name	F Value	Result
1	Indian Foreign	282.96	Significant at 5% Level

## HYPOTHESIS

**There is no significant difference between returns of Indian and foreign equity mutual funds.** From table 12, it can be observed that F value is significant at 5% level. Therefore, the null hypothesis that there is **no significant difference between returns of Indian and Foreign mutual funds is rejected.** It implies that the returns of Indian equity mutual funds significantly differ from returns of foreign equity mutual funds.

## CONCLUSION

The tremendous success the fund industry has enjoyed is due to the fact that it has done more than any other financial services industry to offer investors solid products tailored to meet real financial needs, and marketed those products responsibly. But it cannot be ignored that rapid changes and market pressures are challenging. It cannot be afforded to remain "pigeonholed" by outdated thinking or antiquated business practices. If the long-term health of the industry and investor protection is maintained, the record of success can be maintained in the future.

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